This is a Region 5 Targeted Brownfields Assessment Funded Project

FINAL PHASE II ENVIRONMENTAL SITE ASSESSMENT

BLUFF AVENUE SITE
1245 AND 1251 BLUFF AVENUE EAST
SHAKOPEE, MN 55379

Prepared for

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) tasked Tetra Tech, Inc. (Tetra Tech) to conduct a Phase II Environmental Site Assessment (ESA) at the Bluff Avenue site, located at 1245 and 1251 Bluff Avenue in Shakopee, Scott County, Minnesota. This work was assigned under Superfund Technical Assessment and Response Team (START) Contract No. EP-S5-13-01, Technical Direction Document (TDD) No. S05-0003-1607-010 as part of the Targeted Brownfields Assessment (TBA) program. The Phase II ESA was conducted at the request of the Shakopee Mdewakanton Sioux Community (SMSC) to document the presence or absence of soil and groundwater contamination and to determine the presence or absence of hazardous building materials to include asbestos-containing materials (ACM) and lead-based paint (LBP).

The Phase II ESA scope of work was developed based on the recognized environmental condition (REC) and historical property use identified in the Phase I ESA prepared by Pinnacle Engineering, Inc. (Pinnacle) in June 2014 (Pinnacle 2014).

Tetra Tech conducted the Phase II ESA in accordance with the following:

- American Society for Testing and Materials (ASTM) International E1903-11 (*Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment* Process).
- State of Minnesota, Voluntary Investigation and Cleanup Program (VIC) Risk Based Site Evaluation (RBSE).
- Quality Assurance Project Plan (QAPP) Region 5 Targeted Brownfields Assessment Projects in Indiana, Illinois, Michigan, Minnesota, Ohio, and Wisconsin (For Hazardous Substances and/or Petroleum), Revision 1 (Generic QAPP) (Tetra Tech 2014).
- QAPP Addendum for the Region 5 Targeted Brownfields Assessment Property, Bluff Avenue Site (Tetra Tech 2016a).
- Sampling and Analysis Plan, Targeted Brownfields Assessment Property, Bluff Avenue Site (Tetra Tech 2016b).

The Phase II ESA was completed by the following personnel:

- Carol Nissen, TBA Project Manager
- Elise Steger, Project Manager / Field Team Leader
- Joseph Gawarzewski, Quality Assurance (QA) Reviewer
- Andrew Tinklenberg, ACM and LBP Inspector
- Chad Stoike, ALS Laboratory QA Manager
- Amy Ostergren, ACM Laboratory Directory of Quality Assurance/Quality Control

Nova Consultants, Inc. (Nova), of Chaska, Minnesota, conducted direct-push technology (DPT) drilling activities using a Geoprobe. Legend Technical Services, Inc. (Legend), a woman-owned business enterprise, of St. Paul, Minnesota, completed the hazardous building materials inspection and laboratory analysis for the potential ACM and LBP. Analytical services for soil and groundwater samples were provided by ALS Environmental, Inc. of Holland, Michigan.

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This Phase II ESA report provides an introduction to the project in Section 1.0; discusses the ESA investigative methodology and the environmental setting of the site in Sections 2.0 and 3.0; summarizes the Phase II ESA results in Section 4.0; and presents a summary in Section 5.0. All references cited in this report are listed after the text in Section 6.0. Figures are provided in Appendix A. Soil boring logs are provided in Appendix B. Monitoring well/groundwater sampling sheets and field notes are provided in Appendix C, and the photographic log appears in Appendix D. Data summary tables are provided in Appendix E. The data validation report is provided in Appendix F. Laboratory analytical reports are provided in Attachment 1. Legend's ACM and LBP building survey report is in Attachment 2.

The remainder of Section 1.0 describes site background information, summarizes previous assessments conducted at the site, and presents the objectives of this Phase II ESA.

1.1 SITE BACKGROUND

The site, located at 1245 and 1251 Bluff Avenue East in Shakopee, Scott County, Minnesota, consists of an approximately 28-acre parcel of land occupied by the former Shakopee Valley RV Park and Campground, which has an office/recreation building and two bath houses. The site also has a small brick shop that is connected to two large circular tank structures that were formerly part of the City of Shakopee's wastewater treatment plant (WWTP). The majority of the site consists of forested floodplain associated with the Minnesota River; there are 102 RV pads, 72 of which have water and sewer connections and 48 are rustic tent sites. An asphalt bike and pedestrian trail also transects the southern portion of the site. The redevelopment plan for the site includes removing the buildings and preserving the trails for public use. The entrance to the trails is adjacent to the former WWTP, and the trails are closed until environmental hazards and impacts have been identified and remediated if necessary. **Figure A-1 in Appendix A** shows the site location.

A Phase I ESA was performed at the site by Pinnacle on June 24, 2014. Though there were several potential environmental concerns within 1 mile of the site, the environmental threats were minimal; therefore, no RECs were identified in the Phase I.

Furthermore, Pinnacle conducted a Tier 1 vapor encroachment screen (VES) for the site with respect to chemicals of potential concern (COPCs) that may migrate as vapors onto the site as a result of contaminated soil and groundwater on or near the site. Based on the lack of RECs identified during the Phase I ESA, Pinnacle concluded that there were no vapor encroachment conditions (VECs) in connection with the site.

In May 2016, SMSC conducted a pre-demolition inspection and collected 35 asbestos samples for laboratory analysis from the office/recreation building, brick shop, former WWTP building, and shower buildings at the site. Eight of the samples collected were over 1 percent chrysotile asbestos and therefore are considered ACM. Additional samples were found to be warranted in the two shower buildings.

In response to the requirement for assessing the environmental concerns associated with the former WWTP to gain clearance to open the site to the public, Tetra Tech completed a Phase II at the site in November 2016 that included soil and groundwater sampling. Furthermore, Tetra Tech subcontracted Legend to complete a hazardous materials survey.

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The topographic map of the property indicates that the site has an elevation of approximately 700 feet above mean sea level (msl), with groundwater at approximately 690 feet above msl (approximately 10 feet below ground surface [bgs]) and bedrock at approximately 675 feet above msl (approximately 25 feet bgs); the general topographic and hydrologic gradient is to the north toward the Minnesota River.

1.2 OBJECTIVES OF PHASE II ESA

The objectives of the Phase II ESA included the following:

- Characterize the geology and hydrogeology at the site.
- Collect soil samples for analysis of volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polychlorinated biphenyls (PCB), pesticides, the Target Analyte List (TAL) metals (including mercury) and cyanide.
- Collect groundwater samples for analysis of VOCs, SVOCs, PCBs, pesticides, the TAL metals (including mercury) and cyanide.
- Inspect the building materials on site for the potential presence of hazardous materials.
- Inspect the buildings for the presence of potential ACM and collect samples if warranted for analysis of ACM.
- Inspect and measure building materials for the presence of lead in paint.
- Characterize the investigation-derived waste (IDW) generated for disposal characteristics.

1.3 SUMMARY OF FINDINGS

The following is a summary of the findings of the Phase II ESA. The details of these findings are found in the report.

- Inspection and sampling of observed building materials indicated limited amounts of ACM in the former WWTP building, but not in the office/recreational building or the two bath houses.
- Inspection and screening of painted materials indicated the red stair railing in the former WWTP building contains LBP.
- Miscellaneous regulated materials were observed in the buildings at the site, to include fluorescent bulbs, light ballasts, mercury thermostats, and refrigerants.
- No chemicals of potential concern (COPCs) were detected in the shallow soil samples at concentrations exceeding the Minnesota Pollution Control Agency (MPCA) Tier 2 Recreational scenario soil reference values (SRV).
- For the groundwater samples, benzo(a)pyrene, beryllium, and manganese exceeded either the EPA Maximum Contaminant Levels (MCL) or the Minnesota Department of Health most stringent values for drinking water.

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2.0 INVESTIGATIVE METHODOLOGY

The Phase II ESA field investigation included soil, groundwater, and building materials sampling at the site. Sampling activities were conducted in November 2016 in accordance with the approved SAP and the QAPP Addendum. The Phase II ESA investigative methodology is described in the following sections; investigative locations are presented on **Figure A-2 in Appendix A**.

2.1 SOIL SAMPLING

Prior to site activities, Gopher State One Call, the Minnesota underground utility locating service, was contacted by the driller and utility locations were identified and marked.

On November 15, 2016, Tetra Tech advanced six soil borings (SB-01 through SB-06), four of which were converted to temporary monitoring wells (TMW-01 through TMW-04) at the site. The soil borings were advanced using a DPT rig equipped with 4-foot macrocore sleeves. Two of the locations were located near the office and WWTP building parking lots, and the remaining four were located in the former campground area. Proposed soil sampling locations were identified in the approved SAP (Tetra Tech 2016b). Locations were adjusted onsite based on utilities and rig access. Final locations are provided on **Figure A-2 in Appendix A**.

One of the soil borings (SB-01) was advanced to a depth of 4 feet bgs, encountering refusal at that depth. One boring was advanced to 20 feet bgs (SB-02). Four soil borings (SB-03 through SB-06) were advanced to a depth of 16 feet bgs and were completed as temporary monitoring wells (TMW-1 through TMW-4). Soil was continuously collected within 4-foot disposable macrocore (polyethylene) liners. The lithology for each soil core was logged using the Unified Soil Classification System and recorded on a soil boring log (**Appendix B**).

Each core was screened for VOCs using a photoionization detector (PID). Soil sample intervals were placed in a small sealed bag for collecting headspace readings. PID screening results recorded for each 4-foot interval are summarized on the soil boring logs. All unsaturated soil samples were screened using a PID. If elevated PID screening results were not observed, then a soil sample from the shallow depth interval (1 to 4 feet bgs) was collected. Because of the shallow depth to the water table, these samples were also from immediately above the water table.

Tetra Tech collected a total of six investigative soil samples and two duplicate soil samples. One soil sample was collected from each soil boring SB-01 through SB-06. The soil samples were collected from above the groundwater table. Six soil samples and one duplicate soil sample were submitted to ALS for laboratory analysis of VOCs, SVOCs, PCBs, pesticides, the TAL metals, cyanide, mercury and moisture content.

Soil samples analyzed for VOCs were collected using a sampling syringe, in accordance with Method 5035. The syringe was inserted into several locations within the intact core to obtain a representative sample of the interval. A total of 5 grams of soil was placed into three pre-weighed vials, one containing 5 milliliters (mL) of methanol, and two containing 5 mL of sodium bisulfate. The remaining soil was thoroughly mixed

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to facilitate collection of a representative soil sample. After the soils were blended until the texture and color of the mixture appeared uniform, samples for analysis of SVOCs, PCBs, pesticides, metals, cyanide, mercury, and moisture content were collected and placed into the appropriate containers. The quality assurance/quality control (QA/QC) samples were collected immediately after the respective investigative sample.

All samples were uniquely identified, labeled, and stored on ice pending submittal to the laboratory. Soil cores that were not selected for analysis were returned to the same borehole.

2.2 TEMPORARY GROUNDWATER MONITORING WELL INSTALLATION AND SAMPLING

TMWs were installed in four of the soil borings to evaluate the presence of COPCs in groundwater at the locations shown on **Figure A-2 in Appendix A**. Temporary well screens were placed to intersect the groundwater table, which was encountered at approximately 5 feet bgs. TMW installation and abandonment are described in **Section 2.2.1**; water level measurement procedures are described in **Section 2.2.2**; and groundwater sampling procedures are documented in **Section 2.2.3**. The results of the analyses are summarized in **Section 4.2**.

2.2.1 Temporary Monitoring Well Installation and Abandonment

Four TMWs were installed in soil borings SB-03 through SB-06 on November 15, 2016. The TMWs were constructed of 1-inch-diameter, schedule 40 polyvinyl chloride (PVC) well screen and riser. Well screens were 10 feet in length, 0.010 slot, and positioned to intersect the water table. Tetra Tech collected groundwater samples from each TMW.

The TMWs were developed in accordance with the SAP (Tetra Tech 2016b).

After groundwater samples had been collected, the TMWs were removed from the borings for proper disposal. All boreholes were backfilled with soil cuttings and plugged with hydrated granular bentonite and asphalt patch, where required. All soil cuttings were returned to the boreholes; thus, no IDW was generated.

2.2.2 Groundwater Sampling

A low-flow sampling technique was used to collect groundwater samples from the TMWs to minimize aquifer disturbance, potential contaminant volatilization, and wastewater generation. Low-flow micro-purge sampling was conducted using a peristaltic pump with a discharge rate of less than 0.13 gallon per minute.

Water quality and purge stabilization parameters, including pH, temperature, turbidity, dissolved oxygen, specific conductance, and oxidation reduction potential, were measured using a Horiba multi-parameter water quality meter. Upon stabilization of parameters, groundwater samples were collected in appropriate containers and stored on ice pending shipment to the laboratory. The groundwater samples collected from the TMWs were submitted for laboratory analysis of VOCs, SVOCs, PCBs, pesticides, the TAL metals, and mercury. Groundwater samples for metals analysis were field filtered before they were transferred to

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containers. Field conditions and sampling information were recorded on field data sheets (included in **Appendix C**).

2.3 BUILDING MATERIALS

The office/recreation building, the former WWTP building, and the two bath houses were inspected for ACM, LBP, and regulated building materials.

2.3.1 ACM Sampling

Tetra Tech's selected subcontractor, Legend, assessed and inspected the office/recreation building, the former WWTP building, and the two bath houses; sampling suspected homogenous ACM in accordance with the National Emission Standards for Hazardous Air Pollutants. The inspection and sampling for the presence and condition of ACM were performed by a Minnesota-licensed asbestos inspector. Samples were collected as necessary for confirmation analysis for suspected friable and non-friable ACM. A total of 32 suspected ACM locations were identified and sampled for laboratory analysis.

2.3.2 LBP Inspection

Legend also performed an LBP inspection of the office/recreation building, the former WWTP building, and the two bath houses. A licensed LBP inspector trained in accordance with EPA and Minnesota requirements used an X-ray fluorescence (XRF) spectrometer to conduct the inspection.

The LBP survey included a visual inspection to identify suspected material, analysis of suspected material, and data recording. The objective of the testing was to identify painted surfaces with a concentration of lead above 1.0 milligrams per square centimeter (mg/cm^2) by XRF analysis, the criterion established by the EPA for classification of LBP. The visual survey of interior painted surfaces was conducted to assess if the paint was intact or damaged. Damaged paint appears as cracked, chipped, or peeling away from the substrate as a result of moisture, wear, heat, or age. Material that did not exhibit this condition was recorded as intact. A total of 70 painted surfaces were measured with the XRF for LBP. No tests were performed in the east bath house because the construction materials and paint history were the same as for the west bath house; thus, findings for the west bath house are deemed representative of the east bath house.

2.4 SAMPLE HANDLING, TRACKING, AND CUSTODY PROCEDURES

This section describes sample labeling, sample packaging and shipping procedures, and QA/QC procedures.

2.4.1 Sample Labeling

All samples collected for laboratory analysis, including QC samples, were assigned a unique sample number per the following format in accordance with the approved SAP (Tetra Tech 2016b):

BA-Matrix-XX-(Y-Z)-mmddyy

Where:

- "BA" designates that the sample was collected by Tetra Tech for the Bluff Avenue site.

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- "Matrix" indicates the matrix as follows: "SB" for soil (boring) samples, "TMW" for temporary monitoring well groundwater samples.
- "XX" is the location number.
- "(Y-Z)" is the sample depth interval, for soil samples only.
- "mmddyy" is the date on which the sample was collected.

Field duplicate samples were designated with a field duplicate "(D)" suffix.

2.4.2 Sample Packaging and Shipping Procedures

All samples were identified, handled, tracked, and maintained under strict chain-of-custody procedures in accordance with the site-specific QAPP (Tetra Tech 2016a). Samples were collected in appropriate, laboratory-supplied sample containers and pre-preserved by the laboratory, as applicable. Sample containers were tightly sealed and immediately packed on ice in coolers in an upright position. When each sample was collected, the appropriate laboratory chain-of-custody form was completed. Sample coolers were securely taped prior to delivery to prevent any tampering or loss of samples. They were shipped to the laboratory by Federal Express with relinquish and acceptance dates and times recorded on the chain-of-custody forms.

2.4.3 Quality Assurance and Quality Control Procedures

Field QA/QC samples were collected and submitted for analysis during the course of the field investigation for use in assessing the quality of the data resulting from the field sampling program. Field QA/QC samples included the following:

- Duplicates: Duplicate samples were collected in the field and submitted to the laboratory without indication of the corresponding sample. These samples were collected at a rate of 1 per every 10 samples and provide a measure of laboratory precision and matrix variability.
- Matrix Spike Samples: Additional aliquots of investigative samples were provided to the laboratory at a rate of 1 per every 20 samples for matrix spike/matrix spike duplicate analysis. Analyses were performed to provide indication of potential matrix interference with the analytical results.

2.5 FIELD MEASUREMENTS AND RECORDKEEPING

The field team and project manager monitored adherence to the SAP and QAPP (Tetra Tech 2016a and 2016b). A field logbook and task-specific forms, such as soil boring logs, were maintained to document the sampling activities. Results from field screenings were recorded daily in the logbook and on the soil boring logs (**Appendices B and C**).

The initial logbook entry contained the date and start time. Measurements and samples collected were recorded in the field logbook or on field forms (**Appendix C**).

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Photographs documenting field activities are provided in **Appendix D**.

2.6 DECONTAMINATION PROCEDURES

All reusable sampling equipment that came into contact with potentially contaminated media was decontaminated prior to each use, between each sampling location, and at the completion of the field investigation. Decontamination methods for sampling equipment consisted of an Alconox detergent wash followed by a potable water rinse.

2.7 WASTE CHARACTERIZATION AND MANAGEMENT

Disposable sampling equipment and personal protective equipment (such as gloves) were double bagged and disposed of as solid waste.

2.8 ANALYTICAL METHODOLOGY

ALS Environmental, a National Environmental Laboratory Accreditation Program-certified laboratory, analyzed the soil and groundwater samples. Soil and groundwater investigative samples were analyzed using one or more of the following analytical methods:

- VOCs (soil and groundwater) – SW-846 Method 8260B
- SVOCs (soil and groundwater) – SW-846 Method 8270D
- PCBs (soil and groundwater) – SW-846 Method 8082
- Pesticides (soil and groundwater) – SW-846 Method 8081
- TAL Metals including mercury (soil and groundwater) – SW-846 Method 6010C/6020A/7471B
- Cyanide (soil only) – SW-846 Method 9012B
- Percent Moisture (soil only) – SW-3550C

Laboratory analytical results for soil and groundwater samples are summarized in tables provided in **Appendix E**. Laboratory analytical reports for soil and groundwater samples are provided as **Attachment 1**. As required in the QAPP, Tetra Tech conducted data validation; all data were deemed to be useable for the purposes of the project, with qualifications as appropriate. The Tetra Tech data validation report is provided in **Appendix F**.

Legend, a National Voluntary Laboratory Accreditation Program (NVLAP)-accredited laboratory, performed the asbestos analyses. Bulk samples were submitted for analysis by polarized light microscopy with dispersion staining techniques per EPA Methodology 600/R-93/116. The percentage of asbestos, where applicable, was determined by microscopic visual estimation. Laboratory analytical results for bulk samples are provided in the Regulated Hazardous Materials Survey report prepared by Legend and provided as **Attachment 2**.

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3.0 ENVIRONMENTAL SETTING

This section describes the regional physiography, regional geology and hydrogeology, and site-specific geology and hydrogeology.

3.1 REGIONAL PHYSIOGRAPHY

The topographic map of the property indicates that the site has an elevation of approximately 700 feet above mean sea level (msl), bedrock at approximately 675 feet above msl (approximately 25 feet bgs); and the general topographic and hydrologic gradient is to the north toward the Minnesota River. A berm is installed across the site to control flooding of the site from the Minnesota River.

3.2 REGIONAL GEOLOGY AND HYDROGEOLOGY

According to published information, surficial geology of the area of the site consists of lower terrace deposits composed of undulating erosional land and depositional surface covered by at least 1.5 feet of fine, wind-deposited sand, silt, and locally by stream-deposited sandy silty clay. The uppermost bedrock beneath the site likely consists of the Prairie du Chien Group, which is typically made up of sandy dolomite with thin beds of quartzose sandstone.

3.3 SITE GEOLOGY AND HYDROGEOLOGY

The general geologic profile of the site consists of brown to gray sandy silt underlain by brown silt to a depth to a maximum depth of 20 feet bgs. Groundwater was encountered at a depth of approximately 5 feet bgs.

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4.0 PHASE II ESA RESULTS

The results of the Phase II ESA are described in this section. Soil, groundwater, ACM, and LBP were sampled or measured during the Phase II ESA.

4.1 SOIL

The soil was sampled and laboratory analyzed for VOCs, SVOCs, PCBs, pesticides, the TAL metals, mercury, cyanide, and moisture content.

Soil sample results were compared with EPA Regional Screening Levels (RSLs) for residential soil, MPCA Tier 1 Residential SRVs, and MPCA Tier 2 Recreational Scenario SRVs.

The soil sample analytical results are summarized in **Table E-1 in Appendix E**. Analytes exceeding MPCA Tier 1 SRVs or EPA Residential RSLs are highlighted in the table. No concentrations of COPCs exceeded the MPCA Tier 2 Recreational scenario SRVs.

Based on the laboratory analytical results, the compounds that were detected in soil samples that exceed the residential screening levels are: (1) metals and (2) polynuclear aromatic hydrocarbons (PAHs). The following is a discussion of the results:

- All six of the soil samples (SB -01 through SB-06) and the duplicate (collected from SB-02), collected from between 1 and 4 feet bgs, contained concentrations of arsenic above the EPA RSLs. None of the arsenic concentrations exceeded the MPCA Tier 1 Residential or Tier 2 Recreational scenario SRVs. The arsenic concentrations do not exceed the MPCA Background Threshold Values (BTV).
- The concentration of antimony in the shallow soil sample collected from SB-06 exceeded the MPCA Tier 1 residential SRV, but not the EPA RSLs or the MPCA Tier 2 recreational scenario SRV. No BTV is established for antimony.
- The concentration of iron detected in the shallow soil samples collected from SB-04, SB-05, and SB-06 exceeded the MPCA Tier 1 residential SRV, but not the EPA RSLs or the MPCA Tier 2 recreational scenario SRV. The iron concentrations do not exceed the MPCA BTV.
- Soil sample SB-02 and its duplicate sample, collected from the 1- to 4-foot depth interval, contained concentrations of PAHs benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene above the EPA RSLs. In addition, SB-02 contained a concentration of indeno(1,2,3-cd)pyrene above the EPA RSL. Concentrations were below the MPCA Tier 1 residential and Tier 2 recreational scenario SRVs. Note that the soil sample from SB-02 was collected from a parking lot area that contains an asphalt cover.

Thus, based on the laboratory analytical results, the site achieves the MPCA Tier 2 recreational SRVs; thus, the site can be used for recreational use with no restrictions.

Figure A-2 in Appendix A summarize the exceedances detected in the soil samples.

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The QA/QC sample results were evaluated as part of the data review process. Tetra Tech prepared a laboratory data validation report, which is included in **Appendix F**. All data were deemed useable, and qualified as needed.

4.2 GROUNDWATER

The groundwater was sampled for analysis of VOCs, SVOCs, PCBs, pesticides, the TAL metals, and mercury from four temporary monitoring wells.

Groundwater sample results were compared with EPA Drinking Water Standards MCLs and the Minnesota Department of Health (MDH) Guidance most stringent values.

Based on the laboratory analytical results, benzo(a)pyrene was detected in TMW-02 at a concentration that exceeds both the EPA MCL and the MDH Guidance. Beryllium was detected at a concentration in TMW-04 that exceeds the MDH most stringent value. Manganese was detected at concentrations in TMW-1/TMW-1D, TMW-2, and TMW-4 at concentrations that exceed the MDH most stringent value. The groundwater sample analytical results are summarized in **Table E-2 in Appendix E**.

The laboratory analytical results for groundwater indicate that the shallow groundwater cannot be used for drinking water.

Figure A-3 in Appendix A summarize the elevated results detected in the groundwater samples.

The QA/QC sample results were evaluated as part of the data review process. Tetra Tech prepared a laboratory data validation report, which is included in **Appendix F**. All data were deemed useable, and qualified as needed.

4.3 BUILDING MATERIALS

Legend inspected the office/recreational building, former WWTP building, and the two bathhouses for regulated hazardous materials to include ACM and LBP. The report by Legend detailing the building material inspection and testing is found in Attachment 2.

4.3.1 ACM Inspection

The inspection of potentially hazardous building materials included 32 potential ACM samples from the four buildings. Of the 32 samples collected by Legend, eight (8) were confirmed to be asbestos containing materials containing greater than 1 percent asbestos.

Laboratory results identified pipe-fitting insulation, millboard straight-run pipe insulation, window glazing, exterior caulking, roof field membrane sealant, and roof flashing sealant in the former WWTP building to be ACM. All other materials sampled in the former WWTP building were non-asbestos containing material.

All samples collected in the office/recreation building and the two bathhouse buildings were non-asbestos containing material.

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4.3.2 LBP Inspection

Legend tested 70 areas including 12 calibration readings for the presence of LBP in the office/recreation building, former WWTP building, and west bath house. The east bath house was not tested, as the construction materials and paint history were the same as the west bath house.

The XRF testing indicated the presence of LBP on the red stair railing in the main and basement levels of the former WWTP building. LBP is defined by lead levels greater than or equal to 1 mg/cm^2. The paint on the red stair railing was inconclusive, as it yielded a reading of 1 mg/cm^2. A chip sample of the paint was collected, and laboratory results showed the paint to contain 39,000 milligrams per kilogram (mg/kg) of lead. The MDH defines LBP as any paint containing lead in concentration of 5,000 mg/kg or greater. Therefore, by MDH definition, the red paint on the stair railing is considered LBP.

4.3.3 Regulated Hazardous Materials Inspection

Regulated hazardous materials were identified in the office-recreation building to include fluorescent bulbs, light ballasts, compact fluorescent bulbs, hydraulic door closers, fire extinguishers, mercury thermostats, exit signs, emergency lights, control panels/electronics/circuit boards, cleaners/chemical/paints, security cameras, drinking fountains (suspect chlorofluorocarbons [CFCs]), ice freezer, refrigerators (suspect CFCs), a window air conditioning unit, capacitor, bin cleaner, soda machines (suspect CFCs), arcade games, air fresheners, washers/dryers, motors, water heaters, pool heater, pool filtration system, furnace, warning light, gas meter, green treated lumber deck, and sodium/high intensity discharge (HID) bulb.

Regulated hazardous materials identified in the former WWTP building include fluorescent bulbs, light ballasts, control panels, sodium/HID bulbs, transformer, large campground sign (potential bulbs/ballasts/circuit boards), motor, and green treated lumber deck.

The west bath house contained the following regulated hazardous materials: fluorescent bulbs, light ballasts, compact fluorescent bulbs, water heaters, and hydraulic door closers. The east bath house contained the following regulated hazardous materials: fluorescent bulbs, light ballasts, compact fluorescent bulbs, water heaters, hydraulic door closers, air freshener, and green treated post.

4.3.4 Hazardous Materials Removal Cost Estimate

A rough order of magnitude cost estimate was prepared by Legend for removal of the hazardous building materials and is presented below. The costs presented below are for planning purposes and do not represent a cost proposal. Samples collected on May 16, 2016, by SMSC indicated ACM in the former WWTP building. Abatement of the SMSC-identified ACM is included in the information presented below.

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Item	Estimated Cost
OFFICE/RECREATION BUILDING	
ACM Abatement	No ACM
LBP abatement	No ACM
Regulated materials removal and disposal	$4,000
FORMER WWTP BUILDING	
ACM Abatement	$4,200
LBP Abatement	$100
Regulated materials removal and disposal	$800
TWO BATH HOUSES	
ACM Abatement	No ACM
LBP abatement	No LBP
Regulated materials removal and disposal	$600
TOTAL ALL BUILDINGS	**$9,700**

Details on the hazardous materials included in the cost estimate are provided in Legend's report in **Attachment 2**.

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5.0 SUMMARY

In November 2016, Tetra Tech conducted a Phase II ESA for the Bluff Avenue site, located at 1245 and 1251 Bluff Avenue in Shakopee, Minnesota. The Phase II ESA was conducted at the request and authorization of EPA in response to a request from SMSC to perform a site assessment (Phase II ESA) to document the presence or absence of soil or groundwater contamination and to evaluate the building for regulated hazardous materials. The Phase II ESA was completed through the TBA program. The purpose of the Phase II ESA was to investigate the site for the presence of COPCs in environmental media. The field investigation included collection of soil and groundwater samples from the site. In addition, a hazardous building materials inspection was conducted that included screening and sampling of LBP and ACM.

5.1 SOIL AND GROUNDWATER

The Phase II ESA included advancement of six soil borings, four of which were completed as temporary monitoring wells. Soil and groundwater samples were collected for laboratory analysis for VOCs, SVOCs, PCBs, pesticides, the TAL metals, and mercury. In addition, the soil samples were analyzed for cyanide and moisture content.

Laboratory analytical results of soil samples indicated the presence of PAHs and arsenic at concentrations that exceed the EPA Residential RSLs in the shallow soils. Only antimony and iron exceeded the MPCA Tier 1 residential SRVs. The arsenic and iron concentrations do not exceed the MPCA BTV. No BTV is established for antimony. No COPCs exceeded the MPCA Tier 2 recreational SRVs.

Laboratory analytical results of groundwater samples indicated only benzo(a)pyrene exceeding the EPA MCL and MDH drinking water guidelines at one location (TMW-02). Beryllium and manganese exceeded the MDH drinking water guidelines. No other compounds were detected in the groundwater samples at concentrations exceeding these guidelines.

Thus, based on the laboratory analytical results, the site achieves the MPCA Tier 2 recreational SRVs, and the site can be used for recreational use with no restrictions.

The laboratory analytical results for groundwater indicate that the shallow groundwater cannot be used for drinking water. COPCs identified at the site include (1) PAHs, and (2) metals. COPCs that were detected at concentrations that exceeded EPA or MPCA screening levels during the Tetra Tech investigations are listed below.

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Applicable Standard	Confirmed COPCs
Residential Exposure Route	
EPA RSL Residential Soil	• Arsenic (all soil samples) (below BTV) • Benzo(a)pyrene (SB-02, SB-02D) • Benzo(b)fluoranthene (SB-02, SB-02D) • Dibenzo(a,h)anthracene (SB-02, SB-02D) • Indeno(1,2,3-cd)pyrene (SB-02)
Residential Exposure Route	
MPCA Tier 1 Residential SRV*	• Antimony (SB-06) • Iron (SB-04, SB-05, SB-06) (below BTV)
Recreational Exposure Route	
MPCA Tier 2 Recreational SRV	• None
Groundwater Ingestion Route	
EPA Drinking Water Standards 2012	• Benzo(a)pyrene (TMW-02)
MDH Guidance	• Benzo(a)pyrene (TMW-02) • Beryllium (TMW-4) • Manganese (TMW-1/TMW-1D, TMW-2 and TMW-4)

*Exposure pathways for Tier 1 SRVs include incidental ingestion, dermal contact and inhalation of soil vapors and particulates.

BTV – Background threshold value

COPC – Contaminants of Potential Concern

EPA – U.S. Environmental Protection Agency

RSL – Regional Screening Level

MPCA – Minnesota Pollution Control Agency

SRV – Soil Reference Value

MDH – Minnesota Department of Health

5.2 BUILDING MATERIALS

The inspection of potentially hazardous building materials included 32 potential ACM samples from the four buildings. Of the 32 samples collected by Legend, eight samples collected from the former WWTP building were confirmed to be asbestos containing materials containing greater than 1 percent asbestos.

Laboratory results identified pipe-fitting insulation, millboard straight-run pipe insulation, window glazing, exterior caulking, roof field membrane sealant, and roof flashing sealant in the former WWTP building to be ACM. All other materials sampled in the former WWTP building were non-asbestos containing materials.

All samples collected in the office/recreation building and the two bathhouse buildings were non-asbestos containing materials.

Legend tested 70 areas, including 12 calibration readings, for the presence of LBP in the office/recreation building, former WWTP building, and the west bath house. The east bath house was not tested, as the construction materials and paint history were the same as the west bath house.

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The XRF testing indicated the presence of LBP on the red stair railing in the main and basement levels of the former WWTP building.

Based upon the presence of ACM identified during the building survey, it is recommended that an asbestos abatement design plan be prepared prior to any renovation/demolition that may disturb ACM. The asbestos abatement design plan and specifications should include information regarding the location of containments and barriers, type of sealant, and air sampling requirements and clearance during the asbestos abatement activities. Asbestos abatement work must be conducted by a licensed abatement contractor in accordance with all applicable federal, state, and local regulations.

Any suspect material that is discovered during renovation/demolition and that was not specifically sampled during this building materials survey will be assumed and treated as ACM until tested and proven otherwise. For any ACM that will remain in the building, it is recommended that the material be properly managed to prevent any potential fiber releases in accordance with an Operations and Maintenance Plan.

As a result of the presence of LBP in some of the building components tested during this survey, a lead mitigation/abatement project design/work plan should be prepared prior to any demolition/renovation that may disturb LBP surfaces or components. The design/work plan should include information regarding LBP locations and exposure assessment, as well as LBP waste handling, removal, and disposal. Also, all LBP mitigation/abatement work should be performed and supervised by properly trained workers and supervisors, along with using industry-accredited contractors specializing in this type of LBP abatement under the monitoring of an environmental consultant. The mitigation/abatement work should be performed in accordance with applicable local, state, and federal regulations.

For the surfaces/components that tested negative during the LBP survey, the Occupational Safety and Health Administration (OSHA) lead in construction standard states that "negative" readings do not relieve contractors from performing exposure assessments (personal air monitoring) on their employees per the OSHA lead standard, and should not be interpreted that lead is not present. Although a reading may indicate 'negative," airborne lead concentrations still may exceed the OSHA action level or the OSHA permissible exposure limit, depending on the work activity. Engineering control measures should be implemented in the renovation area to minimize generation of dust and site worker and occupant exposures to lead.

If waste materials containing LBP are generated, they may be regulated as hazardous waste. LBP waste from demolition activities such as debris, paint chips, dust, and sludges that exhibit the toxicity characteristic must be managed and disposed of as a hazardous waste under the Resource Conservation and Recovery Act, except whole-building demolition debris.

For any surfaces/components that are were not specifically tested for LBP during this survey, such surfaces and components should be assumed and treated as LBP until tested and proven otherwise.

Regulated hazardous materials were identified in the four buildings inspected. These regulated hazardous materials are detailed in the report by Legend in **Attachment 2**. Prior to demolition, these regulated hazardous materials must be properly managed and properly disposed of.

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6.0 REFERENCES

Pinnacle Engineering. 2014. Phase I Environmental Site Assessment, Shakopee Valley RV Par, 1245 and 1251 Bluff Avenue East, Shakopee, Minnesota. June 24.

Legend Technical Services, Inc. 2016. Final Report Regulated Hazardous Materials Survey. December 6.

Minnesota Pollution Control Agency. 2016. Background Threshold Value Evaluation. September.

Tetra Tech, Inc. (Tetra Tech). 2014. Targeted Brownfields Assessment Grant Program Quality Assurance Project Plan (Generic QAPP) for Region 5 Targeted Brownfields Assessment Projects in Indiana, Illinois, Michigan, Minnesota, Ohio, and Wisconsin. June 30.

Tetra Tech. 2016a. Site Specific Quality Assurance Project Plan Addendum, Revision 0. November 10.

Tetra Tech. 2016b. Sampling and Analysis Plan, Revision 1. November 10.

U.S. Geological Survey. 1984. Element concentrations in Soils and Other Surficial Materials of the Conterminous United States.

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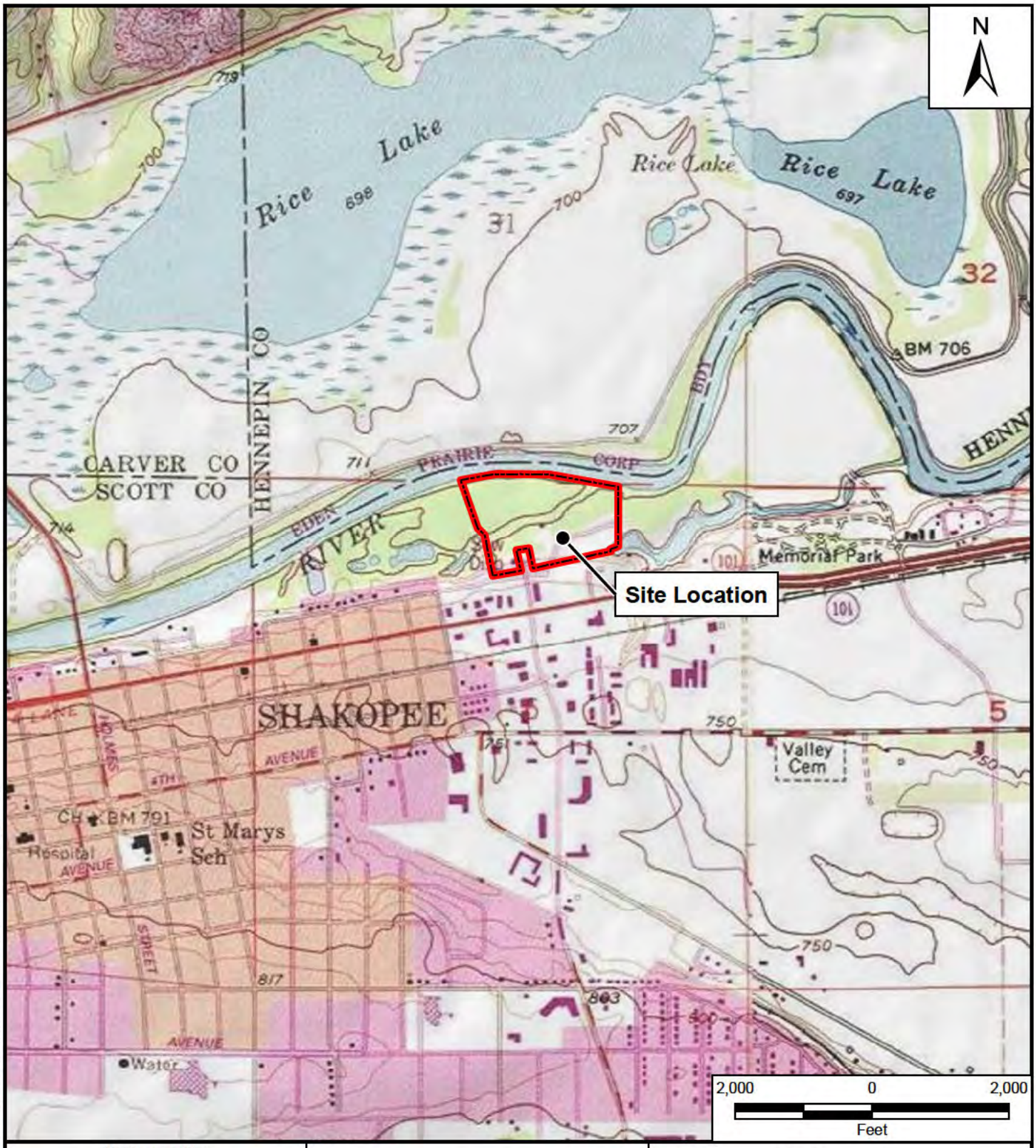
APPENDIX A
FIGURES

FIGURE A-1	SITE LOCATION MAP
FIGURE A-2	SOIL BORING LOCATIONS AND LABORATORY ANALYTICAL RESULTS
FIGURE A-3	GROUNDWATER SAMPLE LOCATIONS AND LABORATORY ANALYTICAL RESULTS



Reference Map

Legend

Approximate Site Boundary

Source: USGS 7.5-Minute Topographic Quadrangle Map: Shakopee, MN 1993

Bluff Avenue Site
1245 and 1251 Bluff Avenue East
Shakopee, Scott County, Minnesota

Figure 1
Site Location Map

TETRA TECH

Prepared For: EPA | Prepared By: Tetra Tech Inc.

File Path: G:\GG9026-START IV\Other States\Bluff Avenue Site-MN\mxd\Fig1-SiteLocation.mxd maggie.banh

Date Saved: 9/21/2016 EPA Contract No.: EP-S5-13-01 TDD No.: S05-0003-1607-010

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Projection: Mercator Auxiliary Sphere
Datum: WGS 1984

Reference Map

Legend

- Sample Location
- Approximate Site Boundary

Source: Bing Maps Hynrid 2013

N

200 0 200

Feet

Bluff Avenue Site
1245 and 1251 Bluff Avenue East
Shakopee, Scott County, Minnesota

Figure x
Sampling Locations Map

TETRA TECH

Prepared For: EPA | Prepared By: Tetra Tech Inc.

File Path: G:\G\G9026-START IV\Other States\Bluff Avenue Site-MN\mxd\FigX-SampleLocations.mxd

Date Saved: 12/13/2016 EPA Contract No.: EP-S5-13-01 TDD No.: S05-0003-1607-010

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Projection: Mercator Auxiliary Sphere
Datum: WGS 1984

Reference Map

Legend

- Sample Location
- Approximate Site Boundary

Source: Bing Maps Hynrid 2013

N

200 0 200

Feet

Bluff Avenue Site
1245 and 1251 Bluff Avenue East
Shakopee, Scott County, Minnesota

Figure x
Sampling Locations Map

TETRA TECH

Prepared For: EPA | Prepared By: Tetra Tech Inc.

File Path: G:\G\G9026-START IV\Other States\Bluff Avenue Site-MN\mxd\FigX-SampleLocations.mxd

Date Saved: 12/13/2016 EPA Contract No.: EP-S5-13-01 TDD No.: S05-0003-1607-010

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Projection: Mercator Auxiliary Sphere
Datum: WGS 1984

APPENDIX B
SOIL BORING LOGS

Tetra Tech, Inc.
1 South Wacker Dr ve
Ch cago, IL 60606
Te ephone: 312 201 7700

BORING NUMBER BA-SB01

CLIENT U.S. EPA
PROJECT NAME B uff Avenue S te
PROJECT NUMBER 0003/S05 0003 1607 010
PROJECT LOCATION 1245 and 1251 B uff Avenue East
DATE STARTED 11/15/16 **COMPLETED** 11/15/16
SURFACE ELEVATION
DRILLING CONTRACTOR NOVA
GROUND WATER LEVELS:
DRILLING METHOD D rect Push
AT TIME OF DRILLING
LOGGED BY EMS
AT END OF DRILLING
AFTER DRILLING

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Env ronmenta Data
0.0					Brown sand, s t, and grave (FILL)	
1 0						
		Co ected so samp e BA SB01(1 3)111516	ML		Brown SANDY SILT, some grave	PID = 0
2.5						
3 7						
					Weathered BEDROCK	
4 0						

Refusa at 4.0 feet.
Bottom of boreho e at 4.0 feet.

GENERAL BH / TP / WELL - GINT STD US.GDT - 11/30/16 13:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\FOCAL.GPJ

Tetra Tech, Inc.
1 South Wacker Dr ve
Ch cago, IL 60606
Te ephone: 312 201 7700

BORING NUMBER BA-SB02

CLIENT U.S. EPA
PROJECT NAME B uff Avenue S te
PROJECT NUMBER 0003/S05 0003 1607 010
PROJECT LOCATION 1245 and 1251 B uff Avenue East
DATE STARTED 11/15/16 **COMPLETED** 11/15/16
SURFACE ELEVATION
DRILLING CONTRACTOR NOVA
GROUND WATER LEVELS:
DRILLING METHOD D rect Push
AT TIME OF DRILLING
LOGGED BY EMS
AT END OF DRILLING
AFTER DRILLING

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Env ronmenta Data
0						
				1 0	Brown sand, s t, and grave (FILL)	
		Co ected so samp e BA SB02(1 4)111516	ML	3 5	Dark brown SANDY SILT, some grave	PID = 0
			SP	4 0	SAND and GRAVEL	
5			ML		Brown SANDY SILT, mo st to wet	PID = 0
10						PID = 0
15						PID = 0
20				20 0		PID = 0

Bottom of boreho e at 20.0 feet.

GENERAL BH / TP / WELL - GINT STD US.GDT - 11/30/16 13:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\FOCAL.GPJ

Tetra Tech, Inc.
1 South Wacker Dr ve
Ch cago, IL 60606
Te ephone: 312 201 7700

WELL NUMBER BA-SB03/TMW1

CLIENT U.S. EPA
PROJECT NAME B uff Avenue S te
PROJECT NUMBER 0003/S05 0003 1607 010
PROJECT LOCATION 1245 and 1251 B uff Avenue East
DATE STARTED 11/15/16 **COMPLETED** 11/15/16
SURFACE ELEVATION
DRILLING CONTRACTOR NOVA
GROUND WATER LEVELS:
DRILLING METHOD D rect Push
AT TIME OF DRILLING 4.50 ft
LOGGED BY EMS
AT END OF DRILLING
AFTER DRILLING

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Env ronmenta Data	WELL DIAGRAM
0					Brown SANDY SILT		
			ML				
2 0					Dark brown SANDY SILT, mo st to wet (4.5 feet bgs)	PID = 0	
		Co ected so samp e BA SB03(2 4)111516					
5						PID = 0	
			ML				
10						PID = 0	
15						PID = 0	
16 0							

Bottom of boreho e at 16.0 feet.

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Tetra Tech, Inc.
1 South Wacker Dr ve
Ch cago, IL 60606
Te ephone: 312 201 7700

WELL NUMBER BA-SB04/TMW2

CLIENT U.S. EPA
PROJECT NAME B uff Avenue S te
PROJECT NUMBER 0003/S05 0003 1607 010
PROJECT LOCATION 1245 and 1251 B uff Avenue East
DATE STARTED 11/15/16 **COMPLETED** 11/15/16
SURFACE ELEVATION
DRILLING CONTRACTOR NOVA
GROUND WATER LEVELS:
DRILLING METHOD D rect Push
AT TIME OF DRILLING 5.25 ft
LOGGED BY EMS
AT END OF DRILLING
AFTER DRILLING

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Env ronmenta Data	WELL DIAGRAM
0		Co ected so samp e BA SB04(1 3)111516	ML		Dark brown SANDY SILT, mo st to wet (5.25 feet bgs), some grave	PID = 0	
5						PID = 0	
8 0			ML		Dark brown SILT, wet		
10						PID = 0	
15						PID = 0	
16 0							

Bottom of boreho e at 16.0 feet.

GENERAL BH / TP / WELL - GINT STD US.GDT - 11/30/16 13:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\FOCAL.GPJ

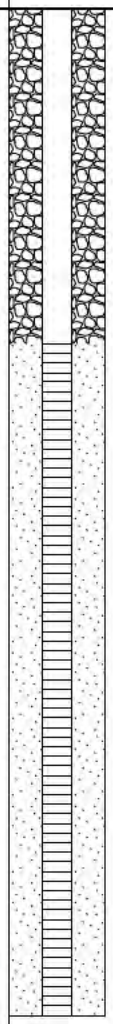
Tetra Tech, Inc.
1 South Wacker Dr ve
Ch cago, IL 60606
Te ephone: 312 201 7700

WELL NUMBER BA-SB05/TMW3

CLIENT U.S. EPA
PROJECT NAME B uff Avenue S te
PROJECT NUMBER 0003/S05 0003 1607 010
PROJECT LOCATION 1245 and 1251 B uff Avenue East
DATE STARTED 11/15/16 **COMPLETED** 11/15/16
SURFACE ELEVATION
DRILLING CONTRACTOR NOVA
GROUND WATER LEVELS:
DRILLING METHOD D rect Push
AT TIME OF DRILLING 5.29 ft
LOGGED BY EMS
AT END OF DRILLING
AFTER DRILLING

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Env ronmenta Data	WELL DIAGRAM
0		Co ected so samp e BA SB05(1 3)111516	ML		Brown SANDY SILT, some grave and organ cs (wood), mo st at 3.5 feet bgs	PID = 0	
4 0					Brown SANDY SILT, wet		
5						PID = 0	
10			ML			PID = 0	
15						PID = 0	
16 0							

Bottom of boreho e at 16.0 feet.



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Tetra Tech, Inc.
1 South Wacker Dr ve
Ch cago, IL 60606
Te ephone: 312 201 7700

WELL NUMBER BA-SB06/TMW4

CLIENT U.S. EPA
PROJECT NAME B uff Avenue S te
PROJECT NUMBER 0003/S05 0003 1607 010
PROJECT LOCATION 1245 and 1251 B uff Avenue East
DATE STARTED 11/15/16 **COMPLETED** 11/15/16
SURFACE ELEVATION
DRILLING CONTRACTOR NOVA
GROUND WATER LEVELS:
DRILLING METHOD D rect Push
AT TIME OF DRILLING 6.39 ft
LOGGED BY EMS
AT END OF DRILLING
AFTER DRILLING

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Env ronmenta Data	WELL DIAGRAM
0			ML		0 5 SANDY SILT w th grave		
			SP		1 0 Brown f ne gra ned SAND		
		Co ected so samp e BA SB06(2 4)111516	ML		Brown SILT, mo st at 3.75 feet bgs	PID = 0	
					4 0 Dark brown SILT, mo st		
5			ML			PID = 0	
					8 0 Brown to gray SILT, wet		
10			ML			PID = 0	
15						PID = 0	
					16 0		

Bottom of boreho e at 16.0 feet.

GENERAL BH / TP / WELL - GINT STD US.GDT - 11/30/16 13:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\FOCAL.GPJ

APPENDIX C
MONITORING WELL/GROUNDWATER SAMPLING SHEETS AND FIELD NOTES

TETRA TECH

MONITORING WELL/GROUNDWATER SAMPLING SHEET

Monitoring Well No.: TMW-1 Date: 11/16/16

Project Name: Bluff Ave Project No.:

Sampler: EMS

Depth to Well Bottom: 14 ft

Depth to Water: 4.21 ft

Water Column: ft

Well Volume: 1-inch well = water column x 0.041 gal/ft
2-inch well = water column x 0.163 gal/ft
3-inch well = water column x 0.367 gal/ft
4-inch well = water column x 0.652 gal/ft

Well Volume: gal

Time	Vol. Purged	Water Level	pH	Conductivity (µmhos/cm)	Temperature (°C/°F)	Turbidity NTU	DO mg/L
9:28	.75g		7.32	0.032	4.22	75.2	9.28
9:33	2.0g		6.79	0.026	7.38	76.8	13.27
9:39	3.0g		6.74	0.024	8.68	78.7	13.51
946	4.0g		6.84	0.023	9.47	78.7	12.93
0953	5.0g	5.32	6.69	0.027	10.17	76.1	12.94

Begin Purge: 0923 Method of Purging ☒ Pump ☐ Bailer

End Purge: 0954 Purged Dry? NO

Total Volume Purged: 5.0 g How Measured? Bucket

QA/QC Sample Collected Here? ☒ Duplicate ☒ Matrix Spike ☐ Equip. Blank ☐ No QA/QC Sample

Date and Time of Sample Collection: 0955 Sample Number (s): BATMW1-116116

Comments: Dup - 1000 MS MSD 1005

Sample time: 0955 SAMPLE: BATMW1-111616

TETRA TECH

MONITORING WELL/GROUNDWATER SAMPLING SHEET

Monitoring Well No.: TMW-2 Date: 11/16/16

Project Name: Bluff Ave Project No.:

Sampler: EMS

Depth to Well Bottom: 15 ft

Depth to Water: 5.28 ft

Water Column: 9.72 ft

Well Volume:
1-inch well = water column x 0.041 gal/ft
2-inch well = water column x 0.163 gal/ft
3-inch well = water column x 0.367 gal/ft
4-inch well = water column x 0.652 gal/ft

Well Volume: 0.39 gal

Time	Vol. Purged	Water Level	pH	Conductivity (µmhos/cm)	Temperature (°C/°F)	Turbidity NTU	DO mg/L
1054	.75	5.28	7.14	1.30	12.25	357	0
1059	2.0		6.99	1.29	12.40	263	0
1104	3.5		6.99	1.28	12.41	170	0
1110	4.5		6.98	1.26	12.41	168	0
1115	5.0	5.61	6.98	1.26	12.41	168	0

Begin Purge: 1050 Method of Purging ☒ Pump ☐ Bailer

End Purge: 1115 Purged Dry? No

Total Volume Purged: 5 gal How Measured?

QA/QC Sample Collected Here? ☐ Duplicate ☐ Matrix Spike ☐ Equip. Blank ☒ No QA/QC Sample

Date and Time of Sample Collection: 1115 Sample Number (s): BA TMW2-111616

Comments: Do measurement not working-

TETRA TECH

MONITORING WELL/GROUNDWATER SAMPLING SHEET

Monitoring Well No.: TMW3 Date: 11/16/16

Project Name: Bluff Ave Project No.:

Sampler: Emy

Depth to Well Bottom: 15 ft

Depth to Water: 4.14 ft

Water Column: 10.86 ft

Well Volume: 1-inch well = water column x 0.041 gal/ft
2-inch well = water column x 0.163 gal/ft
3-inch well = water column x 0.367 gal/ft
4-inch well = water column x 0.652 gal/ft

Well Volume: 0.45 gal

Time	Vol. Purged	Water Level	pH	Conductivity (µmhos/cm)	Temperature (°C/°F)	Turbidity NTU	DO mg/L
1136	0.3	4.14	6.99	1.28	12.41	170	0
1145	2.0		6.77	1.25	12.72	196	0
1150	2.5		6.62	1.23	12.86	199	0
1155	3.0	4.48	6.60	1.22	12.86	194	0

Begin Purge: 1135 Method of Purging ☒ Pump ☐ Bailer

End Purge: 1155 Purged Dry?

Total Volume Purged: 3.0 gal How Measured? Bucket

QA/QC Sample Collected Here? ☐ Duplicate ☐ Matrix Spike ☐ Equip. Blank ☒ No QA/QC Sample

Date and Time of Sample Collection: 11/16/16 1155 Sample Number (s): BATMW3111616

Comments: DO Not Working

TETRA TECH

MONITORING WELL/GROUNDWATER SAMPLING SHEET

Monitoring Well No.: TMW4 Date: 11·16·16

Project Name: Bluff Ave Project No.:

Sampler: Em

Depth to Well Bottom: 15 ft

Depth to Water: 4.01 ft

Water Column: 10.99 ft

Well Volume: 1-inch well = water column x 0.041 gal/ft
2-inch well = water column x 0.163 gal/ft
3-inch well = water column x 0.367 gal/ft
4-inch well = water column x 0.652 gal/ft

Well Volume: 0.45 gal

Time	Vol. Purged	Water Level	pH	Conductivity (µmhos/cm)	Temperature (°C/°F)	Turbidity NTU	DO mg/L
1215	0.5	4.01	6.69	2.47	12.88	0*	10.70
1220	0.8		6.69	2.36	12.90	0	6.68
1225	1.0		6.84	2.21	12.98	0	4.17
1230	1.5	8.01	6.85	2.16	12.99	0	4.76

Begin Purge: Method of Purging ☒ Pump ☐ Bailer

End Purge: Purged Dry? No

Total Volume Purged: 1.5 How Measured? bucket

QA/QC Sample Collected Here? ☐ Duplicate ☐ Matrix Spike ☐ Equip. Blank ☒ No QA/QC Sample

Date and Time of Sample Collection: 12:35 Sample Number (s): BATMW4 111616

Comments: * Very turbid - meter reading zero - may be over range.

8/26/16

is identical to the first

1345 - RV Office + Pool room. Pool room smelled musty / moldy. Various electronics (video games / washers + dryers) remain in the building. Small amounts of cleaners & pool chemicals are stored, but all are small quantity (5 gallons or less) and are labeled. Musty smell may be an indication of mold - pool was partially filled with water + tarped. Ceiling tiles & floor tiles were previously sampled + were non-asbestos containing as Simeon could recall. Fluorecent lights present in building + other building + other materials to be considered prior to demolition, but not sure if any additional building materials need to be sampled + tested.

1430 - Site walk over completed

EWS

11/15/16

0800 - START TEAM Elise Steger onsite. Weather - clear, sunny, cool and 45°F ; no wind.

Andrew with the Legend called - running a little late due to traffic.

0815 Legend onsite - starting survey in the office / pool area

0845 - Simeon onsite - helping Legend w/ locations of previous sampling,

0850 - Nova onsite, walked to locations to the north. Location in middle of property is accessible; Location to NW is not due to mud, trees + unstable bridge. Called Carol - will move location to NE near eastern bathouse.

0930 - Set up on GP-1 in front of RV office

Hit refusal @ 4' - maybe bedrock - likely will be a soil sample only at this location

Rite in the Rain

1000 - Moved to location by NW corner of RV office - septic tank just east of boring

Collecting (Jarring) Sample
BA-SB01 (1-3) 111516 @ 1000
1130 - Collecting sample at SB2
BA-SB02 (1-4) 111516 @ 1130 will also collect the duplicate & ms (msd for soil at this location. Boring did go to 20' but no visual or olfactory impacts
1220 - Starting SB03 North of office + WWTP buildings - on north side of berm + hill, so a drop in elevation from first two boring
1230 - Collecting soil sample from SB3
BA-SB03 (2-4) 111516 @ 1230
Water @ 4.5 bgs screen 4 to 14' bgs
1330 Collecting soil sample from SB4
BA-SB04 (1-3) 111516 @ 1330
Water @ 5.25' screen 5 to 15' bgs
1345. Set up on SB05. Unpaved trail fairly muddy - drove as far north as passable - just north of the west shower house.

1400. Collecting soil sample @ SB05
BASB05 (1-3) 111516. Water at 5.01' screen 5-15' bgs
1445 Set up on SB06 - adjacent to east bathouse (south side)
1500 - Collecting SB06
BA-SB06 (2-4) 111516 - No jar for moisture - will call lab
lab will take moisture from 4oz jar.
1530 - Cleaning up site (equipment will take additional photos of WWTP after
1600 - Leaving site

Rite in the Rain

0830 - Onsite; Weather is clear, cool, 50°F no wind

0845 - Nova onsite; will set up on first well

1045 - Setting up on TMW-2

1115 - Setting up on TMW 3

1215 setting up on TMW 4

GP3 — TMW1
GP4 — TMW2
GP5 — TMW3
GP6 — TMW4

Conductivity on the Horiba only appeared to be working on the first well. Called Carol after it stopped. Said to continue w/ pump + sampling.

1220 - Having some issues with pumping TMW4 due to the amount of silt in the well plugging the pump / purge line

1300 - Completed samples; Cleaning up equipment

Wells and borings grouted - 1 bag smooth grout; 1 bag medium chips.

1330 - Leaving site - Simeon was

on-site @ end to discuss findings etc. - told him no issues, all borings are sealed

1345 - Leaving site

Err

Rite in the Rain

APPENDIX D
PHOTOGRAPHS

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 01 **Photographer: ES** **Date: 11/15/16** **Description: Inside the Main Office building at the site, former swimming pool area.**	
Photograph No. 02 **Photographer: ES** **Date: 11/15/16** **Description: Inside the Main Office building at the site, former arcade area.**	

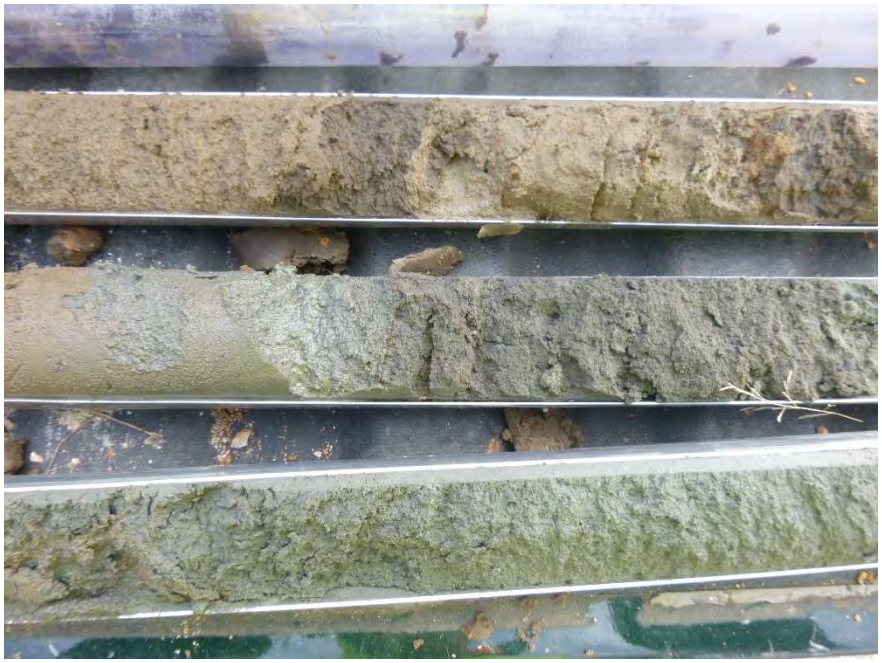
Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 03 **Photographer: ES** **Date: 11/15/16** **Description: Installation of SB-01, south of the Main Office building, west of the former waste water treatment plant (WWTP) and shop building, looking north.**	
Photograph No. 04 **Photographer: ES** **Date: 11/15/16** **Description: SB-01, 0-4 feet below ground surface (bgs), sand, silt, and gravel followed by; sandy silt and gravel. Refusal was encountered at 4 feet bgs at this location.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 05 **Photographer: ES** **Date: 11/15/16** **Description: Example of continuous sampling and soil identification. Soils shown here are from SB-02, which had a total depth of 20 feet bgs. Primarily brown sandy silt, turning to gray sandy silt below the groundwater table.**	
Photograph No. 06 **Photographer: ES** **Date: 11/15/16** **Description: Example of saturated soils at the site. Most soils near the groundwater table consisted of brown to gray silty sand.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 07 **Photographer: ES** **Date: 11/15/16** **Description: Geoprobe rig set up for sampling at SB-03, north of the Main Office building (roof shown in background above berm). Looking south.**	
Photograph No. 08 **Photographer: ES** **Date: 11/15/16** **Description: Geoprobe rig set up for sampling at SB-03, north of the Main Office building (roof shown in background above berm). Looking southwest. Photo also shows the bituminous bike / walking path that transects the property.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 09 **Photographer: ES** **Date: 11/15/16** **Description: Some areas of the campground were muddy and soft where the Geoprobe rig was unable to traverse; therefore, some boring locations were moved to ensure safe practices. SB-03 looking southwest.**	
Photograph No. 10 **Photographer: ES** **Date: 11/15/16** **Description: SB-03 looking southeast.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 11 **Photographer: ES** **Date: 11/15/16** **Description: SB-03 looking east, showing large berm that separates the buildings from the floodplain below.**	
Photograph No. 12 **Photographer: ES** **Date: 11/15/16** **Description: Looking north toward river, showing bituminous bike and walking paths and wooden bridge. One of the borings was originally located north along the bridge path, but since the bridge did not have a weight rating, crossing it with the vehicles was prohibited.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 13 **Photographer: ES** **Date: 11/15/16** **Description: Soils from SB-04 at 0 to 4 feet bgs, showing dark brown sandy silt with minor gravel.**	
Photograph No. 14 **Photographer: ES** **Date: 11/15/16** **Description: Location of SB-04 near the walking and biking trail, looking northwest.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 15 **Photographer: ES** **Date: 11/15/16** **Description: Location of SB-04 near the walking and biking trail, looking southwest. Former bathhouse (western location) shown in the background.**	
Photograph No. 16 **Photographer: ES** **Date: 11/15/16** **Description: Location of SB-04 looking east.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 17 **Photographer: ES** **Date: 11/15/16** **Description: Soil samples collected from SB-05, showing sandy silt and organics in the top macrocore sampler, saturated soils in the bottom macrocore sampler. Depth to groundwater was later measured at 5.29 feet at this location.**	
Photograph No. 18 **Photographer: ES** **Date: 11/15/16** **Description: The gravel path to the SB-05 location was too wet and muddy, therefore the location was moved south to avoid issues with vehicles.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 19 **Photographer: ES** **Date: 11/15/16** **Description: The temporary wells were marked with cones after installation to protect the casing and help with locating them later. SB-05 shown here, looking southeast.**	
Photograph No. 20 **Photographer: ES** **Date: 11/15/16** **Description: Some areas of the property had backwater channels of the Minnesota River. Near SB-05, looking east.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 21 **Photographer: ES** **Date: 11/15/16** **Description: The campground area of the site consisted of smaller shrubs and vegetation with many large hardwood trees.**	
Photograph No. 22 **Photographer: ES** **Date: 11/15/16** **Description: SB-06 was installed just north of the former bathhouse, located near the eastern property boundary. Looking east.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 23 **Photographer: ES** **Date: 11/15/16** **Description: SB-06 was installed just north of the former bathhouse, located near the eastern property boundary. Looking north, toward the Minnesota River.**	
Photograph No. 24 **Photographer: ES** **Date: 11/15/16** **Description: The temporary wells were marked with cones after installation to protect the casing and help with locating them later. SB-06 shown here, looking northeast.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 25 **Photographer: ES** **Date: 11/15/16** **Description: Former eastern bathhouse, SB-06, looking north.**	
Photograph No. 26 **Photographer: ES** **Date: 11/15/16** **Description: Inside the former shop area. The small miscellaneous containers, equipment, and other items were removed since the initial site walk-through in August.**	

Photograph No. 27 **Photographer: ES** **Date: 11/15/16** **Description: Inside the former shop area. The small miscellaneous containers, equipment, and other items were removed since the initial site walk-through in August. The curved wall is part of the former WWTP tank.**	
Photograph No. 28 **Photographer: ES** **Date: 11/15/16** **Description: Inside the former shop area. The small miscellaneous containers, equipment, and other items were removed since the initial site walk-through in August. The curved wall is part of the former WWTP tank.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 29 **Photographer: ES** **Date: 11/15/16** **Description: Inside the former shop area. The small miscellaneous containers, equipment, and other items were removed since the initial site walk-through in August. The curved wall is part of the former WWTP tank; the staircase on the right side of the photo leads to the basement, where water has infiltrated.**	
Photograph No. 30 **Photographer: ES** **Date: 11/15/16** **Description: Staircase to basement of the WWTP.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 31 **Photographer: ES** **Date: 11/15/16** **Description: Basement of the WWTP with water. Photo shows metal pipes, no insulation.**	
Photograph No. 32 **Photographer: ES** **Date: 11/15/16** **Description: Basement of the WWTP with water. Photo shows pipes near ceiling with insulation.**	

Photograph No. 33 **Photographer: ES** **Date: 11/15/16** **Description: Basement of the WWTP with water.**	
Photograph No. 34 **Photographer: ES** **Date: 11/15/16** **Description: Collecting a groundwater sample from a temporary well.**	

Client: U.S. EPA Region 5
Site Name: Bluff Ave
Location: Shakopee, Scott County, Minnesota

Prepared by: Tetra Tech, Inc.
TDD Number: 0003-1607-010

Photograph No. 35 **Photographer: ES** **Date: 11/15/16** **Description: Grout was hydrated prior to abandoning the borings and temporary monitoring wells.**	
Photograph No. 36 **Photographer: ES** **Date: 11/15/16** **Description: Bentonite grout used for sealing the borings and temporary monitoring wells.**	

APPENDIX E
TABLES

TABLE E-1 SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

TABLE E-2 SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

TABLE B-1
SUMMARY OF SOIL SAMPLE LABORATORY ANALYTICAL RESULTS – VOCS
BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte	EPA RSL - Screening Levels Residential Soil	MPCA - Tier-1 Residential Summary Soil Reference Value	MPCA - Tier 2 Recreational Scenario Soil Reference Value	MPCA - Screening Soil Leaching Values	Laboratory ID, Sample ID, Sample Depth Interval, Data Collected						
					16111186-02	16111186-03	16111186-04	16111186-05	16111186-06	16111186-07	16111186-08
					BA-SB01(1-3)111516	BA-SB02(1-4)111516	BA-SB02(1-4)111516D	BA-SB03(2-4)111516	BA-SB04(1-3)111516	BA-SB05(1-3)111516	BA-SB06(2-4)111516
					1-3	1-4	1-4	2-4	1-3	1-3	2-4
					11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016
VOCs (milligrams per kilogram)											
1,1,1-Trichloroethane	8100	140	280	56	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
1,1,2,2-Tetrachloroethane	2	3 5	83	NE	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
1,1,2-Trichloroethane	1 1	9	24	0 014	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
1,1-Dichloroethane	3 6	34	97	0 41	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
1,1-Dichloroethene	230	20	50	1 4	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
1,2-Dichloroethane	0 46	4	10	0 0038	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
1,2-Dichloropropane	1	4	11	0 024	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
2-Butanone	27,000	5500	NE	1 5	<0 27	<0 25	<0 26	<0 29	<0 28	<0 28	<0 31
2-Hexanone	200	NE	NE	NE	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
4-Methyl-2-pentanone	33,000	1700	NE	NE	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Acetone	61,000	340	850	8 4	<0 14	<0 13	<0 13	<0 15	<0 14	<0 14	<0 16
Benzene	1 2	6	14	0 017	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Bromodichloromethane	0 29	10	28	0 021	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Bromoform	19	370	NE	0 13	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Bromomethane	6 8	0 7	2	0 036	<0 1	<0 095	<0 097	<0 11	<0 1	<0 1	<0 12
Carbon disulfide	770	65	160	3 4	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Carbon tetrachloride	0 65	0 3	0 7	0 0077	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Chlorobenzene	280	11	23	1 2	<0 041	<0 038	<0 039	<0 15	<0 041	<0 041	<0 047
Chloroethane	14,000	1000	2,250	NE	<0 14	<0 13	<0 13	<0 15	<0 14	<0 14	<0 16
Chloroform	0 32	2 5	7	0 11	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
cis-1,2-Dichloroethene	160	8	19	0 21	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
cis-1,3-Dichloropropene	NE	NE	NE	0 011	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Dibromochloromethane	8 3	12	NE	0 034	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Ethylbenzene	5 8	200	200	1	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Methyl tert-butyl ether	47	NE	NE	NE	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Methylene chloride	57	97	20	NE	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Styrene	6,000	210	500	2	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Tetrachloroethene	24	72	145	0 042	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Toluene	4,900	107	260	2 5	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
trans-1,2-Dichloroethene	1,600	11	NE	0 42	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
trans-1,3-Dichloropropene	NE	NE	NE	0 011	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Trichloroethene	0 94	29	82	0 0023	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Vinyl chloride	0 059	0 8	2	0 0014	<0 041	<0 038	<0 039	<0 044	<0 041	<0 041	<0 047
Xylenes, Total	580	45	110	5 4	<0 12	<0 11	<0 12	<0 13	<0 12	<0 12	<0 14

Notes:
NE - Not established

TABLE E-1
SUMMARY OF SOIL SAMPLE LABORATORY ANALYTICAL RESULTS – INORGANICS
BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte	EPA RSL - Screening Levels Residential Soil	MPCA - Tier-1 Residential Summary Soil Reference Value	MPCA - Tier 2 Recreational Scenario Soil Reference Value	MPCA - Screening Soil Leaching Values[1]	Laboratory ID, Sample ID, Sample Depth Interval, Data Collected						
					16111186-02	16111186-03	16111186-04	16111186-05	16111186-06	16111186-07	16111186-08
					BA-SB01(1-3)111516	BA-SB02(1-4)111516	BA-SB02(1-4)111516D	BA-SB03(2-4)111516	BA-SB04(1-3)111516	BA-SB05(1-3)111516	BA-SB06(2-4)111516
					1-3	1-4	1-4	2-4	1-3	1-3	2-4
					11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016
Inorganics (milligrams per kilogram)											
Aluminum	77,000	30,000	40,000	NE	**3,100**	**3,300**	**3,300**	**2,700**	**3,900**	**4,800**	**5,500**
Antimony	31	12	16	5 4	**8.5**	**9.2 J+**	**9.8**	**7.3**	**9.4**	**11**	**13**
Arsenic[2]	0 68	9	11	5 8	**3.2**	**7.6**	**6.5**	**2.5**	**3.5**	**4.9**	**5.0**
Barium	15,000	1,100	1,100	17,000	**52**	**87**	**74**	**42**	**54**	**110**	**89**
Beryllium	160	55	75	2 7	**0.057 J**	**0.079 J**	**0.072 J**	**0.058 J**	**0.13 J**	**0.21**	**0.22**
Cadmium	71	25	35	8 8	**0.090 J**	**0.44 J**	**0.37 J**	**0.079 J**	**0.10 J**	**0.24 J**	**0.30 J**
Calcium	NE	NE	NE	NE	**25,000**	**19,000**	**21,000**	**21,000**	**25,000**	**27,000**	**25,000**
Chromium	NE	87	120	36	**8.6**	**9.3**	**9.9**	**7.3**	**9.5**	**12**	**13**
Cobalt	23	600	800	27	**4.3**	**4.4**	**4.3**	**4.1**	**5.5**	**7.2**	**7.2**
Copper	3,100	100	100	700	**6.1**	**15 J-**	**13**	**4.6**	**7.5**	**10**	**11**
Iron[2]	55,000	9,000	12,000	NE	**8,700**	**8,400**	**8,800**	**6,900**	**9,600**	**12,000**	**12,000**
Lead	400	300	300	27,000	**5.6**	**32 J-**	**26**	**3.3**	**4.8**	**8.5**	**10**
Magnesium	NE	NE	NE	NE	**11,000**	**8,000**	**8,900**	**9,000**	**11,000**	**13,000**	**12,000**
Manganese	1,800	3,600	5,000	130	**500**	**380**	**360**	**330**	**370**	**1,100**	**740**
Nickel	1,500	560	800	180	**9.7**	**10**	**9.9**	**8.6**	**12**	**16**	**17**
Potassium	NE	NE	NE	NE	**640**	**680**	**710**	**510**	**670**	**1,100**	**1100**
Selenium	390	160	200	2 6	<0 77	<0 81	<0 83	<0 98	<0 95	<0 86	<1
Silver	390	160	200	7 9	<0 38	**1.0**	**0.77**	<0 49	<0 47	0 18 J	**0.11 J**
Sodium	NE	NE	NE	NE	**190**	**79**	**86**	**93**	**130**	**91**	**150**
Thallium	0 78	3	3	0 89	**0.45 J**	<0 81	<0 83	<0 98	<0 95	**0.76 J**	**0.61 J**
Vanadium	390	30	40	4	**12**	**13 J+**	**14**	**12**	**15**	**18**	**20**
Zinc	23,000	8,700	12,000	3,000	**26**	**100 J**	**82**	**21**	**31**	**45**	**48**
Mercury (milligrams per kilogram)											
Mercury	11	0 5	1 2	3 3	**0.017**	**0.28 J-**	**0.18**	0 014 J	**0.022**	**0.038**	**0.059**
Cyanide, Total (milligram per kilogram)											
Cyanide, Total	23	60	60	20	**0.049 J**	**0.033 J**	**0.037 J**	<0 62	**0.032 J**	**0.059 J**	**0.042 J**
Moisture (percent of Sample)											
Moisture	NE	NE	NE	NE	**15**	**12**	**13**	**19**	**16**	**16**	**22**

Notes:
J - Concentration of compound is estimated
J+ - Concentration of compound is estimated and biased high
NE - Not established
[1] - SLVs for inorganic compounds should be applied for risk evaluation only at sites where significant metal releases are documented
[2] - Background Threshold Value for arsenic is 9 mg/kg and for iron is 30,000 mg/kg
- Concentration of compound exceeds the EPA RSLs for Residential Soil, but not the MPCA Tier 1 Residential Soil Reference Values
- Concentration of compound exceeds the MPCA Tier 1 Residential Soil Reference Values

TABLE E-1
SUMMARY OF SOIL SAMPLE LABORATORY ANALYTICAL RESULTS – PCBs and PESTICIDES
BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte	EPA RSL - Screening Levels Residential Soil	MPCA - Tier-1 Residential Summary Soil Reference Value	MPCA - Tier 2 Recreational Scenario Soil Reference Value	MPCA - Screening Soil Leaching Values	Laboratory ID, Sample ID, Sample Depth Interval, Data Collected						
					16111186-02	16111186-03	16111186-04	16111186-05	16111186-06	16111186-07	16111186-08
					BA-SB01(1-3)111516	BA-SB02(1-4)111516	BA-SB02(1-4)111516D	BA-SB03(2-4)111516	BA-SB04(1-3)111516	BA-SB05(1-3)111516	BA-SB06(2-4)111516
					1-3	1-4	1-4	2-4	1-3	1-3	2-4
					11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016
PCBs (milligrams per kilogram)											
Aroclor 1016	4 1	1 2	1 4	0 13	<0 093	<0 093	<0 094	<0 1	<0 099	<0 097	<0 11
Aroclor 1221	0 2	1 2	1 4	0 13	<0 093	<0 093	<0 094	<0 1	<0 099	<0 097	<0 11
Aroclor 1232	0 17	1 2	1 4	0 13	<0 093	<0 093	<0 094	<0 1	<0 099	<0 097	<0 11
Aroclor 1242	0 23	1 2	1 4	0 13	<0 093	<0 093	<0 094	<0 1	<0 099	<0 097	<0 11
Aroclor 1248	0 23	1 2	1 4	0 13	<0 093	<0 093	<0 094	<0 1	<0 099	<0 097	<0 11
Aroclor 1254	0 24	1 2	1 4	0 13	<0 093	**0.13**	**0.090 J**	<0 1	<0 099	**0.12**	<0 11
Aroclor 1260	0 24	1 2	1 4	0 13	<0 093	**0.065 J**	**0.041 J**	<0 1	<0 099	<0 097	<0 11
Pesticides (milligrams per kilogram)											
4,4´-DDD	2 3	56	74	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
4,4´-DDE	2	40	52	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
4,4´-DDT	1 9	15	18	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Aldrin	0 039	1	1	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
alpha-BHC	0 086	2	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
alpha-Chlordane	NE	NE	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
beta-BHC	0 3	7	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Chlordane, Technical	NE	13	16	NE	<0 29	<0 14	<0 14	<0 031	<0 03	<0 03	<0 032
delta-BHC	NE	NE	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Dieldrin	0 034	0 8	1 2	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Endosulfan I	NE	NE	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Endosulfan II	NE	NE	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Endosulfan sulfate	NE	NE	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Endrin	19	8	10	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Endrin aldehyde	NE	NE	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Endrin ketone	NE	NE	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
gamma-BHC (Lindane)	0 57	9	12	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
gamma-Chlordane	NE	NE	NE	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Heptachlor	0 13	2	3	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Heptachlor epoxide	0 07	0 4	0 5	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Methoxychlor	320	11	13	NE	<0 12	<0 057	<0 057	<0 012	<0 012	<0 012	<0 013
Toxaphene	0 49	13	17	NE	<0 7	<0 34	<0 34	<0 074	<0 072	<0 071	<0 077

Notes:
J - Concentration of compound is estimated
NE - Not established

TABLE E-1
SUMMARY OF SOIL SAMPLE LABORATORY ANALYTICAL RESULTS – SVOCs
BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte	EPA RSL - Screening Levels Residential Soil	MPCA - Tier-1 Residential Summary Soil Reference Value	MPCA - Tier 2 Recreational Scenario Soil Reference Value	MPCA - Screening Soil Leaching Values	Laboratory ID, Sample ID, Sample Depth Interval, Data Collected						
					16111186-02	16111186-03	16111186-04	16111186-05	16111186-06	16111186-07	16111186-08
					BA-SB01(1-3)111516	BA-SB02(1-4)111516	BA-SB02(1-4)111516D	BA-SB03(2-4)111516	BA-SB04(1-3)111516	BA-SB05(1-3)111516	BA-SB06(2-4)111516
					1-3	1-4	1-4	2-4	1-3	1-3	2-4
					11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016
SVOCs (milligrams per kilogram)											
1,2,4-Trichlorobenzene	24	200	290	0 23	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
1,2-Dichlorobenzene	1800	26	63	11	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
1,3-Dichlorobenzene	NE	26	32	10	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
1,4-Dichlorobenzene	2 6	30	72	0 17	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2,2`-Oxybis(1-chloropropane)	3,100	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2,4,5-Trichlorophenol	6,300	1920	2,212	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2,4,6-Trichlorophenol	49	595	705	0 42	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2,4-Dichlorophenol	190	48	61	0 15	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2,4-Dimethylphenol	1,300	390	530	2 2	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2,4-Dinitrophenol	130	NE	NE	0 02	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2,4-Dinitrotoluene	1 7	50	60	0 013	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2,6-Dinitrotoluene	0 36	25	30	0 013	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2-Chloronaphthalene	4,800	NE	NE	NE	<0 039	<0 0072	<0 0075	<0 0081	<0 0079	<0 0077	<0 0083
2-Chlorophenol	390	NE	NE	0 52	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2-Methylnaphthalene	240	100	120	NE	<0 039	**0.0043 J**	<0 0075	<0 0081	<0 0079	<0 0077	<0 0083
2-Methylphenol	3,200	75	95	0 43	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2-Nitroaniline	630	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
2-Nitrophenol	NE	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
3&4-Methylphenol	NE	75, 10	95, 11	0 42, 0 042	<0 19	<0 036	**0.11 J**	<0 04	<0 039	<0 038	<0 041
3,3´-Dichlorobenzidine	1 2	25	30	0 1	<0 97	<0 18	<0 19	<0 2	<0 2	<0 19	<0 21
3-Nitroaniline	NE	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
4,6-Dinitro-2-methylphenol	5 1	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
4-Bromophenyl phenyl ether	NE	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
4-Chloro-3-methylphenol	6,300	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
4-Chloroaniline	2 7	NE	NE	NE	<0 39	<0 072	<0 076	<0 081	<0 08	<0 077	<0 083
4-Chlorophenyl phenyl ether	NE	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
4-Nitroaniline	27	NE	NE	NE	<0 97	<0 18	<0 19	<0 2	<0 2	<0 19	<0 21
4-Nitrophenol	NE	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Acenaphthene	3,600	1200	1,860	81	<0 039	<0 0072	<0 0075	<0 0081	<0 0079	<0 0077	<0 0083
Acenaphthylene	NE	NE	NE	NE	<0 039	<0 0072	**0.023 J**	<0 0081	<0 0079	<0 0077	<0 0083
Anthracene	18,000	7880	10,000	1,300	<0 039	**0.017**	**0.013**	<0 0081	<0 0079	<0 0077	<0 0083
Benzo(a)anthracene	0 16	NE	NE	NE	<0 039	**0.091**	**0.075**	<0 0081	<0 0079	<0 0077	**0.014**
Benzo(a)pyrene	0 016	2	2	1 4	<0 039	**0.15**	**0.091**	<0 0081	<0 0079	<0 0077	<0 0083
Benzo(b)fluoranthene	0 16	NE	NE	NE	<0 039	**0.21**	**0.17**	<0 0081	<0 0079	<0 0077	<0 0083
Benzo(g,h,i)perylene	NE	NE	NE	NE	<0 039	**0.11**	**0.084**	<0 0081	<0 0079	<0 0077	<0 0083
Benzo(k)fluoranthene	1 6	NE	NE	NE	<0 039	**0.072**	**0.059**	<0 0081	<0 0079	<0 0077	<0 0083
Bis(2-chloroethoxy)methane	190	NE	NE	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Bis(2-chloroethyl)ether	0 23	2 5	6	0 00099	<0 19	<0 010	<0 037	<0 04	<0 039	<0 038	<0 041
Bis(2-ethylhexyl)phthalate	39	NE	NE	NE	<0 19	**0.079 J**	<0 037	<0 04	<0 039	<0 038	**0.063**
Butyl benzyl phthalate	290	580	623	29	<0 19	<0 0061	<0 037	<0 04	<0 039	**0.045**	<0 041

TABLE E-1
SUMMARY OF SOIL SAMPLE LABORATORY ANALYTICAL RESULTS – SVOCs
BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte	EPA RSL - Screening Levels Residential Soil	MPCA - Tier-1 Residential Summary Soil Reference Value	MPCA - Tier 2 Recreational Scenario Soil Reference Value	MPCA - Screening Soil Leaching Values	16111186-02	16111186-03	16111186-04	16111186-05	16111186-06	16111186-07	16111186-08
					BA-SB01(1-3)111516	BA-SB02(1-4)111516	BA-SB02(1-4)111516D	BA-SB03(2-4)111516	BA-SB04(1-3)111516	BA-SB05(1-3)111516	BA-SB06(2-4)111516
					1-3	1-4	1-4	2-4	1-3	1-3	2-4
					11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016	11/15/2016
SVOCs (milligrams per kilogram)											
Carbazole	NE	700	720	NE	<0 19	**0.016 J**	<0 037	<0 04	<0 039	<0 038	<0 041
Chrysene	16	NE	NE	NE	<0 039	**0.14**	**0.14**	<0 0081	<0 0079	<0 0077	<0 0083
Di-n-butyl phthalate	6,300	NE	NE	NE	<0 19	**0.010 J**	<0 037	<0 04	<0 039	<0 038	<0 041
Di-n-octyl phthalate	630	520	630	NE	<0 19	**0.10**	<0 037	<0 04	<0 039	<0 038	<0 041
Dibenzo(a,h)anthracene	0 016	NE	NE	NE	<0 039	**0.043**	**0.029**	<0 0081	<0 0079	<0 0077	<0 0083
Dibenzofuran	73	104	130	NE	<0 19	**0.0065 J**	<0 037	<0 04	<0 039	<0 038	<0 041
Diethyl phthalate	51,000	NE	NE	37	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Dimethyl phthalate	NE	NE	NE	230	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Fluoranthene	2,400	1080	1,290	670	<0 039	**0.23**	**0.16**	<0 0081	<0 0079	<0 0077	**0.0091**
Fluorene	2,400	850	1,200	110	<0 039	**0.0065 J**	<0 0075	<0 0081	<0 0079	<0 0077	<0 0083
Hexachlorobenzene	0 21	5	8	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Hexachlorobutadiene	1 2	6	6	0 037	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Hexachlorocyclopentadiene	1 8	2	5	3 1	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Hexachloroethane	1 8	NE	NE	0 01	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Indeno(1,2,3-cd)pyrene	0 16	NE	NE	NE	<0 039	**0.17**	**0.10**	<0 0081	<0 0079	<0 0077	<0 0083
Isophorone	570	NE	NE	0 46	<0 97	<0 18	<0 19	<0 2	<0 2	<0 19	<0 21
N-Nitrosodi-n-propylamine	0 078	0 7	1 2	NE	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
N-Nitrosodiphenylamine	110	1950	2585	7 5	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Naphthalene	3 8	10	24	4 5	<0 039	<0 0072	<0 0075	<0 0081	<0 0079	<0 0077	<0 0083
Nitrobenzene	5 1	NE	NE	NE	<0 97	<0 18	<0 19	<0 2	<0 2	<0 19	<0 21
Pentachlorophenol	1	80	80	0 023	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Phenanthrene	NE	NE	NE	NE	<0 039	**0.14 J**	**0.11 J+**	<0 0081	<0 0079	<0 0077	<0 0083
Phenol	19,000	1500	1,500	38	<0 19	<0 036	<0 037	<0 04	<0 039	<0 038	<0 041
Pyrene	1,800	890	1,060	440	**0.039**	**0.24**	**0.24**	<0 0081	<0 0079	**0.0054 J**	**0.011**

Notes:
J - Concentration of compound is estimated
J+ - Concentration of compound is estimated and biased high
NA - Not Analyzed
NE - Not established
- Concentration exceeds the EPA RSLs but not the MPCA Tier 1 Soil Reference Values

TABLE E-2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS – VOCs

BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte	Laboratory ID:		16111189-02	16111189-03	16111216-02	16111216-03	16111216-04
	Client Sample ID:		BA-TMW1-111616	BA-TMW1-111616D	BA-TMW2-111616	BA-TMW3-111616	BA-TMW4-111616
	Date Collected:		11/16/2016	11/16/2016	11/16/2016	11/16/2016	11/16/2016
	EPA Drinking Water Standards 2012	MDH Guidance - Most Stringent Value					
	MCL						
VOCs (micrograms per liter)							
1,1,1-Trichloroethane	200	9,000	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	NE	2	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	3	<1	<1	<1	<1	<1
1,1-Dichloroethane	NE	80	<1	<1	<1	<1	<1
1,1-Dichloroethene	7		<1	<1	<1	<1	<1
1,2-Dichloroethane	5	1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	5	<1	<1	<1	<1	<1
2-Butanone	NE	4,000	<5	<5	<5	<5	<5
2-Hexanone	NE		<5	<5	<5	<5	<5
4-Methyl-2-pentanone	NE		<1	<1	<1	<1	<1
Acetone	NE	4,000	<10	<10	<10	<10	**3.4 J**
Benzene	5	3	<1	<1	<1	<1	<1
Bromodichloromethane	80	6	<1	<1	<1	<1	<1
Bromoform	80	40	<1	<1	<1	<1	<1
Bromomethane	NE	10	<1	<1	<1	<1	<1
Carbon disulfide	NE	700	<1	<1	<1	<1	<1
Carbon tetrachloride	5	1	<1	<1	<1	<1	<1
Chlorobenzene	100	100	<1	<1	<1	<1	<1
Chloroethane	NE	NE	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	70	NE	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	NE	NE	<1	<1	<1	<1	<1
Ethylbenzene	700	50	<1	<1	<1	<1	<1
Methyl tert-butyl ether	NE	60	<1	<1	<1	<1	<1
Methylene chloride	5	5	<5	<5	<5	<5	<5
Styrene	100	NE	<1	<1	<1	<1	<1
Tetrachloroethene	5	NE	<1	<1	<1	<1	<1
Toluene	1000	200	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	100	40	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	NE	NE	<1	<1	<1	<1	<1
Trichloroethene	5	NE	<1	<1	<1	<1	<1
Vinyl chloride	NE	0 2	<1	<1	<1	<1	<1
Xylenes, Total	10000	300	<3	<3	<3	<3	<3

Notes:

J - Concentration of compound is estimated

NE - Not established

BOLD = Concentration is above analytical detection limit

TABLE E-2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS – PCBs and PESTICIDES

BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte	Laboratory ID:		16111189-02	16111189-03	16111216-02	16111216-03	16111216-04
	Client Sample ID:		BA-TMW1-111616	BA-TMW1-111616D	BA-TMW2-111616	BA-TMW3-111616	BA-TMW4-111616
	Date Collected:		11/16/2016	11/16/2016	11/16/2016	11/16/2016	11/16/2016
	EPA Drinking Water Standards 2012	MDH Guidance - Most Stringent Value					
	MCL						
PCBs (micrograms per Liter)							
Aroclor 1016	NE	NE	<0.21	<0.2	<0.2	<0.2	<0.21
Aroclor 1221	NE	NE	<0.21	<0.2	<0.2	<0.2	<0.21
Aroclor 1232	NE	NE	<0.21	<0.2	<0.2	<0.2	<0.21
Aroclor 1242	NE	NE	<0.21	<0.2	<0.2	<0.2	<0.21
Aroclor 1248	NE	NE	<0.21	<0.2	<0.2	<0.2	<0.21
Aroclor 1254	NE	NE	<0.21	<0.2	<0.2	<0.2	<0.21
Aroclor 1260	NE	NE	<0.21	<0.2	<0.2	<0.2	<0.21
Pesticides (micrograms per Liter)							
4,4´-DDD	NE	NE	<0.02	<0.02	<0.02	<0.02	<0.02
4,4´-DDE	NE	NE	<0.02	<0.02	<0.02	<0.02	<0.02
4,4´-DDT	NE	NE	<0.02	<0.02	<0.02	<0.02	<0.02
Aldrin	NE	NE	<0.01	<0.01	<0.01	<0.01	<0.01
alpha-BHC	NE	NE	<0.01	<0.01	<0.01	<0.01	<0.01
alpha-Chlordane	NE	NE	<0.02	<0.02	<0.02	<0.02	<0.02
beta-BHC	NE	NE	<0.01	<0.01	<0.01	<0.01	<0.01
Chlordane, Technical	NE	NE	<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	NE	NE	<0.01	<0.01	<0.01	<0.01	<0.01
Dieldrin	NE	0.006	<0.02	<0.02	<0.02	<0.02	<0.02
Endosulfan I	NE	NE	<0.02	<0.02	<0.02	<0.02	<0.02
Endosulfan II	NE	NE	<0.02	<0.02	<0.02	<0.02	<0.02
Endosulfan sulfate	NE	NE	<0.02	<0.02	<0.02	<0.02	<0.02
Endrin	2	NE	<0.02	<0.02	<0.02	<0.02	<0.02
Endrin aldehyde	NE	NE	<0.02	<0.02	<0.02	<0.02	<0.02
Endrin ketone	NE	NE	<0.02	<0.02	**0.0020 J**	<0.02	<0.02
gamma-BHC (Lindane)	0.2	NE	<0.01	<0.01	<0.01	<0.01	<0.01
gamma-Chlordane	NE	NE	<0.02	<0.02	<0.02	<0.02	<0.02
Heptachlor	0.4	0.08	<0.01	<0.01	<0.01	<0.01	<0.01
Heptachlor epoxide	0.2	0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Methoxychlor	40	NE	<0.04	<0.04	<0.04	<0.04	<0.04
Toxaphene	3	0.3	<2	<2	<02	<02	<02

Notes:

J - Concentration of compound is estimated

NE - Not Established

BOLD = Concentration is above analytical detection limit

TABLE E-2
SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS – SVOCs
BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte	Laboratory ID:		16111189-02	16111189-03	16111216-02	16111216-03	16111216-04
	Client Sample ID:		BA-TMW1-111616	BA-TMW1-111616D	BA-TMW2-111616	BA-TMW3-111616	BA-TMW4-111616
	Date Collected:		11/16/2016	11/16/2016	11/16/2016	11/16/2016	11/16/2016
	EPA Drinking Water Standards 2012	MDH Guidance - Most Stringent Value					
	MCL						
SVOCs (micrograms per liter)							
1,2,4-Trichlorobenzene	70	4	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	600	600	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	NE	NE	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75	10	<1	<1	<1	<1	<1
2,2`-Oxybis(1-chloropropane)	NE	NE	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol	NE	NE	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol	NE	30	<1	<1	<1	<1	<1
2,4-Dichlorophenol	NE	20	<1	<1	<1	<1	<1
2,4-Dimethylphenol	NE	100	<1	<1	<1	<1	<1
2,4-Dinitrophenol	NE	10	<5	<5	<5	<5	<5
2,4-Dinitrotoluene	NE	NE	<1	<1	<1	<1	<1
2,6-Dinitrotoluene	NE	NE	<1	<1	<1	<1	<1
2-Chloronaphthalene	NE	NE	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	NE	30	<1	<1	<1	<1	<1
2-Methylnaphthalene	NE	8	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylphenol	NE	30	<1	<1	<1	<1	<1
2-Nitroaniline	NE	NE	<1	<1	<1	<1	<1
2-Nitrophenol	NE	NE	<1	<1	<1	<1	<1
3&4-Methylphenol	NE	NE	<1	<1	<1	<1	<1
3,3´-Dichlorobenzidine	NE	NE	<5	<5	<5	<5	<5
3-Nitroaniline	NE	NE	<1	<1	<1	<1	<1
4,6-Dinitro-2-methylphenol	NE	NE	<1	<1	<1	<1	<1
4-Bromophenyl phenyl ether	NE	NE	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol	NE	NE	<1	<1	<1	<1	<1
4-Chloroaniline	NE	NE	<1	<1	<1	<1	<1
4-Chlorophenyl phenyl ether	NE	NE	<1	<1	<1	<1	<1
4-Nitroaniline	NE	NE	<1	<1	<1	<1	<1
4-Nitrophenol	NE	NE	<5	<5	<5	<5	<5
Acenaphthene	NE	100	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	NE	NE	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	NE	2,000	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	NE	NE	<0.1	<0.1	**0.28**	<0.1	<0.1
Benzo(a)pyrene	0.2	0.3	<0.1	<0.1	**0.73**	<0.1	<0.1
Benzo(b)fluoranthene	NE	NE	<0.1	<0.1	**0.76**	<0.1	<0.1
Benzo(g,h,i)perylene	NE	NE	<0.1	<0.1	**0.33**	<0.1	<0.1
Benzo(k)fluoranthene	NE	NE	<0.1	<0.1	**0.33**	<0.1	<0.1
Bis(2-chloroethoxy)methane	NE	NE	<1	<1	<1	<1	<1
Bis(2-chloroethyl)ether	NE	NE	<1	<1	<1	<1	<1
Bis(2-ethylhexyl)phthalate	6	NE	<1	<1	**0.86 J**	<1	<1
Butyl benzyl phthalate	NE	100	<1	<1	<1	<1	<1
Carbazole	NE	NE	<1	<1	<1	<1	<1
Chrysene	NE	NE	<0.1	<0.1	**0.15**	<0.1	<0.1
Di-n-butyl phthalate	NE	NE	<1	<1	<1	<1	<1
Di-n-octyl phthalate	NE	NE	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	NE	NE	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzofuran	NE	NE	<1	<1	<1	<1	<1
Diethyl phthalate	NE	6,000	<1	<1	<1	<1	<1
Dimethyl phthalate	NE	70000	<1	<1	<1	<1	<1
Fluoranthene	NE	70	<0.1	<0.1	**0.19**	<0.1	<0.1
Fluorene	NE	300	<0.1	<0.1	<0.1	<0.1	<0.1

TABLE E-2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS – SVOCs

BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte		Laboratory ID:	16111189-02	16111189-03	16111216-02	16111216-03	16111216-04
		Client Sample ID:	BA-TMW1-111616	BA-TMW1-111616D	BA-TMW2-111616	BA-TMW3-111616	BA-TMW4-111616
		Date Collected:	11/16/2016	11/16/2016	11/16/2016	11/16/2016	11/16/2016
	EPA Drinking Water Standards 2012	MDH Guidance - Most Stringent Value					
	MCL						
SVOCs (micrograms per liter)							
Hexachlorobenzene	1	0.2	<1	<1	<1	<1	<1
Hexachlorobutadiene	NE	1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene	50	NE	<5	<5	<5	<5	<5
Hexachloroethane	NE	NE	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	NE	NE	<0.1	<0.1	**0.98**	<0.1	<0.1
Isophorone	NE	100	<5	<5	<5	<5	<5
N-Nitrosodi-n-propylamine	NE	NE	<1	<1	<1	<1	<1
N-Nitrosodiphenylamine	NE	70	<1	<1	<1	<1	<1
Naphthalene	NE	8	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrobenzene	NE	0.3	<1	<1	<1	<1	<1
Pentachlorophenol	1	0.3	<5	<5	<5	<5	<5
Phenanthrene	NE	NE	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	NE	4,000	<1	<1	<1	<1	<1
Pyrene	NE	50	<0.1	<0.1	**0.16**	<0.1	<0.1

Notes:

J - Concentration of compound is estimated

NE - Not Established

BOLD = Concentration is above analytical detection limit

- Concentration of compound exceeds the MPH most stringent human health-based guildance.

TABLE E-2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS – INORGANICS

BLUFF AVENUE, SHAKOPEE, MINNESOTA

Analyte	Laboratory ID:		16111189-02	16111189-03	16111216-02	16111216-03	16111216-04
	Client Sample ID:		BA-TMW1-111616	BA-TMW1-111616D	BA-TMW2-111616	BA-TMW3-111616	BA-TMW4-111616
	Date Collected:		11/16/2016	11/16/2016	11/16/2016	11/16/2016	11/16/2016
	EPA Drinking Water Standards 2012	MDH Guidance - Most Stringent Value					
	MCL						
Inorganics (milligrams per Liter)							
Aluminum	NE	NE	**0.015**	**0.015**	**0.010**	<0.01	**0.78**
Antimony	0.006	0.006	**0.00020 J**	**0.0025 J**	**0.0027 J**	**0.00031 J**	**0.0028 J**
Arsenic	0.01	NE	**0.0011 J**	**0.0013 J**	<0.005	<0.005	**0.0022 J**
Barium	2	2	**0.49 J**	**0.86 J**	**0.72**	**0.44**	**0.60**
Beryllium	0.004	0.00008	<0.002	<0.002	<0.002	<0.002	**0.00017 J**
Cadmium	0.005	0.0005	<0.002	**0.000065 J**	**0.000076 J**	**0.000082 J**	**0.00013 J**
Calcium	NE	NE	**120**	**120**	**110**	**170**	**290**
Chromium	0.1	NE	<0.005	<0.005	<0.005	<0.005	**0.0034 J**
Cobalt	NE	NE	**0.0036 J**	**0.0036 J**	**0.00045 J**	**0.00071 J**	**0.0030 J**
Copper	1.3	NE	**0.0013 J**	**0.0016 J**	**0.0014 J**	**0.0023 J**	**0.0065**
Iron	NE	NE	**0.029 J**	**0.024 J**	**0.012 J**	<0.08	**2.8**
Lead	0.015	NE	<0.005	<0.005	<0.005	<0.005	**0.0030 J**
Magnesium	NE	NE	**29**	**29**	**42**	**27**	**64**
Manganese	NE	0.1	**4.3**	**4.6**	**0.76**	**0.095**	**0.70**
Nickel	NE	0.1	**0.0082**	**0.0086**	**0.0058**	**0.0068**	**0.013**
Potassium	NE	NE	**0.50**	**0.71**	**1.9**	**0.47**	**1.6**
Selenium	0.05	0.03	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	NE	0.03	<0.005	**0.000073 J**	**0.000051 J**	<0.005	<0.005
Sodium	NE	NE	**35**	**38**	**51**	**18**	**62**
Thallium	0.002	0.0006	NA	NA	<0.005	<0.005	<0.005
Tin	NE	4	<0.002	<0.002	NA	NA	NA
Vanadium	NE	0.05	NA	NA	**0.0016 J**	**0.0014 J**	**0.0092**
Zinc	NE	2	**0.065 J**	**0.23 J**	**0.23**	**0.30**	**0.30**
Mercury (milligrams per Liter)							
Mercury	0.002	NE	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Notes:

J - Concentration of compound is estimated

NA - Not analyzed

NE - Not established

BOLD = Concentration is above analytical detection limit

- Concentration of compound exceeds the MPH most stringent human health-based guildance.

APPENDIX F
DATA VALIDATION REPORT

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Site Name	Bluff Avenue Site		**TDD No.**	0003-1607-010
Document Tracking No.	1341A			
Data Reviewer (signature and date)	Debbie Kuhl December 8, 2016		**Technical Reviewer (signature and date)**	Harry N. Ellis III 12 December 2016
Laboratory Report No.	16111186		**Laboratory**	ALS Environmental/Holland, MI
Analyses	Volatile organic compounds by EPA Method 8260B, polychlorinated biphenyls (PCB) by EPA Method 8082, organochlorine pesticides by EPA Method 8081, mercury by EPA Method 7471B, Target Analyte List (TAL) metals by EPA Method 6010C, semivolatile organic compounds (SVOC) by EPA Method 8270D, and cyanide by EPA Method 9012B			
Samples and Matrix	Eight soil samples including one trip blank			
Field Duplicate Pairs	BA-SB02(1-4)111516 and BA-SB02(1-4)111516D			
Field Blanks	SOIL TRIP BLANK			

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014).

OVERALL EVALUATION

All results are acceptable and usable as qualified in the attached results summary.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
N	**TAL Metals by EPA Method 6010C**. The MB for batch 94781 contained chromium, potassium, sodium, and zinc below RLs. All associated sample results were greater than 10 times the amounts in the MB, however, so no data were qualified. **VOCs by EPA Method 8260B**. The MB for batch R201144 contained methylene chloride below the RL. No methylene chloride was detected in the associated samples; therefore, no data were qualified.

Field blanks:

Within Criteria	Exceedance/Notes
Y	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
N	**SVOCs by EPA Method 8270D**. The %R of surrogate nitrobenzene-d5 from sample BA-SB02(1-4)111516D was below the lower control limit. However, the %Rs for the other two base/neutral surrogates were within control limits, so no data were qualified.

MS/MSD:

Within Criteria	Exceedance/Notes
N	**Mercury by EPA Method 7471B**. The %R of mercury from the MS (-2.52) and MSD (14) were significantly below the lower control limit of 75. The mercury result for parent sample BA-SB02(1-4)111516 was qualified as estimated and possibly biased low (flagged J-). **Metals by EPA Method 6010C**. The %Rs for aluminum, antimony, calcium, iron, magnesium, and vanadium were above the upper control limit for the MS and/or MSD and the %Rs for barium, copper, lead, manganese, and zinc were below the lower control limit for the MS and/or MSD. For many aluminum, barium, calcium, iron, lead, magnesium, manganese, and zinc, the amount in the parent sample was greater than four times the amount spiked, overwhelming the spiking solution. Results for these analytes were not qualified. Results for parent sample BA-SB02(1-4)111516 for antimony and vanadium were qualified as estimated and possibly biased high (flagged J+). Results for parent sample BA-SB02(1-4)111516 for lead and copper were qualified as estimated and possibly biased low (flagged J-). The RPDs for copper, lead, and zinc exceeded the control limit. Copper and lead results were qualified because of out-of-compliance %Rs. The zinc result for parent sample BA-SB02(1-4)111516 was qualified as estimated (flagged J). **SVOCs by EPA Method 8270D**. The %R of phenanthrene from the MS exceeded the upper control limit. The phenanthrene result for parent sample BA-SB02(1-4)111516 was qualified as estimated and possibly biased high (flagged J+). The RPDs for 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, bis(2-chloroethy)ether, hexachlorobutadiene, hexachloroethane, and nitrobenzene exceeded the control limit. None of these analytes were detected in parent sample BA-SB02(1-4)111516; therefore, no data were qualified. **VOCs by EPA Method 8260B**. The %R of tetrachloroethene from the MS and MSD exceeded the upper control limit. No tetrachloroethene was detected in parent sample BA-SB02(1-4)111516; therefore, no data were qualified.

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
N	**BA-SB02(1-4)111516 and BA-SB02(1-4)111516D**. RPDs for 3&4-methylphenol, acenaphthylene, bis(2-ethylhexyl)phthalate, carbazole, and di-n-octyl phthalate exceeded the control criterion. Results for these analytes for both samples were qualified as estimated (flagged J/UJ).

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	The following samples required dilution because of matrix interference or to bring target analyte concentration(s) into calibration range.

Samples	Analysis/Analyte	Dilution
BA-SB05(1-3)111516	Manganese	10
BA-SB02(1-4)111516	Mercury	2
BA-SB01(1-3)111516 and BA-SB02(1-4)111516	Pesticides (all)	10
BA-SB02(1-4)111516D	Pesticides (all)	5
BA-SB01(1-3)111516	SVOCs (all)	5

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Detected results below the RL were qualified as estimated (flagged J) by the laboratory.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
Soil Trip Blank	16111186-01A	1,1,1-Trichloroethane	0.00015	U	mg/Kg	0.00015	0.005	0.005	U
Soil Trip Blank	16111186-01A	1,1,2,2-Tetrachloroethane	0.00012	U	mg/Kg	0.00012	0.005	0.005	U
Soil Trip Blank	16111186-01A	1,1,2-Trichloroethane	0.00062	U	mg/Kg	0.00062	0.005	0.005	U
Soil Trip Blank	16111186-01A	1,1-Dichloroethane	0.00013	U	mg/Kg	0.00013	0.005	0.005	U
Soil Trip Blank	16111186-01A	1,1-Dichloroethene	0.00017	U	mg/Kg	0.00017	0.005	0.005	U
Soil Trip Blank	16111186-01A	1,2-Dichloroethane	0.00015	U	mg/Kg	0.00015	0.005	0.005	U
Soil Trip Blank	16111186-01A	1,2-Dichloropropane	0.00036	U	mg/Kg	0.00036	0.005	0.005	U
Soil Trip Blank	16111186-01A	2-Butanone	0.00085	U	mg/Kg	0.00085	0.01	0.01	U
Soil Trip Blank	16111186-01A	2-Hexanone	0.00067	U	mg/Kg	0.00067	0.005	0.005	U
Soil Trip Blank	16111186-01A	4-Methyl-2-pentanone	0.00018	U	mg/Kg	0.00018	0.005	0.005	U
Soil Trip Blank	16111186-01A	Acetone	0.0015	U	mg/Kg	0.0015	0.01	0.01	U
Soil Trip Blank	16111186-01A	Benzene	0.000097	U	mg/Kg	0.000097	0.005	0.005	U
Soil Trip Blank	16111186-01A	Bromodichloromethane	0.00011	U	mg/Kg	0.00011	0.005	0.005	U
Soil Trip Blank	16111186-01A	Bromoform	0.00015	U	mg/Kg	0.00015	0.005	0.005	U
Soil Trip Blank	16111186-01A	Bromomethane	0.00031	U	mg/Kg	0.00031	0.01	0.01	U
Soil Trip Blank	16111186-01A	Carbon disulfide	0.00019	U	mg/Kg	0.00019	0.005	0.005	U
Soil Trip Blank	16111186-01A	Carbon tetrachloride	0.00024	U	mg/Kg	0.00024	0.005	0.005	U
Soil Trip Blank	16111186-01A	Chlorobenzene	0.00016	U	mg/Kg	0.00016	0.005	0.005	U
Soil Trip Blank	16111186-01A	Chloroethane	0.00052	U	mg/Kg	0.00052	0.005	0.005	U
Soil Trip Blank	16111186-01A	Chloroform	0.0002	U	mg/Kg	0.0002	0.005	0.005	U
Soil Trip Blank	16111186-01A	Chloromethane	0.00026	U	mg/Kg	0.00026	0.01	0.01	U
Soil Trip Blank	16111186-01A	cis-1,2-Dichloroethene	0.00012	U	mg/Kg	0.00012	0.005	0.005	U
Soil Trip Blank	16111186-01A	cis-1,3-Dichloropropene	0.00012	U	mg/Kg	0.00012	0.005	0.005	U
Soil Trip Blank	16111186-01A	Dibromochloromethane	0.00015	U	mg/Kg	0.00015	0.005	0.005	U
Soil Trip Blank	16111186-01A	Ethylbenzene	0.00012	U	mg/Kg	0.00012	0.005	0.005	U
Soil Trip Blank	16111186-01A	Methyl tert-butyl ether	0.00018	U	mg/Kg	0.00018	0.005	0.005	U
Soil Trip Blank	16111186-01A	Methylene chloride	0.00014	U	mg/Kg	0.00014	0.005	0.005	U
Soil Trip Blank	16111186-01A	Styrene	0.0003	U	mg/Kg	0.0003	0.005	0.005	U
Soil Trip Blank	16111186-01A	Tetrachloroethene	0.00022	U	mg/Kg	0.00022	0.005	0.005	U
Soil Trip Blank	16111186-01A	Toluene	0.00012	U	mg/Kg	0.00012	0.005	0.005	U
Soil Trip Blank	16111186-01A	trans-1,2-Dichloroethene	0.00023	U	mg/Kg	0.00023	0.005	0.005	U
Soil Trip Blank	16111186-01A	trans-1,3-Dichloropropene	0.00016	U	mg/Kg	0.00016	0.01	0.01	U
Soil Trip Blank	16111186-01A	Trichloroethene	0.00019	U	mg/Kg	0.00019	0.005	0.005	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
Soil Trip Blank	16111186-01A	Vinyl chloride	0.00017	U	mg/Kg	0.00017	0.005	0.005	U
Soil Trip Blank	16111186-01A	Xylenes, Total	0.00054	U	mg/Kg	0.00054	0.005	0.005	U
BA-SB01(1-3)111516	16111186-02B	Aroclor 1016	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB01(1-3)111516	16111186-02B	Aroclor 1221	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB01(1-3)111516	16111186-02B	Aroclor 1232	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB01(1-3)111516	16111186-02B	Aroclor 1242	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB01(1-3)111516	16111186-02B	Aroclor 1248	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB01(1-3)111516	16111186-02B	Aroclor 1254	0.025	U	mg/Kg	0.023	0.093	0.093	U
BA-SB01(1-3)111516	16111186-02B	Aroclor 1260	0.025	U	mg/Kg	0.023	0.093	0.093	U
BA-SB01(1-3)111516	16111186-02B	4,4´-DDD	0.033	U	mg/Kg	0.0028	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	4,4´-DDE	0.025	U	mg/Kg	0.0022	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	4,4´-DDT	0.04	U	mg/Kg	0.0034	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Aldrin	0.054	U	mg/Kg	0.0046	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	alpha-BHC	0.025	U	mg/Kg	0.0021	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	alpha-Chlordane	0.034	U	mg/Kg	0.0029	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	beta-BHC	0.05	U	mg/Kg	0.0042	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Chlordane, Technical	0.12	U	mg/Kg	0.0099	0.29	0.29	U
BA-SB01(1-3)111516	16111186-02B	delta-BHC	0.043	U	mg/Kg	0.0036	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Dieldrin	0.024	U	mg/Kg	0.0021	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Endosulfan I	0.035	U	mg/Kg	0.003	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Endosulfan II	0.022	U	mg/Kg	0.0019	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Endosulfan sulfate	0.035	U	mg/Kg	0.003	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Endrin	0.043	U	mg/Kg	0.0036	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Endrin aldehyde	0.031	U	mg/Kg	0.0026	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Endrin ketone	0.025	U	mg/Kg	0.0022	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	gamma-BHC (Lindane)	0.028	U	mg/Kg	0.0024	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	gamma-Chlordane	0.04	U	mg/Kg	0.0034	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Heptachlor	0.041	U	mg/Kg	0.0035	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Heptachlor epoxide	0.024	U	mg/Kg	0.0021	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Methoxychlor	0.047	U	mg/Kg	0.004	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Toxaphene	0.13	U	mg/Kg	0.011	0.7	0.7	U
BA-SB01(1-3)111516	16111186-02B	Mercury	0.017		mg/Kg	0.0033	0.015	0.017	
BA-SB01(1-3)111516	16111186-02B	Aluminum	3100		mg/Kg	0.078	0.77	3100	

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB01(1-3)111516	16111186-02B	Antimony	8.5		mg/Kg	0.085	0.38	8.5	
BA-SB01(1-3)111516	16111186-02B	Arsenic	3.2		mg/Kg	0.065	0.38	3.2	
BA-SB01(1-3)111516	16111186-02B	Barium	52		mg/Kg	0.1	0.38	52	
BA-SB01(1-3)111516	16111186-02B	Beryllium	0.057	J	mg/Kg	0.008	0.15	0.057	J
BA-SB01(1-3)111516	16111186-02B	Cadmium	0.09	J	mg/Kg	0.024	0.77	0.09	J
BA-SB01(1-3)111516	16111186-02B	Calcium	25000		mg/Kg	1.6	38	25000	
BA-SB01(1-3)111516	16111186-02B	Chromium	8.6		mg/Kg	0.014	0.38	8.6	
BA-SB01(1-3)111516	16111186-02B	Cobalt	4.3		mg/Kg	0.02	0.38	4.3	
BA-SB01(1-3)111516	16111186-02B	Copper	6.1		mg/Kg	0.11	0.77	6.1	
BA-SB01(1-3)111516	16111186-02B	Iron	8700		mg/Kg	0.3	6.1	8700	
BA-SB01(1-3)111516	16111186-02B	Lead	5.6		mg/Kg	0.053	0.38	5.6	
BA-SB01(1-3)111516	16111186-02B	Magnesium	11000		mg/Kg	0.89	15	11000	
BA-SB01(1-3)111516	16111186-02B	Manganese	500		mg/Kg	0.015	0.38	500	
BA-SB01(1-3)111516	16111186-02B	Nickel	9.7		mg/Kg	0.1	0.38	9.7	
BA-SB01(1-3)111516	16111186-02B	Potassium	640		mg/Kg	1.8	15	640	
BA-SB01(1-3)111516	16111186-02B	Selenium	0.21	U	mg/Kg	0.14	0.77	0.77	U
BA-SB01(1-3)111516	16111186-02B	Silver	0.048	U	mg/Kg	0.031	0.38	0.38	U
BA-SB01(1-3)111516	16111186-02B	Sodium	190		mg/Kg	1	15	190	
BA-SB01(1-3)111516	16111186-02B	Thallium	0.45	J	mg/Kg	0.21	0.77	0.45	J
BA-SB01(1-3)111516	16111186-02B	Vanadium	12		mg/Kg	0.026	0.38	12	
BA-SB01(1-3)111516	16111186-02B	Zinc	26		mg/Kg	0.04	0.77	26	
BA-SB01(1-3)111516	16111186-02B	1,2,4-Trichlorobenzene	0.034	U	mg/Kg	0.0058	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	1,2-Dichlorobenzene	0.048	U	mg/Kg	0.0083	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	1,3-Dichlorobenzene	0.051	U	mg/Kg	0.0088	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	1,4-Dichlorobenzene	0.051	U	mg/Kg	0.0088	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2,2`-Oxybis(1-chloropropane)	0.045	U	mg/Kg	0.0078	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2,4,5-Trichlorophenol	0.053	U	mg/Kg	0.0091	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2,4,6-Trichlorophenol	0.052	U	mg/Kg	0.0089	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2,4-Dichlorophenol	0.041	U	mg/Kg	0.007	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2,4-Dimethylphenol	0.04	U	mg/Kg	0.0068	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2,4-Dinitrophenol	0.1	U	mg/Kg	0.018	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2,4-Dinitrotoluene	0.051	U	mg/Kg	0.0087	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2,6-Dinitrotoluene	0.032	U	mg/Kg	0.0055	0.19	0.19	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB01(1-3)111516	16111186-02B	2-Chloronaphthalene	0.027	U	mg/Kg	0.0047	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	2-Chlorophenol	0.061	U	mg/Kg	0.01	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2-Methylnaphthalene	0.02	U	mg/Kg	0.0034	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	2-Methylphenol	0.052	U	mg/Kg	0.009	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2-Nitroaniline	0.044	U	mg/Kg	0.0076	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	2-Nitrophenol	0.055	U	mg/Kg	0.0095	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	3&4-Methylphenol	0.039	U	mg/Kg	0.0067	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	3,3´-Dichlorobenzidine	0.029	U	mg/Kg	0.005	0.97	0.97	U
BA-SB01(1-3)111516	16111186-02B	3-Nitroaniline	0.044	U	mg/Kg	0.0076	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	4,6-Dinitro-2-methylphenol	0.049	U	mg/Kg	0.0084	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	4-Bromophenyl phenyl ether	0.052	U	mg/Kg	0.009	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	4-Chloro-3-methylphenol	0.055	U	mg/Kg	0.0095	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	4-Chloroaniline	0.031	U	mg/Kg	0.0053	0.39	0.39	U
BA-SB01(1-3)111516	16111186-02B	4-Chlorophenyl phenyl ether	0.054	U	mg/Kg	0.0092	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	4-Nitroaniline	0.3	U	mg/Kg	0.052	0.97	0.97	U
BA-SB01(1-3)111516	16111186-02B	4-Nitrophenol	0.17	U	mg/Kg	0.03	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Acenaphthene	0.028	U	mg/Kg	0.0048	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Acenaphthylene	0.034	U	mg/Kg	0.0058	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Anthracene	0.027	U	mg/Kg	0.0047	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Benzo(a)anthracene	0.034	U	mg/Kg	0.0058	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Benzo(a)pyrene	0.024	U	mg/Kg	0.0041	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Benzo(b)fluoranthene	0.029	U	mg/Kg	0.005	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Benzo(g,h,i)perylene	0.03	U	mg/Kg	0.0051	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Benzo(k)fluoranthene	0.029	U	mg/Kg	0.005	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Bis(2-chloroethoxy)methane	0.019	U	mg/Kg	0.0032	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Bis(2-chloroethyl)ether	0.055	U	mg/Kg	0.0094	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Bis(2-ethylhexyl)phthalate	0.034	U	mg/Kg	0.0058	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Butyl benzyl phthalate	0.033	U	mg/Kg	0.0056	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Carbazole	0.021	U	mg/Kg	0.0036	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Chrysene	0.031	U	mg/Kg	0.0054	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Dibenzo(a,h)anthracene	0.021	U	mg/Kg	0.0036	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Dibenzofuran	0.029	U	mg/Kg	0.0049	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Diethyl phthalate	0.03	U	mg/Kg	0.0051	0.19	0.19	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB01(1-3)111516	16111186-02B	Dimethyl phthalate	0.038	U	mg/Kg	0.0065	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Di-n-butyl phthalate	0.036	U	mg/Kg	0.0061	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Di-n-octyl phthalate	0.037	U	mg/Kg	0.0064	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Fluoranthene	0.019	U	mg/Kg	0.0032	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Fluorene	0.028	U	mg/Kg	0.0048	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Hexachlorobenzene	0.056	U	mg/Kg	0.0097	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Hexachlorobutadiene	0.11	U	mg/Kg	0.018	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Hexachlorocyclopentadiene	0.066	U	mg/Kg	0.011	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Hexachloroethane	0.08	U	mg/Kg	0.014	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Indeno(1,2,3-cd)pyrene	0.027	U	mg/Kg	0.0046	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Isophorone	0.038	U	mg/Kg	0.0065	0.97	0.97	U
BA-SB01(1-3)111516	16111186-02B	Naphthalene	0.025	U	mg/Kg	0.0043	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Nitrobenzene	0.065	U	mg/Kg	0.011	0.97	0.97	U
BA-SB01(1-3)111516	16111186-02B	N-Nitrosodi-n-propylamine	0.032	U	mg/Kg	0.0055	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	N-Nitrosodiphenylamine	0.019	U	mg/Kg	0.0032	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Pentachlorophenol	0.072	U	mg/Kg	0.012	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Phenanthrene	0.018	U	mg/Kg	0.0031	0.039	0.039	U
BA-SB01(1-3)111516	16111186-02B	Phenol	0.048	U	mg/Kg	0.0083	0.19	0.19	U
BA-SB01(1-3)111516	16111186-02B	Pyrene	0.039		mg/Kg	0.0012	0.039	0.039	
BA-SB01(1-3)111516	16111186-02A	1,1,1-Trichloroethane	0.012	U	mg/Kg-dry	0.0086	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	1,1,2,2-Tetrachloroethane	0.0098	U	mg/Kg-dry	0.0072	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	1,1,2-Trichloroethane	0.012	U	mg/Kg-dry	0.009	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	1,1-Dichloroethane	0.01	U	mg/Kg-dry	0.0076	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	1,1-Dichloroethene	0.011	U	mg/Kg-dry	0.008	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	1,2-Dichloroethane	0.011	U	mg/Kg-dry	0.0082	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	1,2-Dichloropropane	0.011	U	mg/Kg-dry	0.0083	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	2-Butanone	0.055	U	mg/Kg-dry	0.04	0.27	0.27	U
BA-SB01(1-3)111516	16111186-02A	2-Hexanone	0.027	U	mg/Kg-dry	0.02	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	4-Methyl-2-pentanone	0.03	U	mg/Kg-dry	0.022	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Acetone	0.074	U	mg/Kg-dry	0.054	0.14	0.14	U
BA-SB01(1-3)111516	16111186-02A	Benzene	0.0092	U	mg/Kg-dry	0.0068	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Bromodichloromethane	0.011	U	mg/Kg-dry	0.008	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Bromoform	0.014	U	mg/Kg-dry	0.011	0.041	0.041	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB01(1-3)111516	16111186-02A	Bromomethane	0.018	U	mg/Kg-dry	0.013	0.1	0.1	U
BA-SB01(1-3)111516	16111186-02A	Carbon disulfide	0.014	U	mg/Kg-dry	0.01	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Carbon tetrachloride	0.0072	U	mg/Kg-dry	0.0053	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Chlorobenzene	0.012	U	mg/Kg-dry	0.009	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Chloroethane	0.026	U	mg/Kg-dry	0.019	0.14	0.14	U
BA-SB01(1-3)111516	16111186-02A	Chloroform	0.014	U	mg/Kg-dry	0.01	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	cis-1,2-Dichloroethene	0.011	U	mg/Kg-dry	0.0085	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	cis-1,3-Dichloropropene	0.016	U	mg/Kg-dry	0.011	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Dibromochloromethane	0.0093	U	mg/Kg-dry	0.0068	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Ethylbenzene	0.0095	U	mg/Kg-dry	0.007	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Methyl tert-butyl ether	0.013	U	mg/Kg-dry	0.0098	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Methylene chloride	0.019	U	mg/Kg-dry	0.014	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Styrene	0.029	U	mg/Kg-dry	0.021	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Tetrachloroethene	0.02	U	mg/Kg-dry	0.015	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Toluene	0.013	U	mg/Kg-dry	0.0099	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	trans-1,2-Dichloroethene	0.011	U	mg/Kg-dry	0.0085	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	trans-1,3-Dichloropropene	0.0073	U	mg/Kg-dry	0.0054	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Trichloroethene	0.011	U	mg/Kg-dry	0.008	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Vinyl chloride	0.013	U	mg/Kg-dry	0.0095	0.041	0.041	U
BA-SB01(1-3)111516	16111186-02A	Xylenes, Total	0.031	U	mg/Kg-dry	0.023	0.12	0.12	U
BA-SB01(1-3)111516	16111186-02B	Cyanide, Total	0.049	J	mg/Kg	0.011	0.58	0.049	J
BA-SB02(1-4)111516	16111186-03B	Aroclor 1016	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB02(1-4)111516	16111186-03B	Aroclor 1221	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB02(1-4)111516	16111186-03B	Aroclor 1232	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB02(1-4)111516	16111186-03B	Aroclor 1242	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB02(1-4)111516	16111186-03B	Aroclor 1248	0.015	U	mg/Kg	0.014	0.093	0.093	U
BA-SB02(1-4)111516	16111186-03B	Aroclor 1254	0.13		mg/Kg	0.023	0.093	0.13	
BA-SB02(1-4)111516	16111186-03B	Aroclor 1260	0.065	J	mg/Kg	0.023	0.093	0.065	J
BA-SB02(1-4)111516	16111186-03B	4,4´-DDD	0.016	U	mg/Kg	0.0028	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	4,4´-DDE	0.012	U	mg/Kg	0.0022	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	4,4´-DDT	0.02	U	mg/Kg	0.0034	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Aldrin	0.026	U	mg/Kg	0.0046	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	alpha-BHC	0.012	U	mg/Kg	0.0021	0.057	0.057	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB02(1-4)111516	16111186-03B	alpha-Chlordane	0.016	U	mg/Kg	0.0029	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	beta-BHC	0.024	U	mg/Kg	0.0042	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Chlordane, Technical	0.057	U	mg/Kg	0.0099	0.14	0.14	U
BA-SB02(1-4)111516	16111186-03B	delta-BHC	0.021	U	mg/Kg	0.0036	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Dieldrin	0.012	U	mg/Kg	0.0021	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Endosulfan I	0.017	U	mg/Kg	0.003	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Endosulfan II	0.011	U	mg/Kg	0.0019	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Endosulfan sulfate	0.017	U	mg/Kg	0.003	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Endrin	0.021	U	mg/Kg	0.0036	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Endrin aldehyde	0.015	U	mg/Kg	0.0026	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Endrin ketone	0.012	U	mg/Kg	0.0022	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	gamma-BHC (Lindane)	0.014	U	mg/Kg	0.0024	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	gamma-Chlordane	0.019	U	mg/Kg	0.0034	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Heptachlor	0.02	U	mg/Kg	0.0035	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Heptachlor epoxide	0.012	U	mg/Kg	0.0021	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Methoxychlor	0.023	U	mg/Kg	0.004	0.057	0.057	U
BA-SB02(1-4)111516	16111186-03B	Toxaphene	0.062	U	mg/Kg	0.011	0.34	0.34	U
BA-SB02(1-4)111516	16111186-03B	Mercury	0.28		mg/Kg	0.0033	0.03	0.28	J-
BA-SB02(1-4)111516	16111186-03B	Aluminum	3300		mg/Kg	0.078	0.81	3300	
BA-SB02(1-4)111516	16111186-03B	Antimony	9.2		mg/Kg	0.085	0.4	9.2	J+
BA-SB02(1-4)111516	16111186-03B	Arsenic	7.6		mg/Kg	0.065	0.4	7.6	
BA-SB02(1-4)111516	16111186-03B	Barium	87		mg/Kg	0.1	0.4	87	
BA-SB02(1-4)111516	16111186-03B	Beryllium	0.079	J	mg/Kg	0.008	0.16	0.079	J
BA-SB02(1-4)111516	16111186-03B	Cadmium	0.44	J	mg/Kg	0.024	0.81	0.44	J
BA-SB02(1-4)111516	16111186-03B	Calcium	19000		mg/Kg	1.6	40	19000	
BA-SB02(1-4)111516	16111186-03B	Chromium	9.3		mg/Kg	0.014	0.4	9.3	
BA-SB02(1-4)111516	16111186-03B	Cobalt	4.4		mg/Kg	0.02	0.4	4.4	
BA-SB02(1-4)111516	16111186-03B	Copper	15		mg/Kg	0.11	0.81	15	J-
BA-SB02(1-4)111516	16111186-03B	Iron	8400		mg/Kg	0.3	6.5	8400	
BA-SB02(1-4)111516	16111186-03B	Lead	32		mg/Kg	0.053	0.4	32	J-
BA-SB02(1-4)111516	16111186-03B	Magnesium	8000		mg/Kg	0.89	16	8000	
BA-SB02(1-4)111516	16111186-03B	Manganese	380		mg/Kg	0.015	0.4	380	
BA-SB02(1-4)111516	16111186-03B	Nickel	10		mg/Kg	0.1	0.4	10	

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB02(1-4)111516	16111186-03B	Potassium	680		mg/Kg	1.8	16	680	
BA-SB02(1-4)111516	16111186-03B	Selenium	0.23	U	mg/Kg	0.14	0.81	0.81	U
BA-SB02(1-4)111516	16111186-03B	Silver	1		mg/Kg	0.031	0.4	1	
BA-SB02(1-4)111516	16111186-03B	Sodium	79		mg/Kg	1	16	79	
BA-SB02(1-4)111516	16111186-03B	Thallium	0.34	U	mg/Kg	0.21	0.81	0.81	U
BA-SB02(1-4)111516	16111186-03B	Vanadium	13		mg/Kg	0.026	0.4	13	J+
BA-SB02(1-4)111516	16111186-03B	Zinc	100		mg/Kg	0.04	0.81	100	J
BA-SB02(1-4)111516	16111186-03B	1,2,4-Trichlorobenzene	0.0062	U	mg/Kg	0.0058	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	1,2-Dichlorobenzene	0.009	U	mg/Kg	0.0083	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	1,3-Dichlorobenzene	0.0095	U	mg/Kg	0.0088	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	1,4-Dichlorobenzene	0.0095	U	mg/Kg	0.0088	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2,2`-Oxybis(1-chloropropane)	0.0084	U	mg/Kg	0.0078	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2,4,5-Trichlorophenol	0.0098	U	mg/Kg	0.0091	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2,4,6-Trichlorophenol	0.0096	U	mg/Kg	0.0089	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2,4-Dichlorophenol	0.0076	U	mg/Kg	0.007	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2,4-Dimethylphenol	0.0074	U	mg/Kg	0.0068	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2,4-Dinitrophenol	0.019	U	mg/Kg	0.018	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2,4-Dinitrotoluene	0.0094	U	mg/Kg	0.0087	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2,6-Dinitrotoluene	0.0059	U	mg/Kg	0.0055	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2-Chloronaphthalene	0.005	U	mg/Kg	0.0047	0.0072	0.0072	U
BA-SB02(1-4)111516	16111186-03B	2-Chlorophenol	0.011	U	mg/Kg	0.01	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2-Methylnaphthalene	0.0043	J	mg/Kg	0.0034	0.0072	0.0043	J
BA-SB02(1-4)111516	16111186-03B	2-Methylphenol	0.0097	U	mg/Kg	0.009	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2-Nitroaniline	0.0083	U	mg/Kg	0.0076	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	2-Nitrophenol	0.01	U	mg/Kg	0.0095	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	3&4-Methylphenol	0.0072	U	mg/Kg	0.0067	0.036	0.036	UJ
BA-SB02(1-4)111516	16111186-03B	3,3´-Dichlorobenzidine	0.0054	U	mg/Kg	0.005	0.18	0.18	U
BA-SB02(1-4)111516	16111186-03B	3-Nitroaniline	0.0083	U	mg/Kg	0.0076	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	4,6-Dinitro-2-methylphenol	0.0091	U	mg/Kg	0.0084	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	4-Bromophenyl phenyl ether	0.0097	U	mg/Kg	0.009	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	4-Chloro-3-methylphenol	0.01	U	mg/Kg	0.0095	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	4-Chloroaniline	0.0057	U	mg/Kg	0.0053	0.072	0.072	U
BA-SB02(1-4)111516	16111186-03B	4-Chlorophenyl phenyl ether	0.01	U	mg/Kg	0.0092	0.036	0.036	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB02(1-4)111516	16111186-03B	4-Nitroaniline	0.056	U	mg/Kg	0.052	0.18	0.18	U
BA-SB02(1-4)111516	16111186-03B	4-Nitrophenol	0.032	U	mg/Kg	0.03	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Acenaphthene	0.0052	U	mg/Kg	0.0048	0.0072	0.0072	U
BA-SB02(1-4)111516	16111186-03B	Acenaphthylene	0.0063	U	mg/Kg	0.0058	0.0072	0.0072	UJ
BA-SB02(1-4)111516	16111186-03B	Anthracene	0.017		mg/Kg	0.0047	0.0072	0.017	
BA-SB02(1-4)111516	16111186-03B	Benzo(a)anthracene	0.091		mg/Kg	0.0058	0.0072	0.091	
BA-SB02(1-4)111516	16111186-03B	Benzo(a)pyrene	0.15		mg/Kg	0.0041	0.0072	0.15	
BA-SB02(1-4)111516	16111186-03B	Benzo(b)fluoranthene	0.21		mg/Kg	0.005	0.0072	0.21	
BA-SB02(1-4)111516	16111186-03B	Benzo(g,h,i)perylene	0.11		mg/Kg	0.0051	0.0072	0.11	
BA-SB02(1-4)111516	16111186-03B	Benzo(k)fluoranthene	0.072		mg/Kg	0.005	0.0072	0.072	
BA-SB02(1-4)111516	16111186-03B	Bis(2-chloroethoxy)methane	0.0035	U	mg/Kg	0.0032	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Bis(2-chloroethyl)ether	0.01	U	mg/Kg	0.0094	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Bis(2-ethylhexyl)phthalate	0.079		mg/Kg	0.0058	0.036	0.079	J
BA-SB02(1-4)111516	16111186-03B	Butyl benzyl phthalate	0.0061	U	mg/Kg	0.0056	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Carbazole	0.016	J	mg/Kg	0.0036	0.036	0.016	J
BA-SB02(1-4)111516	16111186-03B	Chrysene	0.14		mg/Kg	0.0054	0.0072	0.14	
BA-SB02(1-4)111516	16111186-03B	Dibenzo(a,h)anthracene	0.043		mg/Kg	0.0036	0.0072	0.043	
BA-SB02(1-4)111516	16111186-03B	Dibenzofuran	0.0065	J	mg/Kg	0.0049	0.036	0.0065	J
BA-SB02(1-4)111516	16111186-03B	Diethyl phthalate	0.0055	U	mg/Kg	0.0051	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Dimethyl phthalate	0.007	U	mg/Kg	0.0065	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Di-n-butyl phthalate	0.01	J	mg/Kg	0.0061	0.036	0.01	J
BA-SB02(1-4)111516	16111186-03B	Di-n-octyl phthalate	0.1		mg/Kg	0.0064	0.036	0.1	J
BA-SB02(1-4)111516	16111186-03B	Fluoranthene	0.23		mg/Kg	0.0032	0.0072	0.23	
BA-SB02(1-4)111516	16111186-03B	Fluorene	0.0065	J	mg/Kg	0.0048	0.0072	0.0065	J
BA-SB02(1-4)111516	16111186-03B	Hexachlorobenzene	0.01	U	mg/Kg	0.0097	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Hexachlorobutadiene	0.02	U	mg/Kg	0.018	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Hexachlorocyclopentadiene	0.012	U	mg/Kg	0.011	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Hexachloroethane	0.015	U	mg/Kg	0.014	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Indeno(1,2,3-cd)pyrene	0.17		mg/Kg	0.0046	0.0072	0.17	
BA-SB02(1-4)111516	16111186-03B	Isophorone	0.007	U	mg/Kg	0.0065	0.18	0.18	U
BA-SB02(1-4)111516	16111186-03B	Naphthalene	0.0046	U	mg/Kg	0.0043	0.0072	0.0072	U
BA-SB02(1-4)111516	16111186-03B	Nitrobenzene	0.012	U	mg/Kg	0.011	0.18	0.18	U
BA-SB02(1-4)111516	16111186-03B	N-Nitrosodi-n-propylamine	0.0059	U	mg/Kg	0.0055	0.036	0.036	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB02(1-4)111516	16111186-03B	N-Nitrosodiphenylamine	0.0035	U	mg/Kg	0.0032	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Pentachlorophenol	0.013	U	mg/Kg	0.012	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Phenanthrene	0.14		mg/Kg	0.0031	0.0072	0.14	J+
BA-SB02(1-4)111516	16111186-03B	Phenol	0.009	U	mg/Kg	0.0083	0.036	0.036	U
BA-SB02(1-4)111516	16111186-03B	Pyrene	0.24		mg/Kg	0.0012	0.0072	0.24	
BA-SB02(1-4)111516	16111186-03A	1,1,1-Trichloroethane	0.011	U	mg/Kg-dry	0.0086	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	1,1,2,2-Tetrachloroethane	0.0092	U	mg/Kg-dry	0.0072	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	1,1,2-Trichloroethane	0.011	U	mg/Kg-dry	0.009	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	1,1-Dichloroethane	0.0097	U	mg/Kg-dry	0.0076	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	1,1-Dichloroethene	0.01	U	mg/Kg-dry	0.008	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	1,2-Dichloroethane	0.01	U	mg/Kg-dry	0.0082	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	1,2-Dichloropropane	0.011	U	mg/Kg-dry	0.0083	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	2-Butanone	0.051	U	mg/Kg-dry	0.04	0.25	0.25	U
BA-SB02(1-4)111516	16111186-03A	2-Hexanone	0.025	U	mg/Kg-dry	0.02	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	4-Methyl-2-pentanone	0.028	U	mg/Kg-dry	0.022	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Acetone	0.069	U	mg/Kg-dry	0.054	0.13	0.13	U
BA-SB02(1-4)111516	16111186-03A	Benzene	0.0086	U	mg/Kg-dry	0.0068	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Bromodichloromethane	0.01	U	mg/Kg-dry	0.008	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Bromoform	0.014	U	mg/Kg-dry	0.011	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Bromomethane	0.017	U	mg/Kg-dry	0.013	0.095	0.095	U
BA-SB02(1-4)111516	16111186-03A	Carbon disulfide	0.013	U	mg/Kg-dry	0.01	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Carbon tetrachloride	0.0068	U	mg/Kg-dry	0.0053	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Chlorobenzene	0.011	U	mg/Kg-dry	0.009	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Chloroethane	0.024	U	mg/Kg-dry	0.019	0.13	0.13	U
BA-SB02(1-4)111516	16111186-03A	Chloroform	0.013	U	mg/Kg-dry	0.01	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	cis-1,2-Dichloroethene	0.011	U	mg/Kg-dry	0.0085	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	cis-1,3-Dichloropropene	0.015	U	mg/Kg-dry	0.011	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Dibromochloromethane	0.0087	U	mg/Kg-dry	0.0068	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Ethylbenzene	0.0089	U	mg/Kg-dry	0.007	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Methyl tert-butyl ether	0.012	U	mg/Kg-dry	0.0098	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Methylene chloride	0.017	U	mg/Kg-dry	0.014	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Styrene	0.027	U	mg/Kg-dry	0.021	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Tetrachloroethene	0.019	U	mg/Kg-dry	0.015	0.038	0.038	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB02(1-4)111516	16111186-03A	Toluene	0.013	U	mg/Kg-dry	0.0099	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	trans-1,2-Dichloroethene	0.011	U	mg/Kg-dry	0.0085	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	trans-1,3-Dichloropropene	0.0068	U	mg/Kg-dry	0.0054	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Trichloroethene	0.01	U	mg/Kg-dry	0.008	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Vinyl chloride	0.012	U	mg/Kg-dry	0.0095	0.038	0.038	U
BA-SB02(1-4)111516	16111186-03A	Xylenes, Total	0.03	U	mg/Kg-dry	0.023	0.11	0.11	U
BA-SB02(1-4)111516	16111186-03B	Cyanide, Total	0.033	J	mg/Kg	0.011	0.58	0.033	J
BA-SB02(1-4)111516D	16111186-04B	Aroclor 1016	0.016	U	mg/Kg	0.014	0.094	0.094	U
BA-SB02(1-4)111516D	16111186-04B	Aroclor 1221	0.016	U	mg/Kg	0.014	0.094	0.094	U
BA-SB02(1-4)111516D	16111186-04B	Aroclor 1232	0.016	U	mg/Kg	0.014	0.094	0.094	U
BA-SB02(1-4)111516D	16111186-04B	Aroclor 1242	0.016	U	mg/Kg	0.014	0.094	0.094	U
BA-SB02(1-4)111516D	16111186-04B	Aroclor 1248	0.016	U	mg/Kg	0.014	0.094	0.094	U
BA-SB02(1-4)111516D	16111186-04B	Aroclor 1254	0.09	J	mg/Kg	0.023	0.094	0.09	J
BA-SB02(1-4)111516D	16111186-04B	Aroclor 1260	0.041	J	mg/Kg	0.023	0.094	0.041	J
BA-SB02(1-4)111516D	16111186-04B	4,4´-DDD	0.016	U	mg/Kg	0.0028	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	4,4´-DDE	0.012	U	mg/Kg	0.0022	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	4,4´-DDT	0.02	U	mg/Kg	0.0034	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Aldrin	0.026	U	mg/Kg	0.0046	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	alpha-BHC	0.012	U	mg/Kg	0.0021	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	alpha-Chlordane	0.016	U	mg/Kg	0.0029	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	beta-BHC	0.024	U	mg/Kg	0.0042	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Chlordane, Technical	0.057	U	mg/Kg	0.0099	0.14	0.14	U
BA-SB02(1-4)111516D	16111186-04B	delta-BHC	0.021	U	mg/Kg	0.0036	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Dieldrin	0.012	U	mg/Kg	0.0021	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Endosulfan I	0.017	U	mg/Kg	0.003	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Endosulfan II	0.011	U	mg/Kg	0.0019	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Endosulfan sulfate	0.017	U	mg/Kg	0.003	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Endrin	0.021	U	mg/Kg	0.0036	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Endrin aldehyde	0.015	U	mg/Kg	0.0026	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Endrin ketone	0.012	U	mg/Kg	0.0022	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	gamma-BHC (Lindane)	0.014	U	mg/Kg	0.0024	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	gamma-Chlordane	0.019	U	mg/Kg	0.0034	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Heptachlor	0.02	U	mg/Kg	0.0035	0.057	0.057	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB02(1-4)111516D	16111186-04B	Heptachlor epoxide	0.012	U	mg/Kg	0.0021	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Methoxychlor	0.023	U	mg/Kg	0.004	0.057	0.057	U
BA-SB02(1-4)111516D	16111186-04B	Toxaphene	0.062	U	mg/Kg	0.011	0.34	0.34	U
BA-SB02(1-4)111516D	16111186-04B	Mercury	0.18		mg/Kg	0.0033	0.015	0.18	
BA-SB02(1-4)111516D	16111186-04B	Aluminum	3300		mg/Kg	0.078	0.83	3300	
BA-SB02(1-4)111516D	16111186-04B	Antimony	9.8		mg/Kg	0.085	0.42	9.8	
BA-SB02(1-4)111516D	16111186-04B	Arsenic	6.5		mg/Kg	0.065	0.42	6.5	
BA-SB02(1-4)111516D	16111186-04B	Barium	74		mg/Kg	0.1	0.42	74	
BA-SB02(1-4)111516D	16111186-04B	Beryllium	0.072	J	mg/Kg	0.008	0.17	0.072	J
BA-SB02(1-4)111516D	16111186-04B	Cadmium	0.37	J	mg/Kg	0.024	0.83	0.37	J
BA-SB02(1-4)111516D	16111186-04B	Calcium	21000		mg/Kg	1.6	42	21000	
BA-SB02(1-4)111516D	16111186-04B	Chromium	9.9		mg/Kg	0.014	0.42	9.9	
BA-SB02(1-4)111516D	16111186-04B	Cobalt	4.3		mg/Kg	0.02	0.42	4.3	
BA-SB02(1-4)111516D	16111186-04B	Copper	13		mg/Kg	0.11	0.83	13	
BA-SB02(1-4)111516D	16111186-04B	Iron	8800		mg/Kg	0.3	6.7	8800	
BA-SB02(1-4)111516D	16111186-04B	Lead	26		mg/Kg	0.053	0.42	26	
BA-SB02(1-4)111516D	16111186-04B	Magnesium	8900		mg/Kg	0.89	17	8900	
BA-SB02(1-4)111516D	16111186-04B	Manganese	360		mg/Kg	0.015	0.42	360	
BA-SB02(1-4)111516D	16111186-04B	Nickel	9.9		mg/Kg	0.1	0.42	9.9	
BA-SB02(1-4)111516D	16111186-04B	Potassium	710		mg/Kg	1.8	17	710	
BA-SB02(1-4)111516D	16111186-04B	Selenium	0.23	U	mg/Kg	0.14	0.83	0.83	U
BA-SB02(1-4)111516D	16111186-04B	Silver	0.77		mg/Kg	0.031	0.42	0.77	
BA-SB02(1-4)111516D	16111186-04B	Sodium	86		mg/Kg	1	17	86	
BA-SB02(1-4)111516D	16111186-04B	Thallium	0.35	U	mg/Kg	0.21	0.83	0.83	U
BA-SB02(1-4)111516D	16111186-04B	Vanadium	14		mg/Kg	0.026	0.42	14	
BA-SB02(1-4)111516D	16111186-04B	Zinc	82		mg/Kg	0.04	0.83	82	
BA-SB02(1-4)111516D	16111186-04B	1,2,4-Trichlorobenzene	0.0065	U	mg/Kg	0.0058	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	1,2-Dichlorobenzene	0.0094	U	mg/Kg	0.0083	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	1,3-Dichlorobenzene	0.0099	U	mg/Kg	0.0088	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	1,4-Dichlorobenzene	0.0099	U	mg/Kg	0.0088	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2,2`-Oxybis(1-chloropropane)	0.0088	U	mg/Kg	0.0078	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2,4,5-Trichlorophenol	0.01	U	mg/Kg	0.0091	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2,4,6-Trichlorophenol	0.01	U	mg/Kg	0.0089	0.037	0.037	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB02(1-4)111516D	16111186-04B	2,4-Dichlorophenol	0.0079	U	mg/Kg	0.007	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2,4-Dimethylphenol	0.0077	U	mg/Kg	0.0068	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2,4-Dinitrophenol	0.02	U	mg/Kg	0.018	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2,4-Dinitrotoluene	0.0098	U	mg/Kg	0.0087	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2,6-Dinitrotoluene	0.0062	U	mg/Kg	0.0055	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2-Chloronaphthalene	0.0053	U	mg/Kg	0.0047	0.0075	0.0075	U
BA-SB02(1-4)111516D	16111186-04B	2-Chlorophenol	0.012	U	mg/Kg	0.01	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2-Methylnaphthalene	0.0038	U	mg/Kg	0.0034	0.0075	0.0075	U
BA-SB02(1-4)111516D	16111186-04B	2-Methylphenol	0.01	U	mg/Kg	0.009	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2-Nitroaniline	0.0086	U	mg/Kg	0.0076	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	2-Nitrophenol	0.011	U	mg/Kg	0.0095	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	3&4-Methylphenol	0.11		mg/Kg	0.0067	0.037	0.11	J
BA-SB02(1-4)111516D	16111186-04B	3,3´-Dichlorobenzidine	0.0056	U	mg/Kg	0.005	0.19	0.19	U
BA-SB02(1-4)111516D	16111186-04B	3-Nitroaniline	0.0086	U	mg/Kg	0.0076	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	4,6-Dinitro-2-methylphenol	0.0095	U	mg/Kg	0.0084	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	4-Bromophenyl phenyl ether	0.01	U	mg/Kg	0.009	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	4-Chloro-3-methylphenol	0.011	U	mg/Kg	0.0095	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	4-Chloroaniline	0.006	U	mg/Kg	0.0053	0.076	0.076	U
BA-SB02(1-4)111516D	16111186-04B	4-Chlorophenyl phenyl ether	0.01	U	mg/Kg	0.0092	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	4-Nitroaniline	0.058	U	mg/Kg	0.052	0.19	0.19	U
BA-SB02(1-4)111516D	16111186-04B	4-Nitrophenol	0.034	U	mg/Kg	0.03	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Acenaphthene	0.0054	U	mg/Kg	0.0048	0.0075	0.0075	U
BA-SB02(1-4)111516D	16111186-04B	Acenaphthylene	0.023		mg/Kg	0.0058	0.0075	0.023	J
BA-SB02(1-4)111516D	16111186-04B	Anthracene	0.013		mg/Kg	0.0047	0.0075	0.013	
BA-SB02(1-4)111516D	16111186-04B	Benzo(a)anthracene	0.075		mg/Kg	0.0058	0.0075	0.075	
BA-SB02(1-4)111516D	16111186-04B	Benzo(a)pyrene	0.091		mg/Kg	0.0041	0.0075	0.091	
BA-SB02(1-4)111516D	16111186-04B	Benzo(b)fluoranthene	0.17		mg/Kg	0.005	0.0075	0.17	
BA-SB02(1-4)111516D	16111186-04B	Benzo(g,h,i)perylene	0.084		mg/Kg	0.0051	0.0075	0.084	
BA-SB02(1-4)111516D	16111186-04B	Benzo(k)fluoranthene	0.059		mg/Kg	0.005	0.0075	0.059	
BA-SB02(1-4)111516D	16111186-04B	Bis(2-chloroethoxy)methane	0.0036	U	mg/Kg	0.0032	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Bis(2-chloroethyl)ether	0.011	U	mg/Kg	0.0094	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Bis(2-ethylhexyl)phthalate	0.0065	U	mg/Kg	0.0058	0.037	0.037	UJ
BA-SB02(1-4)111516D	16111186-04B	Butyl benzyl phthalate	0.0064	U	mg/Kg	0.0056	0.037	0.037	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB02(1-4)111516D	16111186-04B	Carbazole	0.0041	U	mg/Kg	0.0036	0.037	0.037	UJ
BA-SB02(1-4)111516D	16111186-04B	Chrysene	0.14		mg/Kg	0.0054	0.0075	0.14	
BA-SB02(1-4)111516D	16111186-04B	Dibenzo(a,h)anthracene	0.029		mg/Kg	0.0036	0.0075	0.029	
BA-SB02(1-4)111516D	16111186-04B	Dibenzofuran	0.0055	U	mg/Kg	0.0049	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Diethyl phthalate	0.0058	U	mg/Kg	0.0051	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Dimethyl phthalate	0.0073	U	mg/Kg	0.0065	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Di-n-butyl phthalate	0.0069	U	mg/Kg	0.0061	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Di-n-octyl phthalate	0.0072	U	mg/Kg	0.0064	0.037	0.037	UJ
BA-SB02(1-4)111516D	16111186-04B	Fluoranthene	0.16		mg/Kg	0.0032	0.0075	0.16	
BA-SB02(1-4)111516D	16111186-04B	Fluorene	0.0055	U	mg/Kg	0.0048	0.0075	0.0075	U
BA-SB02(1-4)111516D	16111186-04B	Hexachlorobenzene	0.011	U	mg/Kg	0.0097	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Hexachlorobutadiene	0.02	U	mg/Kg	0.018	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Hexachlorocyclopentadiene	0.013	U	mg/Kg	0.011	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Hexachloroethane	0.016	U	mg/Kg	0.014	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Indeno(1,2,3-cd)pyrene	0.1		mg/Kg	0.0046	0.0075	0.1	
BA-SB02(1-4)111516D	16111186-04B	Isophorone	0.0074	U	mg/Kg	0.0065	0.19	0.19	U
BA-SB02(1-4)111516D	16111186-04B	Naphthalene	0.0048	U	mg/Kg	0.0043	0.0075	0.0075	U
BA-SB02(1-4)111516D	16111186-04B	Nitrobenzene	0.013	U	mg/Kg	0.011	0.19	0.19	U
BA-SB02(1-4)111516D	16111186-04B	N-Nitrosodi-n-propylamine	0.0062	U	mg/Kg	0.0055	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	N-Nitrosodiphenylamine	0.0036	U	mg/Kg	0.0032	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Pentachlorophenol	0.014	U	mg/Kg	0.012	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Phenanthrene	0.11		mg/Kg	0.0031	0.0075	0.11	
BA-SB02(1-4)111516D	16111186-04B	Phenol	0.0094	U	mg/Kg	0.0083	0.037	0.037	U
BA-SB02(1-4)111516D	16111186-04B	Pyrene	0.24		mg/Kg	0.0012	0.0075	0.24	
BA-SB02(1-4)111516D	16111186-04A	1,1,1-Trichloroethane	0.011	U	mg/Kg-dry	0.0086	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	1,1,2,2-Tetrachloroethane	0.0094	U	mg/Kg-dry	0.0072	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	1,1,2-Trichloroethane	0.012	U	mg/Kg-dry	0.009	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	1,1-Dichloroethane	0.0099	U	mg/Kg-dry	0.0076	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	1,1-Dichloroethene	0.01	U	mg/Kg-dry	0.008	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	1,2-Dichloroethane	0.011	U	mg/Kg-dry	0.0082	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	1,2-Dichloropropane	0.011	U	mg/Kg-dry	0.0083	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	2-Butanone	0.052	U	mg/Kg-dry	0.04	0.26	0.26	U
BA-SB02(1-4)111516D	16111186-04A	2-Hexanone	0.026	U	mg/Kg-dry	0.02	0.039	0.039	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB02(1-4)111516D	16111186-04A	4-Methyl-2-pentanone	0.028	U	mg/Kg-dry	0.022	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Acetone	0.071	U	mg/Kg-dry	0.054	0.13	0.13	U
BA-SB02(1-4)111516D	16111186-04A	Benzene	0.0088	U	mg/Kg-dry	0.0068	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Bromodichloromethane	0.01	U	mg/Kg-dry	0.008	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Bromoform	0.014	U	mg/Kg-dry	0.011	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Bromomethane	0.017	U	mg/Kg-dry	0.013	0.097	0.097	U
BA-SB02(1-4)111516D	16111186-04A	Carbon disulfide	0.013	U	mg/Kg-dry	0.01	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Carbon tetrachloride	0.0069	U	mg/Kg-dry	0.0053	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Chlorobenzene	0.012	U	mg/Kg-dry	0.009	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Chloroethane	0.025	U	mg/Kg-dry	0.019	0.13	0.13	U
BA-SB02(1-4)111516D	16111186-04A	Chloroform	0.013	U	mg/Kg-dry	0.01	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	cis-1,2-Dichloroethene	0.011	U	mg/Kg-dry	0.0085	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	cis-1,3-Dichloropropene	0.015	U	mg/Kg-dry	0.011	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Dibromochloromethane	0.0089	U	mg/Kg-dry	0.0068	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Ethylbenzene	0.0091	U	mg/Kg-dry	0.007	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Methyl tert-butyl ether	0.013	U	mg/Kg-dry	0.0098	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Methylene chloride	0.018	U	mg/Kg-dry	0.014	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Styrene	0.027	U	mg/Kg-dry	0.021	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Tetrachloroethene	0.019	U	mg/Kg-dry	0.015	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Toluene	0.013	U	mg/Kg-dry	0.0099	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	trans-1,2-Dichloroethene	0.011	U	mg/Kg-dry	0.0085	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	trans-1,3-Dichloropropene	0.007	U	mg/Kg-dry	0.0054	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Trichloroethene	0.01	U	mg/Kg-dry	0.008	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Vinyl chloride	0.012	U	mg/Kg-dry	0.0095	0.039	0.039	U
BA-SB02(1-4)111516D	16111186-04A	Xylenes, Total	0.03	U	mg/Kg-dry	0.023	0.12	0.12	U
BA-SB02(1-4)111516D	16111186-04B	Cyanide, Total	0.037	J	mg/Kg	0.011	0.57	0.037	J
BA-SB03(2-4)111516	16111186-05B	Aroclor 1016	0.017	U	mg/Kg	0.014	0.1	0.1	U
BA-SB03(2-4)111516	16111186-05B	Aroclor 1221	0.017	U	mg/Kg	0.014	0.1	0.1	U
BA-SB03(2-4)111516	16111186-05B	Aroclor 1232	0.017	U	mg/Kg	0.014	0.1	0.1	U
BA-SB03(2-4)111516	16111186-05B	Aroclor 1242	0.017	U	mg/Kg	0.014	0.1	0.1	U
BA-SB03(2-4)111516	16111186-05B	Aroclor 1248	0.017	U	mg/Kg	0.014	0.1	0.1	U
BA-SB03(2-4)111516	16111186-05B	Aroclor 1254	0.028	U	mg/Kg	0.023	0.1	0.1	U
BA-SB03(2-4)111516	16111186-05B	Aroclor 1260	0.028	U	mg/Kg	0.023	0.1	0.1	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB03(2-4)111516	16111186-05B	4,4´-DDD	0.0035	U	mg/Kg	0.0028	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	4,4´-DDE	0.0027	U	mg/Kg	0.0022	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	4,4´-DDT	0.0043	U	mg/Kg	0.0034	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Aldrin	0.0056	U	mg/Kg	0.0046	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	alpha-BHC	0.0026	U	mg/Kg	0.0021	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	alpha-Chlordane	0.0035	U	mg/Kg	0.0029	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	beta-BHC	0.0053	U	mg/Kg	0.0042	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Chlordane, Technical	0.012	U	mg/Kg	0.0099	0.031	0.031	U
BA-SB03(2-4)111516	16111186-05B	delta-BHC	0.0045	U	mg/Kg	0.0036	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Dieldrin	0.0026	U	mg/Kg	0.0021	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Endosulfan I	0.0037	U	mg/Kg	0.003	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Endosulfan II	0.0023	U	mg/Kg	0.0019	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Endosulfan sulfate	0.0037	U	mg/Kg	0.003	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Endrin	0.0045	U	mg/Kg	0.0036	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Endrin aldehyde	0.0032	U	mg/Kg	0.0026	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Endrin ketone	0.0027	U	mg/Kg	0.0022	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	gamma-BHC (Lindane)	0.003	U	mg/Kg	0.0024	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	gamma-Chlordane	0.0042	U	mg/Kg	0.0034	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Heptachlor	0.0043	U	mg/Kg	0.0035	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Heptachlor epoxide	0.0026	U	mg/Kg	0.0021	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Methoxychlor	0.005	U	mg/Kg	0.004	0.012	0.012	U
BA-SB03(2-4)111516	16111186-05B	Toxaphene	0.013	U	mg/Kg	0.011	0.074	0.074	U
BA-SB03(2-4)111516	16111186-05B	Mercury	0.014	J	mg/Kg	0.0033	0.017	0.014	J
BA-SB03(2-4)111516	16111186-05B	Aluminum	2700		mg/Kg	0.078	0.98	2700	
BA-SB03(2-4)111516	16111186-05B	Antimony	7.3		mg/Kg	0.085	0.49	7.3	
BA-SB03(2-4)111516	16111186-05B	Arsenic	2.5		mg/Kg	0.065	0.49	2.5	
BA-SB03(2-4)111516	16111186-05B	Barium	42		mg/Kg	0.1	0.49	42	
BA-SB03(2-4)111516	16111186-05B	Beryllium	0.058	J	mg/Kg	0.008	0.2	0.058	J
BA-SB03(2-4)111516	16111186-05B	Cadmium	0.079	J	mg/Kg	0.024	0.98	0.079	J
BA-SB03(2-4)111516	16111186-05B	Calcium	21000		mg/Kg	1.6	49	21000	
BA-SB03(2-4)111516	16111186-05B	Chromium	7.3		mg/Kg	0.014	0.49	7.3	
BA-SB03(2-4)111516	16111186-05B	Cobalt	4.1		mg/Kg	0.02	0.49	4.1	
BA-SB03(2-4)111516	16111186-05B	Copper	4.6		mg/Kg	0.11	0.98	4.6	

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BA-SB03(2-4)111516	16111186-05B	Iron	6900		mg/Kg	0.3	7.9	6900	
BA-SB03(2-4)111516	16111186-05B	Lead	3.3		mg/Kg	0.053	0.49	3.3	
BA-SB03(2-4)111516	16111186-05B	Magnesium	9000		mg/Kg	0.89	20	9000	
BA-SB03(2-4)111516	16111186-05B	Manganese	330		mg/Kg	0.015	0.49	330	
BA-SB03(2-4)111516	16111186-05B	Nickel	8.6		mg/Kg	0.1	0.49	8.6	
BA-SB03(2-4)111516	16111186-05B	Potassium	510		mg/Kg	1.8	20	510	
BA-SB03(2-4)111516	16111186-05B	Selenium	0.28	U	mg/Kg	0.14	0.98	0.98	U
BA-SB03(2-4)111516	16111186-05B	Silver	0.061	U	mg/Kg	0.031	0.49	0.49	U
BA-SB03(2-4)111516	16111186-05B	Sodium	93		mg/Kg	1	20	93	
BA-SB03(2-4)111516	16111186-05B	Thallium	0.41	U	mg/Kg	0.21	0.98	0.98	U
BA-SB03(2-4)111516	16111186-05B	Vanadium	12		mg/Kg	0.026	0.49	12	
BA-SB03(2-4)111516	16111186-05B	Zinc	21		mg/Kg	0.04	0.98	21	
BA-SB03(2-4)111516	16111186-05B	1,2,4-Trichlorobenzene	0.007	U	mg/Kg	0.0058	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	1,2-Dichlorobenzene	0.01	U	mg/Kg	0.0083	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	1,3-Dichlorobenzene	0.011	U	mg/Kg	0.0088	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	1,4-Dichlorobenzene	0.011	U	mg/Kg	0.0088	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2,2`-Oxybis(1-chloropropane)	0.0094	U	mg/Kg	0.0078	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2,4,5-Trichlorophenol	0.011	U	mg/Kg	0.0091	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2,4,6-Trichlorophenol	0.011	U	mg/Kg	0.0089	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2,4-Dichlorophenol	0.0085	U	mg/Kg	0.007	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2,4-Dimethylphenol	0.0082	U	mg/Kg	0.0068	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2,4-Dinitrophenol	0.022	U	mg/Kg	0.018	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2,4-Dinitrotoluene	0.01	U	mg/Kg	0.0087	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2,6-Dinitrotoluene	0.0066	U	mg/Kg	0.0055	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2-Chloronaphthalene	0.0056	U	mg/Kg	0.0047	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	2-Chlorophenol	0.013	U	mg/Kg	0.01	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2-Methylnaphthalene	0.0041	U	mg/Kg	0.0034	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	2-Methylphenol	0.011	U	mg/Kg	0.009	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2-Nitroaniline	0.0092	U	mg/Kg	0.0076	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	2-Nitrophenol	0.011	U	mg/Kg	0.0095	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	3&4-Methylphenol	0.0081	U	mg/Kg	0.0067	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	3,3´-Dichlorobenzidine	0.006	U	mg/Kg	0.005	0.2	0.2	U
BA-SB03(2-4)111516	16111186-05B	3-Nitroaniline	0.0092	U	mg/Kg	0.0076	0.04	0.04	U

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BA-SB03(2-4)111516	16111186-05B	4,6-Dinitro-2-methylphenol	0.01	U	mg/Kg	0.0084	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	4-Bromophenyl phenyl ether	0.011	U	mg/Kg	0.009	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	4-Chloro-3-methylphenol	0.011	U	mg/Kg	0.0095	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	4-Chloroaniline	0.0064	U	mg/Kg	0.0053	0.081	0.081	U
BA-SB03(2-4)111516	16111186-05B	4-Chlorophenyl phenyl ether	0.011	U	mg/Kg	0.0092	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	4-Nitroaniline	0.062	U	mg/Kg	0.052	0.2	0.2	U
BA-SB03(2-4)111516	16111186-05B	4-Nitrophenol	0.036	U	mg/Kg	0.03	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Acenaphthene	0.0058	U	mg/Kg	0.0048	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Acenaphthylene	0.007	U	mg/Kg	0.0058	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Anthracene	0.0057	U	mg/Kg	0.0047	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Benzo(a)anthracene	0.007	U	mg/Kg	0.0058	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Benzo(a)pyrene	0.0049	U	mg/Kg	0.0041	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Benzo(b)fluoranthene	0.006	U	mg/Kg	0.005	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Benzo(g,h,i)perylene	0.0062	U	mg/Kg	0.0051	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Benzo(k)fluoranthene	0.0061	U	mg/Kg	0.005	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Bis(2-chloroethoxy)methane	0.0039	U	mg/Kg	0.0032	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Bis(2-chloroethyl)ether	0.011	U	mg/Kg	0.0094	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Bis(2-ethylhexyl)phthalate	0.007	U	mg/Kg	0.0058	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Butyl benzyl phthalate	0.0068	U	mg/Kg	0.0056	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Carbazole	0.0043	U	mg/Kg	0.0036	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Chrysene	0.0065	U	mg/Kg	0.0054	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Dibenzo(a,h)anthracene	0.0043	U	mg/Kg	0.0036	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Dibenzofuran	0.0059	U	mg/Kg	0.0049	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Diethyl phthalate	0.0062	U	mg/Kg	0.0051	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Dimethyl phthalate	0.0078	U	mg/Kg	0.0065	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Di-n-butyl phthalate	0.0074	U	mg/Kg	0.0061	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Di-n-octyl phthalate	0.0077	U	mg/Kg	0.0064	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Fluoranthene	0.0039	U	mg/Kg	0.0032	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Fluorene	0.0058	U	mg/Kg	0.0048	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Hexachlorobenzene	0.012	U	mg/Kg	0.0097	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Hexachlorobutadiene	0.022	U	mg/Kg	0.018	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Hexachlorocyclopentadiene	0.014	U	mg/Kg	0.011	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Hexachloroethane	0.017	U	mg/Kg	0.014	0.04	0.04	U

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BA-SB03(2-4)111516	16111186-05B	Indeno(1,2,3-cd)pyrene	0.0056	U	mg/Kg	0.0046	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Isophorone	0.0079	U	mg/Kg	0.0065	0.2	0.2	U
BA-SB03(2-4)111516	16111186-05B	Naphthalene	0.0051	U	mg/Kg	0.0043	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Nitrobenzene	0.014	U	mg/Kg	0.011	0.2	0.2	U
BA-SB03(2-4)111516	16111186-05B	N-Nitrosodi-n-propylamine	0.0066	U	mg/Kg	0.0055	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	N-Nitrosodiphenylamine	0.0039	U	mg/Kg	0.0032	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Pentachlorophenol	0.015	U	mg/Kg	0.012	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Phenanthrene	0.0037	U	mg/Kg	0.0031	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05B	Phenol	0.01	U	mg/Kg	0.0083	0.04	0.04	U
BA-SB03(2-4)111516	16111186-05B	Pyrene	0.0015	U	mg/Kg	0.0012	0.0081	0.0081	U
BA-SB03(2-4)111516	16111186-05A	1,1,1-Trichloroethane	0.013	U	mg/Kg-dry	0.0086	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	1,1,2,2-Tetrachloroethane	0.011	U	mg/Kg-dry	0.0072	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	1,1,2-Trichloroethane	0.013	U	mg/Kg-dry	0.009	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	1,1-Dichloroethane	0.011	U	mg/Kg-dry	0.0076	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	1,1-Dichloroethene	0.012	U	mg/Kg-dry	0.008	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	1,2-Dichloroethane	0.012	U	mg/Kg-dry	0.0082	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	1,2-Dichloropropane	0.012	U	mg/Kg-dry	0.0083	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	2-Butanone	0.059	U	mg/Kg-dry	0.04	0.29	0.29	U
BA-SB03(2-4)111516	16111186-05A	2-Hexanone	0.029	U	mg/Kg-dry	0.02	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	4-Methyl-2-pentanone	0.032	U	mg/Kg-dry	0.022	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Acetone	0.08	U	mg/Kg-dry	0.054	0.15	0.15	U
BA-SB03(2-4)111516	16111186-05A	Benzene	0.01	U	mg/Kg-dry	0.0068	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Bromodichloromethane	0.012	U	mg/Kg-dry	0.008	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Bromoform	0.016	U	mg/Kg-dry	0.011	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Bromomethane	0.019	U	mg/Kg-dry	0.013	0.11	0.11	U
BA-SB03(2-4)111516	16111186-05A	Carbon disulfide	0.015	U	mg/Kg-dry	0.01	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Carbon tetrachloride	0.0078	U	mg/Kg-dry	0.0053	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Chlorobenzene	0.013	U	mg/Kg-dry	0.009	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Chloroethane	0.028	U	mg/Kg-dry	0.019	0.15	0.15	U
BA-SB03(2-4)111516	16111186-05A	Chloroform	0.015	U	mg/Kg-dry	0.01	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	cis-1,2-Dichloroethene	0.012	U	mg/Kg-dry	0.0085	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	cis-1,3-Dichloropropene	0.017	U	mg/Kg-dry	0.011	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Dibromochloromethane	0.01	U	mg/Kg-dry	0.0068	0.044	0.044	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB03(2-4)111516	16111186-05A	Ethylbenzene	0.01	U	mg/Kg-dry	0.007	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Methyl tert-butyl ether	0.014	U	mg/Kg-dry	0.0098	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Methylene chloride	0.02	U	mg/Kg-dry	0.014	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Styrene	0.031	U	mg/Kg-dry	0.021	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Tetrachloroethene	0.022	U	mg/Kg-dry	0.015	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Toluene	0.015	U	mg/Kg-dry	0.0099	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	trans-1,2-Dichloroethene	0.012	U	mg/Kg-dry	0.0085	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	trans-1,3-Dichloropropene	0.0079	U	mg/Kg-dry	0.0054	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Trichloroethene	0.012	U	mg/Kg-dry	0.008	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Vinyl chloride	0.014	U	mg/Kg-dry	0.0095	0.044	0.044	U
BA-SB03(2-4)111516	16111186-05A	Xylenes, Total	0.034	U	mg/Kg-dry	0.023	0.13	0.13	U
BA-SB03(2-4)111516	16111186-05B	Cyanide, Total	0.014	U	mg/Kg	0.011	0.62	0.62	U
BA-SB04(1-3)111516	16111186-06B	Aroclor 1016	0.016	U	mg/Kg	0.014	0.099	0.099	U
BA-SB04(1-3)111516	16111186-06B	Aroclor 1221	0.016	U	mg/Kg	0.014	0.099	0.099	U
BA-SB04(1-3)111516	16111186-06B	Aroclor 1232	0.016	U	mg/Kg	0.014	0.099	0.099	U
BA-SB04(1-3)111516	16111186-06B	Aroclor 1242	0.016	U	mg/Kg	0.014	0.099	0.099	U
BA-SB04(1-3)111516	16111186-06B	Aroclor 1248	0.016	U	mg/Kg	0.014	0.099	0.099	U
BA-SB04(1-3)111516	16111186-06B	Aroclor 1254	0.027	U	mg/Kg	0.023	0.099	0.099	U
BA-SB04(1-3)111516	16111186-06B	Aroclor 1260	0.027	U	mg/Kg	0.023	0.099	0.099	U
BA-SB04(1-3)111516	16111186-06B	4,4´-DDD	0.0034	U	mg/Kg	0.0028	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	4,4´-DDE	0.0026	U	mg/Kg	0.0022	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	4,4´-DDT	0.0041	U	mg/Kg	0.0034	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Aldrin	0.0054	U	mg/Kg	0.0046	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	alpha-BHC	0.0025	U	mg/Kg	0.0021	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	alpha-Chlordane	0.0034	U	mg/Kg	0.0029	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	beta-BHC	0.0051	U	mg/Kg	0.0042	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Chlordane, Technical	0.012	U	mg/Kg	0.0099	0.03	0.03	U
BA-SB04(1-3)111516	16111186-06B	delta-BHC	0.0044	U	mg/Kg	0.0036	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Dieldrin	0.0025	U	mg/Kg	0.0021	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Endosulfan I	0.0035	U	mg/Kg	0.003	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Endosulfan II	0.0023	U	mg/Kg	0.0019	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Endosulfan sulfate	0.0035	U	mg/Kg	0.003	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Endrin	0.0044	U	mg/Kg	0.0036	0.012	0.012	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB04(1-3)111516	16111186-06B	Endrin aldehyde	0.0031	U	mg/Kg	0.0026	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Endrin ketone	0.0026	U	mg/Kg	0.0022	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	gamma-BHC (Lindane)	0.0029	U	mg/Kg	0.0024	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	gamma-Chlordane	0.004	U	mg/Kg	0.0034	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Heptachlor	0.0041	U	mg/Kg	0.0035	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Heptachlor epoxide	0.0025	U	mg/Kg	0.0021	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Methoxychlor	0.0048	U	mg/Kg	0.004	0.012	0.012	U
BA-SB04(1-3)111516	16111186-06B	Toxaphene	0.013	U	mg/Kg	0.011	0.072	0.072	U
BA-SB04(1-3)111516	16111186-06B	Mercury	0.022		mg/Kg	0.0033	0.016	0.022	
BA-SB04(1-3)111516	16111186-06B	Aluminum	3900		mg/Kg	0.078	0.95	3900	
BA-SB04(1-3)111516	16111186-06B	Antimony	9.4		mg/Kg	0.085	0.47	9.4	
BA-SB04(1-3)111516	16111186-06B	Arsenic	3.5		mg/Kg	0.065	0.47	3.5	
BA-SB04(1-3)111516	16111186-06B	Barium	54		mg/Kg	0.1	0.47	54	
BA-SB04(1-3)111516	16111186-06B	Beryllium	0.13	J	mg/Kg	0.008	0.19	0.13	J
BA-SB04(1-3)111516	16111186-06B	Cadmium	0.1	J	mg/Kg	0.024	0.95	0.1	J
BA-SB04(1-3)111516	16111186-06B	Calcium	25000		mg/Kg	1.6	47	25000	
BA-SB04(1-3)111516	16111186-06B	Chromium	9.5		mg/Kg	0.014	0.47	9.5	
BA-SB04(1-3)111516	16111186-06B	Cobalt	5.5		mg/Kg	0.02	0.47	5.5	
BA-SB04(1-3)111516	16111186-06B	Copper	7.5		mg/Kg	0.11	0.95	7.5	
BA-SB04(1-3)111516	16111186-06B	Iron	9600		mg/Kg	0.3	7.6	9600	
BA-SB04(1-3)111516	16111186-06B	Lead	4.8		mg/Kg	0.053	0.47	4.8	
BA-SB04(1-3)111516	16111186-06B	Magnesium	11000		mg/Kg	0.89	19	11000	
BA-SB04(1-3)111516	16111186-06B	Manganese	370		mg/Kg	0.015	0.47	370	
BA-SB04(1-3)111516	16111186-06B	Nickel	12		mg/Kg	0.1	0.47	12	
BA-SB04(1-3)111516	16111186-06B	Potassium	670		mg/Kg	1.8	19	670	
BA-SB04(1-3)111516	16111186-06B	Selenium	0.26	U	mg/Kg	0.14	0.95	0.95	U
BA-SB04(1-3)111516	16111186-06B	Silver	0.059	U	mg/Kg	0.031	0.47	0.47	U
BA-SB04(1-3)111516	16111186-06B	Sodium	130		mg/Kg	1	19	130	
BA-SB04(1-3)111516	16111186-06B	Thallium	0.4	U	mg/Kg	0.21	0.95	0.95	U
BA-SB04(1-3)111516	16111186-06B	Vanadium	15		mg/Kg	0.026	0.47	15	
BA-SB04(1-3)111516	16111186-06B	Zinc	31		mg/Kg	0.04	0.95	31	
BA-SB04(1-3)111516	16111186-06B	1,2,4-Trichlorobenzene	0.0069	U	mg/Kg	0.0058	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	1,2-Dichlorobenzene	0.0099	U	mg/Kg	0.0083	0.039	0.039	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB04(1-3)111516	16111186-06B	1,3-Dichlorobenzene	0.01	U	mg/Kg	0.0088	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	1,4-Dichlorobenzene	0.01	U	mg/Kg	0.0088	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2,2`-Oxybis(1-chloropropane)	0.0093	U	mg/Kg	0.0078	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2,4,5-Trichlorophenol	0.011	U	mg/Kg	0.0091	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2,4,6-Trichlorophenol	0.011	U	mg/Kg	0.0089	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2,4-Dichlorophenol	0.0084	U	mg/Kg	0.007	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2,4-Dimethylphenol	0.0081	U	mg/Kg	0.0068	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2,4-Dinitrophenol	0.021	U	mg/Kg	0.018	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2,4-Dinitrotoluene	0.01	U	mg/Kg	0.0087	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2,6-Dinitrotoluene	0.0065	U	mg/Kg	0.0055	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2-Chloronaphthalene	0.0055	U	mg/Kg	0.0047	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	2-Chlorophenol	0.012	U	mg/Kg	0.01	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2-Methylnaphthalene	0.004	U	mg/Kg	0.0034	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	2-Methylphenol	0.011	U	mg/Kg	0.009	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2-Nitroaniline	0.0091	U	mg/Kg	0.0076	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	2-Nitrophenol	0.011	U	mg/Kg	0.0095	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	3&4-Methylphenol	0.008	U	mg/Kg	0.0067	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	3,3´-Dichlorobenzidine	0.0059	U	mg/Kg	0.005	0.2	0.2	U
BA-SB04(1-3)111516	16111186-06B	3-Nitroaniline	0.0091	U	mg/Kg	0.0076	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	4,6-Dinitro-2-methylphenol	0.01	U	mg/Kg	0.0084	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	4-Bromophenyl phenyl ether	0.011	U	mg/Kg	0.009	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	4-Chloro-3-methylphenol	0.011	U	mg/Kg	0.0095	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	4-Chloroaniline	0.0063	U	mg/Kg	0.0053	0.08	0.08	U
BA-SB04(1-3)111516	16111186-06B	4-Chlorophenyl phenyl ether	0.011	U	mg/Kg	0.0092	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	4-Nitroaniline	0.062	U	mg/Kg	0.052	0.2	0.2	U
BA-SB04(1-3)111516	16111186-06B	4-Nitrophenol	0.035	U	mg/Kg	0.03	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Acenaphthene	0.0057	U	mg/Kg	0.0048	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Acenaphthylene	0.0069	U	mg/Kg	0.0058	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Anthracene	0.0056	U	mg/Kg	0.0047	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Benzo(a)anthracene	0.0069	U	mg/Kg	0.0058	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Benzo(a)pyrene	0.0049	U	mg/Kg	0.0041	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Benzo(b)fluoranthene	0.0059	U	mg/Kg	0.005	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Benzo(g,h,i)perylene	0.0061	U	mg/Kg	0.0051	0.0079	0.0079	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB04(1-3)111516	16111186-06B	Benzo(k)fluoranthene	0.006	U	mg/Kg	0.005	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Bis(2-chloroethoxy)methane	0.0038	U	mg/Kg	0.0032	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Bis(2-chloroethyl)ether	0.011	U	mg/Kg	0.0094	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Bis(2-ethylhexyl)phthalate	0.0069	U	mg/Kg	0.0058	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Butyl benzyl phthalate	0.0067	U	mg/Kg	0.0056	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Carbazole	0.0043	U	mg/Kg	0.0036	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Chrysene	0.0064	U	mg/Kg	0.0054	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Dibenzo(a,h)anthracene	0.0043	U	mg/Kg	0.0036	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Dibenzofuran	0.0058	U	mg/Kg	0.0049	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Diethyl phthalate	0.0061	U	mg/Kg	0.0051	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Dimethyl phthalate	0.0077	U	mg/Kg	0.0065	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Di-n-butyl phthalate	0.0073	U	mg/Kg	0.0061	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Di-n-octyl phthalate	0.0076	U	mg/Kg	0.0064	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Fluoranthene	0.0038	U	mg/Kg	0.0032	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Fluorene	0.0058	U	mg/Kg	0.0048	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Hexachlorobenzene	0.012	U	mg/Kg	0.0097	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Hexachlorobutadiene	0.022	U	mg/Kg	0.018	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Hexachlorocyclopentadiene	0.014	U	mg/Kg	0.011	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Hexachloroethane	0.016	U	mg/Kg	0.014	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Indeno(1,2,3-cd)pyrene	0.0055	U	mg/Kg	0.0046	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Isophorone	0.0077	U	mg/Kg	0.0065	0.2	0.2	U
BA-SB04(1-3)111516	16111186-06B	Naphthalene	0.0051	U	mg/Kg	0.0043	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Nitrobenzene	0.013	U	mg/Kg	0.011	0.2	0.2	U
BA-SB04(1-3)111516	16111186-06B	N-Nitrosodi-n-propylamine	0.0065	U	mg/Kg	0.0055	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	N-Nitrosodiphenylamine	0.0038	U	mg/Kg	0.0032	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Pentachlorophenol	0.015	U	mg/Kg	0.012	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Phenanthrene	0.0037	U	mg/Kg	0.0031	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06B	Phenol	0.0099	U	mg/Kg	0.0083	0.039	0.039	U
BA-SB04(1-3)111516	16111186-06B	Pyrene	0.0014	U	mg/Kg	0.0012	0.0079	0.0079	U
BA-SB04(1-3)111516	16111186-06A	1,1,1-Trichloroethane	0.012	U	mg/Kg-dry	0.0086	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	1,1,2,2-Tetrachloroethane	0.01	U	mg/Kg-dry	0.0072	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	1,1,2-Trichloroethane	0.012	U	mg/Kg-dry	0.009	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	1,1-Dichloroethane	0.011	U	mg/Kg-dry	0.0076	0.041	0.041	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB04(1-3)111516	16111186-06A	1,1-Dichloroethene	0.011	U	mg/Kg-dry	0.008	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	1,2-Dichloroethane	0.011	U	mg/Kg-dry	0.0082	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	1,2-Dichloropropane	0.011	U	mg/Kg-dry	0.0083	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	2-Butanone	0.056	U	mg/Kg-dry	0.04	0.28	0.28	U
BA-SB04(1-3)111516	16111186-06A	2-Hexanone	0.027	U	mg/Kg-dry	0.02	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	4-Methyl-2-pentanone	0.03	U	mg/Kg-dry	0.022	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Acetone	0.075	U	mg/Kg-dry	0.054	0.14	0.14	U
BA-SB04(1-3)111516	16111186-06A	Benzene	0.0094	U	mg/Kg-dry	0.0068	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Bromodichloromethane	0.011	U	mg/Kg-dry	0.008	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Bromoform	0.015	U	mg/Kg-dry	0.011	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Bromomethane	0.018	U	mg/Kg-dry	0.013	0.1	0.1	U
BA-SB04(1-3)111516	16111186-06A	Carbon disulfide	0.014	U	mg/Kg-dry	0.01	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Carbon tetrachloride	0.0073	U	mg/Kg-dry	0.0053	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Chlorobenzene	0.012	U	mg/Kg-dry	0.009	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Chloroethane	0.026	U	mg/Kg-dry	0.019	0.14	0.14	U
BA-SB04(1-3)111516	16111186-06A	Chloroform	0.014	U	mg/Kg-dry	0.01	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	cis-1,2-Dichloroethene	0.012	U	mg/Kg-dry	0.0085	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	cis-1,3-Dichloropropene	0.016	U	mg/Kg-dry	0.011	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Dibromochloromethane	0.0094	U	mg/Kg-dry	0.0068	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Ethylbenzene	0.0097	U	mg/Kg-dry	0.007	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Methyl tert-butyl ether	0.013	U	mg/Kg-dry	0.0098	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Methylene chloride	0.019	U	mg/Kg-dry	0.014	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Styrene	0.029	U	mg/Kg-dry	0.021	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Tetrachloroethene	0.02	U	mg/Kg-dry	0.015	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Toluene	0.014	U	mg/Kg-dry	0.0099	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	trans-1,2-Dichloroethene	0.012	U	mg/Kg-dry	0.0085	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	trans-1,3-Dichloropropene	0.0074	U	mg/Kg-dry	0.0054	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Trichloroethene	0.011	U	mg/Kg-dry	0.008	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Vinyl chloride	0.013	U	mg/Kg-dry	0.0095	0.041	0.041	U
BA-SB04(1-3)111516	16111186-06A	Xylenes, Total	0.032	U	mg/Kg-dry	0.023	0.12	0.12	U
BA-SB04(1-3)111516	16111186-06B	Cyanide, Total	0.032	J	mg/Kg	0.011	0.6	0.032	J
BA-SB05(1-3)111516	16111186-07B	Aroclor 1016	0.016	U	mg/Kg	0.014	0.097	0.097	U
BA-SB05(1-3)111516	16111186-07B	Aroclor 1221	0.016	U	mg/Kg	0.014	0.097	0.097	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB05(1-3)111516	16111186-07B	Aroclor 1232	0.016	U	mg/Kg	0.014	0.097	0.097	U
BA-SB05(1-3)111516	16111186-07B	Aroclor 1242	0.016	U	mg/Kg	0.014	0.097	0.097	U
BA-SB05(1-3)111516	16111186-07B	Aroclor 1248	0.016	U	mg/Kg	0.014	0.097	0.097	U
BA-SB05(1-3)111516	16111186-07B	Aroclor 1254	0.12		mg/Kg	0.023	0.097	0.12	
BA-SB05(1-3)111516	16111186-07B	Aroclor 1260	0.026	U	mg/Kg	0.023	0.097	0.097	U
BA-SB05(1-3)111516	16111186-07B	4,4´-DDD	0.0033	U	mg/Kg	0.0028	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	4,4´-DDE	0.0026	U	mg/Kg	0.0022	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	4,4´-DDT	0.0041	U	mg/Kg	0.0034	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Aldrin	0.0054	U	mg/Kg	0.0046	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	alpha-BHC	0.0025	U	mg/Kg	0.0021	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	alpha-Chlordane	0.0034	U	mg/Kg	0.0029	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	beta-BHC	0.005	U	mg/Kg	0.0042	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Chlordane, Technical	0.012	U	mg/Kg	0.0099	0.03	0.03	U
BA-SB05(1-3)111516	16111186-07B	delta-BHC	0.0043	U	mg/Kg	0.0036	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Dieldrin	0.0025	U	mg/Kg	0.0021	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Endosulfan I	0.0035	U	mg/Kg	0.003	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Endosulfan II	0.0022	U	mg/Kg	0.0019	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Endosulfan sulfate	0.0035	U	mg/Kg	0.003	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Endrin	0.0043	U	mg/Kg	0.0036	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Endrin aldehyde	0.0031	U	mg/Kg	0.0026	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Endrin ketone	0.0026	U	mg/Kg	0.0022	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	gamma-BHC (Lindane)	0.0029	U	mg/Kg	0.0024	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	gamma-Chlordane	0.004	U	mg/Kg	0.0034	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Heptachlor	0.0041	U	mg/Kg	0.0035	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Heptachlor epoxide	0.0025	U	mg/Kg	0.0021	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Methoxychlor	0.0048	U	mg/Kg	0.004	0.012	0.012	U
BA-SB05(1-3)111516	16111186-07B	Toxaphene	0.013	U	mg/Kg	0.011	0.071	0.071	U
BA-SB05(1-3)111516	16111186-07B	Mercury	0.038		mg/Kg	0.0033	0.016	0.038	
BA-SB05(1-3)111516	16111186-07B	Aluminum	4800		mg/Kg	0.078	0.86	4800	
BA-SB05(1-3)111516	16111186-07B	Antimony	11		mg/Kg	0.085	0.43	11	
BA-SB05(1-3)111516	16111186-07B	Arsenic	4.9		mg/Kg	0.065	0.43	4.9	
BA-SB05(1-3)111516	16111186-07B	Barium	110		mg/Kg	0.1	0.43	110	
BA-SB05(1-3)111516	16111186-07B	Beryllium	0.21		mg/Kg	0.008	0.17	0.21	

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB05(1-3)111516	16111186-07B	Cadmium	0.24	J	mg/Kg	0.024	0.86	0.24	J
BA-SB05(1-3)111516	16111186-07B	Calcium	27000		mg/Kg	1.6	43	27000	
BA-SB05(1-3)111516	16111186-07B	Chromium	12		mg/Kg	0.014	0.43	12	
BA-SB05(1-3)111516	16111186-07B	Cobalt	7.2		mg/Kg	0.02	0.43	7.2	
BA-SB05(1-3)111516	16111186-07B	Copper	10		mg/Kg	0.11	0.86	10	
BA-SB05(1-3)111516	16111186-07B	Iron	12000		mg/Kg	0.3	6.9	12000	
BA-SB05(1-3)111516	16111186-07B	Lead	8.5		mg/Kg	0.053	0.43	8.5	
BA-SB05(1-3)111516	16111186-07B	Magnesium	13000		mg/Kg	0.89	17	13000	
BA-SB05(1-3)111516	16111186-07B	Manganese	1100		mg/Kg	0.015	4.3	1100	
BA-SB05(1-3)111516	16111186-07B	Nickel	16		mg/Kg	0.1	0.43	16	
BA-SB05(1-3)111516	16111186-07B	Potassium	1100		mg/Kg	1.8	17	1100	
BA-SB05(1-3)111516	16111186-07B	Selenium	0.24	U	mg/Kg	0.14	0.86	0.86	U
BA-SB05(1-3)111516	16111186-07B	Silver	0.18	J	mg/Kg	0.031	0.43	0.18	J
BA-SB05(1-3)111516	16111186-07B	Sodium	91		mg/Kg	1	17	91	
BA-SB05(1-3)111516	16111186-07B	Thallium	0.76	J	mg/Kg	0.21	0.86	0.76	J
BA-SB05(1-3)111516	16111186-07B	Vanadium	18		mg/Kg	0.026	0.43	18	
BA-SB05(1-3)111516	16111186-07B	Zinc	45		mg/Kg	0.04	0.86	45	
BA-SB05(1-3)111516	16111186-07B	1,2,4-Trichlorobenzene	0.0066	U	mg/Kg	0.0058	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	1,2-Dichlorobenzene	0.0095	U	mg/Kg	0.0083	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	1,3-Dichlorobenzene	0.01	U	mg/Kg	0.0088	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	1,4-Dichlorobenzene	0.01	U	mg/Kg	0.0088	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2,2`-Oxybis(1-chloropropane)	0.009	U	mg/Kg	0.0078	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2,4,5-Trichlorophenol	0.01	U	mg/Kg	0.0091	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2,4,6-Trichlorophenol	0.01	U	mg/Kg	0.0089	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2,4-Dichlorophenol	0.0081	U	mg/Kg	0.007	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2,4-Dimethylphenol	0.0078	U	mg/Kg	0.0068	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2,4-Dinitrophenol	0.021	U	mg/Kg	0.018	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2,4-Dinitrotoluene	0.01	U	mg/Kg	0.0087	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2,6-Dinitrotoluene	0.0063	U	mg/Kg	0.0055	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2-Chloronaphthalene	0.0053	U	mg/Kg	0.0047	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	2-Chlorophenol	0.012	U	mg/Kg	0.01	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2-Methylnaphthalene	0.0039	U	mg/Kg	0.0034	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	2-Methylphenol	0.01	U	mg/Kg	0.009	0.038	0.038	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB05(1-3)111516	16111186-07B	2-Nitroaniline	0.0088	U	mg/Kg	0.0076	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	2-Nitrophenol	0.011	U	mg/Kg	0.0095	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	3&4-Methylphenol	0.0077	U	mg/Kg	0.0067	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	3,3´-Dichlorobenzidine	0.0057	U	mg/Kg	0.005	0.19	0.19	U
BA-SB05(1-3)111516	16111186-07B	3-Nitroaniline	0.0088	U	mg/Kg	0.0076	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	4,6-Dinitro-2-methylphenol	0.0096	U	mg/Kg	0.0084	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	4-Bromophenyl phenyl ether	0.01	U	mg/Kg	0.009	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	4-Chloro-3-methylphenol	0.011	U	mg/Kg	0.0095	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	4-Chloroaniline	0.006	U	mg/Kg	0.0053	0.077	0.077	U
BA-SB05(1-3)111516	16111186-07B	4-Chlorophenyl phenyl ether	0.011	U	mg/Kg	0.0092	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	4-Nitroaniline	0.059	U	mg/Kg	0.052	0.19	0.19	U
BA-SB05(1-3)111516	16111186-07B	4-Nitrophenol	0.034	U	mg/Kg	0.03	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Acenaphthene	0.0055	U	mg/Kg	0.0048	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Acenaphthylene	0.0066	U	mg/Kg	0.0058	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Anthracene	0.0054	U	mg/Kg	0.0047	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Benzo(a)anthracene	0.0066	U	mg/Kg	0.0058	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Benzo(a)pyrene	0.0047	U	mg/Kg	0.0041	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Benzo(b)fluoranthene	0.0057	U	mg/Kg	0.005	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Benzo(g,h,i)perylene	0.0059	U	mg/Kg	0.0051	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Benzo(k)fluoranthene	0.0058	U	mg/Kg	0.005	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Bis(2-chloroethoxy)methane	0.0037	U	mg/Kg	0.0032	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Bis(2-chloroethyl)ether	0.011	U	mg/Kg	0.0094	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Bis(2-ethylhexyl)phthalate	0.0066	U	mg/Kg	0.0058	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Butyl benzyl phthalate	0.045		mg/Kg	0.0056	0.038	0.045	
BA-SB05(1-3)111516	16111186-07B	Carbazole	0.0041	U	mg/Kg	0.0036	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Chrysene	0.0062	U	mg/Kg	0.0054	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Dibenzo(a,h)anthracene	0.0041	U	mg/Kg	0.0036	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Dibenzofuran	0.0056	U	mg/Kg	0.0049	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Diethyl phthalate	0.0059	U	mg/Kg	0.0051	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Dimethyl phthalate	0.0075	U	mg/Kg	0.0065	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Di-n-butyl phthalate	0.007	U	mg/Kg	0.0061	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Di-n-octyl phthalate	0.0073	U	mg/Kg	0.0064	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Fluoranthene	0.0037	U	mg/Kg	0.0032	0.0077	0.0077	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB05(1-3)111516	16111186-07B	Fluorene	0.0056	U	mg/Kg	0.0048	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Hexachlorobenzene	0.011	U	mg/Kg	0.0097	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Hexachlorobutadiene	0.021	U	mg/Kg	0.018	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Hexachlorocyclopentadiene	0.013	U	mg/Kg	0.011	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Hexachloroethane	0.016	U	mg/Kg	0.014	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Indeno(1,2,3-cd)pyrene	0.0053	U	mg/Kg	0.0046	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Isophorone	0.0075	U	mg/Kg	0.0065	0.19	0.19	U
BA-SB05(1-3)111516	16111186-07B	Naphthalene	0.0049	U	mg/Kg	0.0043	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Nitrobenzene	0.013	U	mg/Kg	0.011	0.19	0.19	U
BA-SB05(1-3)111516	16111186-07B	N-Nitrosodi-n-propylamine	0.0063	U	mg/Kg	0.0055	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	N-Nitrosodiphenylamine	0.0037	U	mg/Kg	0.0032	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Pentachlorophenol	0.014	U	mg/Kg	0.012	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Phenanthrene	0.0036	U	mg/Kg	0.0031	0.0077	0.0077	U
BA-SB05(1-3)111516	16111186-07B	Phenol	0.0095	U	mg/Kg	0.0083	0.038	0.038	U
BA-SB05(1-3)111516	16111186-07B	Pyrene	0.0054	J	mg/Kg	0.0012	0.0077	0.0054	J
BA-SB05(1-3)111516	16111186-07A	1,1,1-Trichloroethane	0.012	U	mg/Kg-dry	0.0086	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	1,1,2,2-Tetrachloroethane	0.01	U	mg/Kg-dry	0.0072	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	1,1,2-Trichloroethane	0.012	U	mg/Kg-dry	0.009	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	1,1-Dichloroethane	0.011	U	mg/Kg-dry	0.0076	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	1,1-Dichloroethene	0.011	U	mg/Kg-dry	0.008	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	1,2-Dichloroethane	0.011	U	mg/Kg-dry	0.0082	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	1,2-Dichloropropane	0.011	U	mg/Kg-dry	0.0083	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	2-Butanone	0.056	U	mg/Kg-dry	0.04	0.28	0.28	U
BA-SB05(1-3)111516	16111186-07A	2-Hexanone	0.027	U	mg/Kg-dry	0.02	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	4-Methyl-2-pentanone	0.03	U	mg/Kg-dry	0.022	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Acetone	0.075	U	mg/Kg-dry	0.054	0.14	0.14	U
BA-SB05(1-3)111516	16111186-07A	Benzene	0.0094	U	mg/Kg-dry	0.0068	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Bromodichloromethane	0.011	U	mg/Kg-dry	0.008	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Bromoform	0.015	U	mg/Kg-dry	0.011	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Bromomethane	0.018	U	mg/Kg-dry	0.013	0.1	0.1	U
BA-SB05(1-3)111516	16111186-07A	Carbon disulfide	0.014	U	mg/Kg-dry	0.01	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Carbon tetrachloride	0.0073	U	mg/Kg-dry	0.0053	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Chlorobenzene	0.012	U	mg/Kg-dry	0.009	0.041	0.041	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB05(1-3)111516	16111186-07A	Chloroethane	0.026	U	mg/Kg-dry	0.019	0.14	0.14	U
BA-SB05(1-3)111516	16111186-07A	Chloroform	0.014	U	mg/Kg-dry	0.01	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	cis-1,2-Dichloroethene	0.012	U	mg/Kg-dry	0.0085	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	cis-1,3-Dichloropropene	0.016	U	mg/Kg-dry	0.011	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Dibromochloromethane	0.0094	U	mg/Kg-dry	0.0068	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Ethylbenzene	0.0097	U	mg/Kg-dry	0.007	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Methyl tert-butyl ether	0.013	U	mg/Kg-dry	0.0098	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Methylene chloride	0.019	U	mg/Kg-dry	0.014	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Styrene	0.029	U	mg/Kg-dry	0.021	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Tetrachloroethene	0.02	U	mg/Kg-dry	0.015	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Toluene	0.014	U	mg/Kg-dry	0.0099	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	trans-1,2-Dichloroethene	0.012	U	mg/Kg-dry	0.0085	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	trans-1,3-Dichloropropene	0.0074	U	mg/Kg-dry	0.0054	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Trichloroethene	0.011	U	mg/Kg-dry	0.008	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Vinyl chloride	0.013	U	mg/Kg-dry	0.0095	0.041	0.041	U
BA-SB05(1-3)111516	16111186-07A	Xylenes, Total	0.032	U	mg/Kg-dry	0.023	0.12	0.12	U
BA-SB05(1-3)111516	16111186-07B	Cyanide, Total	0.059	J	mg/Kg	0.011	0.59	0.059	J
BA-SB06(2-4)111516	16111186-08B	Aroclor 1016	0.017	U	mg/Kg	0.014	0.11	0.11	U
BA-SB06(2-4)111516	16111186-08B	Aroclor 1221	0.017	U	mg/Kg	0.014	0.11	0.11	U
BA-SB06(2-4)111516	16111186-08B	Aroclor 1232	0.017	U	mg/Kg	0.014	0.11	0.11	U
BA-SB06(2-4)111516	16111186-08B	Aroclor 1242	0.017	U	mg/Kg	0.014	0.11	0.11	U
BA-SB06(2-4)111516	16111186-08B	Aroclor 1248	0.017	U	mg/Kg	0.014	0.11	0.11	U
BA-SB06(2-4)111516	16111186-08B	Aroclor 1254	0.029	U	mg/Kg	0.023	0.11	0.11	U
BA-SB06(2-4)111516	16111186-08B	Aroclor 1260	0.029	U	mg/Kg	0.023	0.11	0.11	U
BA-SB06(2-4)111516	16111186-08B	4,4´-DDD	0.0036	U	mg/Kg	0.0028	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	4,4´-DDE	0.0028	U	mg/Kg	0.0022	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	4,4´-DDT	0.0044	U	mg/Kg	0.0034	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Aldrin	0.0059	U	mg/Kg	0.0046	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	alpha-BHC	0.0027	U	mg/Kg	0.0021	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	alpha-Chlordane	0.0037	U	mg/Kg	0.0029	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	beta-BHC	0.0055	U	mg/Kg	0.0042	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Chlordane, Technical	0.013	U	mg/Kg	0.0099	0.032	0.032	U
BA-SB06(2-4)111516	16111186-08B	delta-BHC	0.0047	U	mg/Kg	0.0036	0.013	0.013	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB06(2-4)111516	16111186-08B	Dieldrin	0.0027	U	mg/Kg	0.0021	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Endosulfan I	0.0038	U	mg/Kg	0.003	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Endosulfan II	0.0024	U	mg/Kg	0.0019	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Endosulfan sulfate	0.0038	U	mg/Kg	0.003	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Endrin	0.0047	U	mg/Kg	0.0036	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Endrin aldehyde	0.0034	U	mg/Kg	0.0026	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Endrin ketone	0.0028	U	mg/Kg	0.0022	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	gamma-BHC (Lindane)	0.0031	U	mg/Kg	0.0024	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	gamma-Chlordane	0.0043	U	mg/Kg	0.0034	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Heptachlor	0.0045	U	mg/Kg	0.0035	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Heptachlor epoxide	0.0027	U	mg/Kg	0.0021	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Methoxychlor	0.0052	U	mg/Kg	0.004	0.013	0.013	U
BA-SB06(2-4)111516	16111186-08B	Toxaphene	0.014	U	mg/Kg	0.011	0.077	0.077	U
BA-SB06(2-4)111516	16111186-08B	Mercury	0.059		mg/Kg	0.0033	0.016	0.059	
BA-SB06(2-4)111516	16111186-08B	Aluminum	5500		mg/Kg	0.078	1	5500	
BA-SB06(2-4)111516	16111186-08B	Antimony	13		mg/Kg	0.085	0.52	13	
BA-SB06(2-4)111516	16111186-08B	Arsenic	5		mg/Kg	0.065	0.52	5	
BA-SB06(2-4)111516	16111186-08B	Barium	89		mg/Kg	0.1	0.52	89	
BA-SB06(2-4)111516	16111186-08B	Beryllium	0.22		mg/Kg	0.008	0.21	0.22	
BA-SB06(2-4)111516	16111186-08B	Cadmium	0.3	J	mg/Kg	0.024	1	0.3	J
BA-SB06(2-4)111516	16111186-08B	Calcium	25000		mg/Kg	1.6	52	25000	
BA-SB06(2-4)111516	16111186-08B	Chromium	13		mg/Kg	0.014	0.52	13	
BA-SB06(2-4)111516	16111186-08B	Cobalt	7.2		mg/Kg	0.02	0.52	7.2	
BA-SB06(2-4)111516	16111186-08B	Copper	11		mg/Kg	0.11	1	11	
BA-SB06(2-4)111516	16111186-08B	Iron	12000		mg/Kg	0.3	8.3	12000	
BA-SB06(2-4)111516	16111186-08B	Lead	10		mg/Kg	0.053	0.52	10	
BA-SB06(2-4)111516	16111186-08B	Magnesium	12000		mg/Kg	0.89	21	12000	
BA-SB06(2-4)111516	16111186-08B	Manganese	740		mg/Kg	0.015	0.52	740	
BA-SB06(2-4)111516	16111186-08B	Nickel	17		mg/Kg	0.1	0.52	17	
BA-SB06(2-4)111516	16111186-08B	Potassium	1100		mg/Kg	1.8	21	1100	
BA-SB06(2-4)111516	16111186-08B	Selenium	0.29	U	mg/Kg	0.14	1	1	U
BA-SB06(2-4)111516	16111186-08B	Silver	0.11	J	mg/Kg	0.031	0.52	0.11	J
BA-SB06(2-4)111516	16111186-08B	Sodium	150		mg/Kg	1	21	150	

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB06(2-4)111516	16111186-08B	Thallium	0.61	J	mg/Kg	0.21	1	0.61	J
BA-SB06(2-4)111516	16111186-08B	Vanadium	20		mg/Kg	0.026	0.52	20	
BA-SB06(2-4)111516	16111186-08B	Zinc	48		mg/Kg	0.04	1	48	
BA-SB06(2-4)111516	16111186-08B	1,2,4-Trichlorobenzene	0.0072	U	mg/Kg	0.0058	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	1,2-Dichlorobenzene	0.01	U	mg/Kg	0.0083	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	1,3-Dichlorobenzene	0.011	U	mg/Kg	0.0088	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	1,4-Dichlorobenzene	0.011	U	mg/Kg	0.0088	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2,2`-Oxybis(1-chloropropane)	0.0097	U	mg/Kg	0.0078	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2,4,5-Trichlorophenol	0.011	U	mg/Kg	0.0091	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2,4,6-Trichlorophenol	0.011	U	mg/Kg	0.0089	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2,4-Dichlorophenol	0.0087	U	mg/Kg	0.007	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2,4-Dimethylphenol	0.0085	U	mg/Kg	0.0068	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2,4-Dinitrophenol	0.022	U	mg/Kg	0.018	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2,4-Dinitrotoluene	0.011	U	mg/Kg	0.0087	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2,6-Dinitrotoluene	0.0068	U	mg/Kg	0.0055	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2-Chloronaphthalene	0.0058	U	mg/Kg	0.0047	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	2-Chlorophenol	0.013	U	mg/Kg	0.01	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2-Methylnaphthalene	0.0042	U	mg/Kg	0.0034	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	2-Methylphenol	0.011	U	mg/Kg	0.009	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2-Nitroaniline	0.0095	U	mg/Kg	0.0076	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	2-Nitrophenol	0.012	U	mg/Kg	0.0095	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	3&4-Methylphenol	0.0083	U	mg/Kg	0.0067	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	3,3´-Dichlorobenzidine	0.0061	U	mg/Kg	0.005	0.21	0.21	U
BA-SB06(2-4)111516	16111186-08B	3-Nitroaniline	0.0095	U	mg/Kg	0.0076	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	4,6-Dinitro-2-methylphenol	0.01	U	mg/Kg	0.0084	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	4-Bromophenyl phenyl ether	0.011	U	mg/Kg	0.009	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	4-Chloro-3-methylphenol	0.012	U	mg/Kg	0.0095	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	4-Chloroaniline	0.0065	U	mg/Kg	0.0053	0.083	0.083	U
BA-SB06(2-4)111516	16111186-08B	4-Chlorophenyl phenyl ether	0.011	U	mg/Kg	0.0092	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	4-Nitroaniline	0.064	U	mg/Kg	0.052	0.21	0.21	U
BA-SB06(2-4)111516	16111186-08B	4-Nitrophenol	0.037	U	mg/Kg	0.03	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Acenaphthene	0.006	U	mg/Kg	0.0048	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Acenaphthylene	0.0072	U	mg/Kg	0.0058	0.0083	0.0083	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB06(2-4)111516	16111186-08B	Anthracene	0.0058	U	mg/Kg	0.0047	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Benzo(a)anthracene	0.014		mg/Kg	0.0058	0.0083	0.014	
BA-SB06(2-4)111516	16111186-08B	Benzo(a)pyrene	0.0051	U	mg/Kg	0.0041	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Benzo(b)fluoranthene	0.0062	U	mg/Kg	0.005	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Benzo(g,h,i)perylene	0.0063	U	mg/Kg	0.0051	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Benzo(k)fluoranthene	0.0063	U	mg/Kg	0.005	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Bis(2-chloroethoxy)methane	0.004	U	mg/Kg	0.0032	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Bis(2-chloroethyl)ether	0.012	U	mg/Kg	0.0094	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Bis(2-ethylhexyl)phthalate	0.063		mg/Kg	0.0058	0.041	0.063	
BA-SB06(2-4)111516	16111186-08B	Butyl benzyl phthalate	0.007	U	mg/Kg	0.0056	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Carbazole	0.0045	U	mg/Kg	0.0036	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Chrysene	0.0067	U	mg/Kg	0.0054	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Dibenzo(a,h)anthracene	0.0045	U	mg/Kg	0.0036	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Dibenzofuran	0.0061	U	mg/Kg	0.0049	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Diethyl phthalate	0.0063	U	mg/Kg	0.0051	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Dimethyl phthalate	0.0081	U	mg/Kg	0.0065	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Di-n-butyl phthalate	0.0076	U	mg/Kg	0.0061	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Di-n-octyl phthalate	0.0079	U	mg/Kg	0.0064	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Fluoranthene	0.0091		mg/Kg	0.0032	0.0083	0.0091	
BA-SB06(2-4)111516	16111186-08B	Fluorene	0.006	U	mg/Kg	0.0048	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Hexachlorobenzene	0.012	U	mg/Kg	0.0097	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Hexachlorobutadiene	0.022	U	mg/Kg	0.018	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Hexachlorocyclopentadiene	0.014	U	mg/Kg	0.011	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Hexachloroethane	0.017	U	mg/Kg	0.014	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Indeno(1,2,3-cd)pyrene	0.0058	U	mg/Kg	0.0046	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Isophorone	0.0081	U	mg/Kg	0.0065	0.21	0.21	U
BA-SB06(2-4)111516	16111186-08B	Naphthalene	0.0053	U	mg/Kg	0.0043	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Nitrobenzene	0.014	U	mg/Kg	0.011	0.21	0.21	U
BA-SB06(2-4)111516	16111186-08B	N-Nitrosodi-n-propylamine	0.0068	U	mg/Kg	0.0055	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	N-Nitrosodiphenylamine	0.004	U	mg/Kg	0.0032	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Pentachlorophenol	0.015	U	mg/Kg	0.012	0.041	0.041	U
BA-SB06(2-4)111516	16111186-08B	Phenanthrene	0.0038	U	mg/Kg	0.0031	0.0083	0.0083	U
BA-SB06(2-4)111516	16111186-08B	Phenol	0.01	U	mg/Kg	0.0083	0.041	0.041	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB06(2-4)111516	16111186-08B	Pyrene	0.011		mg/Kg	0.0012	0.0083	0.011	
BA-SB06(2-4)111516	16111186-08A	1,1,1-Trichloroethane	0.013	U	mg/Kg-dry	0.0086	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	1,1,2,2-Tetrachloroethane	0.011	U	mg/Kg-dry	0.0072	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	1,1,2-Trichloroethane	0.014	U	mg/Kg-dry	0.009	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	1,1-Dichloroethane	0.012	U	mg/Kg-dry	0.0076	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	1,1-Dichloroethene	0.013	U	mg/Kg-dry	0.008	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	1,2-Dichloroethane	0.013	U	mg/Kg-dry	0.0082	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	1,2-Dichloropropane	0.013	U	mg/Kg-dry	0.0083	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	2-Butanone	0.063	U	mg/Kg-dry	0.04	0.31	0.31	U
BA-SB06(2-4)111516	16111186-08A	2-Hexanone	0.031	U	mg/Kg-dry	0.02	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	4-Methyl-2-pentanone	0.034	U	mg/Kg-dry	0.022	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Acetone	0.085	U	mg/Kg-dry	0.054	0.16	0.16	U
BA-SB06(2-4)111516	16111186-08A	Benzene	0.011	U	mg/Kg-dry	0.0068	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Bromodichloromethane	0.013	U	mg/Kg-dry	0.008	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Bromoform	0.017	U	mg/Kg-dry	0.011	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Bromomethane	0.02	U	mg/Kg-dry	0.013	0.12	0.12	U
BA-SB06(2-4)111516	16111186-08A	Carbon disulfide	0.016	U	mg/Kg-dry	0.01	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Carbon tetrachloride	0.0083	U	mg/Kg-dry	0.0053	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Chlorobenzene	0.014	U	mg/Kg-dry	0.009	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Chloroethane	0.03	U	mg/Kg-dry	0.019	0.16	0.16	U
BA-SB06(2-4)111516	16111186-08A	Chloroform	0.016	U	mg/Kg-dry	0.01	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	cis-1,2-Dichloroethene	0.013	U	mg/Kg-dry	0.0085	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	cis-1,3-Dichloropropene	0.018	U	mg/Kg-dry	0.011	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Dibromochloromethane	0.011	U	mg/Kg-dry	0.0068	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Ethylbenzene	0.011	U	mg/Kg-dry	0.007	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Methyl tert-butyl ether	0.015	U	mg/Kg-dry	0.0098	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Methylene chloride	0.021	U	mg/Kg-dry	0.014	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Styrene	0.033	U	mg/Kg-dry	0.021	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Tetrachloroethene	0.023	U	mg/Kg-dry	0.015	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Toluene	0.016	U	mg/Kg-dry	0.0099	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	trans-1,2-Dichloroethene	0.013	U	mg/Kg-dry	0.0085	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	trans-1,3-Dichloropropene	0.0084	U	mg/Kg-dry	0.0054	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Trichloroethene	0.013	U	mg/Kg-dry	0.008	0.047	0.047	U

Client_ID	Lab_Samp_ID	Analyte	Result	L_Qual	Units	MDL	RL	F_Result	F_Qual
BA-SB06(2-4)111516	16111186-08A	Vinyl chloride	0.015	U	mg/Kg-dry	0.0095	0.047	0.047	U
BA-SB06(2-4)111516	16111186-08A	Xylenes, Total	0.036	U	mg/Kg-dry	0.023	0.14	0.14	U
BA-SB06(2-4)111516	16111186-08B	Cyanide, Total	0.042	J	mg/Kg	0.011	0.64	0.042	J

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Site Name	Bluff Avenue Site		**TDD No.**	0003-1607-010
Document Tracking No.	1341B			
Data Reviewer (signature and date)	Debbie Kuhl December 9, 2016		**Technical Reviewer (signature and date)**	Harry N. Ellis III 12 December 2016
Laboratory Report No.	16111189		**Laboratory**	ALS Environmental/Holland, MI
Analyses	Volatile organic compounds by EPA Method 8260B, polychlorinated biphenyls (PCB) by EPA Method 8082, organochlorine pesticides by EPA Method 8081, dissolved mercury by EPA Method 7470A, dissolved metals by EPA Method 6020A, and semivolatile organic compounds (SVOC) by EPA Method 8270D			
Samples and Matrix	Three water samples including one trip blank			
Field Duplicate Pairs	BA-TMW1-111616 and BA-TMW1-111616D			
Field Blanks	Trip Blank			

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014).

OVERALL EVALUATION

All results are acceptable and usable as qualified in the attached results summary.

Data completeness:

Within Criteria	Exceedance/Notes
N	No cyanide results are included in the data package, although cyanide analysis of both field samples was requested on the COC form. The Tetra Tech PM was notified and confirmed with the laboratory that cyanide was not in the scope.

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
N	Methylene chloride below the RL was found in the trip blank. No methylene chloride was found in the associated samples; therefore, no data were qualified.

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
N	**Metals by EPA Method 6020A**. The %Rs for calcium and manganese were below the lower control limit for the MS and MSD. However, the amount of calcium and manganese in the parent sample is greater than four times the amount spiked, overwhelming the spiking solution. Therefore, no qualifications were warranted.

Laboratory duplicates:

Within Criteria	Exceedance/Notes
Y	

Field duplicates:

Within Criteria	Exceedance/Notes
N	**BA-TMW1-111616 and BA-TMW1-111616D**. RPDs for barium and zinc exceeded the control criteria. Results for these analytes for both samples were qualified as estimated (flagged J).

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	Samples BA-TMW1-111616 and BA-TMW1-111616D were analyzed at a ten-fold dilution for manganese to bring it into calibration range.

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Detected results below the RL were qualified as estimated (flagged J) by the laboratory.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Bluff Avenue Site
ALS Environmental/1611189

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW1-111616	16111189-02C	Aluminum	0.015		mg/L	0.01	0.015	
BA-TMW1-111616	16111189-02C	Antimony	0.0002	J	mg/L	0.005	0.0002	J
BA-TMW1-111616	16111189-02C	Arsenic	0.0011	J	mg/L	0.005	0.0011	J
BA-TMW1-111616	16111189-02C	Barium	0.49		mg/L	0.005	0.49	J
BA-TMW1-111616	16111189-02C	Beryllium	0.00012	U	mg/L	0.002	0.002	U
BA-TMW1-111616	16111189-02C	Cadmium	0.00005	U	mg/L	0.002	0.002	U
BA-TMW1-111616	16111189-02C	Calcium	120		mg/L	0.5	120	
BA-TMW1-111616	16111189-02C	Chromium	0.00065	U	mg/L	0.005	0.005	U
BA-TMW1-111616	16111189-02C	Cobalt	0.0036	J	mg/L	0.005	0.0036	J
BA-TMW1-111616	16111189-02C	Copper	0.0013	J	mg/L	0.005	0.0013	J
BA-TMW1-111616	16111189-02C	Iron	0.029	J	mg/L	0.08	0.029	J
BA-TMW1-111616	16111189-02C	Lead	0.00033	U	mg/L	0.005	0.005	U
BA-TMW1-111616	16111189-02C	Magnesium	29		mg/L	0.2	29	
BA-TMW1-111616	16111189-02C	Manganese	4.3		mg/L	0.05	4.3	
BA-TMW1-111616	16111189-02C	Nickel	0.0082		mg/L	0.005	0.0082	
BA-TMW1-111616	16111189-02C	Potassium	0.5		mg/L	0.2	0.5	
BA-TMW1-111616	16111189-02C	Selenium	0.0009	U	mg/L	0.005	0.005	U
BA-TMW1-111616	16111189-02C	Silver	0.00005	U	mg/L	0.005	0.005	U
BA-TMW1-111616	16111189-02C	Sodium	35		mg/L	0.2	35	
BA-TMW1-111616	16111189-02C	Tin	0.00011	U	mg/L	0.002	0.002	U
BA-TMW1-111616	16111189-02C	Zinc	0.065		mg/L	0.01	0.065	J
BA-TMW1-111616	16111189-02C	Mercury	1.9E-05	U	mg/L	0.0002	0.0002	U
BA-TMW1-111616	16111189-02B	4,4´-DDD	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	4,4´-DDE	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	4,4´-DDT	0.0017	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	Aldrin	0.0015	U	ug/L	0.01	0.01	U
BA-TMW1-111616	16111189-02B	alpha-BHC	0.0025	U	ug/L	0.01	0.01	U
BA-TMW1-111616	16111189-02B	alpha-Chlordane	0.0017	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	beta-BHC	0.0044	U	ug/L	0.01	0.01	U
BA-TMW1-111616	16111189-02B	Chlordane, Technical	0.034	U	ug/L	0.5	0.5	U
BA-TMW1-111616	16111189-02B	delta-BHC	0.0015	U	ug/L	0.01	0.01	U
BA-TMW1-111616	16111189-02B	Dieldrin	0.0017	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	Endosulfan I	0.0017	U	ug/L	0.02	0.02	U

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW1-111616	16111189-02B	Endosulfan II	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	Endosulfan sulfate	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	Endrin	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	Endrin aldehyde	0.003	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	Endrin ketone	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	gamma-BHC (Lindane)	0.0012	U	ug/L	0.01	0.01	U
BA-TMW1-111616	16111189-02B	gamma-Chlordane	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616	16111189-02B	Heptachlor	0.0017	U	ug/L	0.01	0.01	U
BA-TMW1-111616	16111189-02B	Heptachlor epoxide	0.0017	U	ug/L	0.01	0.01	U
BA-TMW1-111616	16111189-02B	Methoxychlor	0.0015	U	ug/L	0.04	0.04	U
BA-TMW1-111616	16111189-02B	Toxaphene	0.11	U	ug/L	2	2	U
BA-TMW1-111616	16111189-02B	Aroclor 1016	0.069	U	ug/L	0.21	0.21	U
BA-TMW1-111616	16111189-02B	Aroclor 1221	0.069	U	ug/L	0.21	0.21	U
BA-TMW1-111616	16111189-02B	Aroclor 1232	0.069	U	ug/L	0.21	0.21	U
BA-TMW1-111616	16111189-02B	Aroclor 1242	0.069	U	ug/L	0.21	0.21	U
BA-TMW1-111616	16111189-02B	Aroclor 1248	0.069	U	ug/L	0.21	0.21	U
BA-TMW1-111616	16111189-02B	Aroclor 1254	0.027	U	ug/L	0.21	0.21	U
BA-TMW1-111616	16111189-02B	Aroclor 1260	0.027	U	ug/L	0.21	0.21	U
BA-TMW1-111616	16111189-02A	1,1,1-Trichloroethane	0.36	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	1,1,2,2-Tetrachloroethane	0.19	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	1,1,2-Trichloroethane	0.4	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	1,1-Dichloroethane	0.31	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	1,1-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	1,2-Dichloroethane	0.17	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	1,2-Dichloropropane	0.25	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	2-Butanone	0.58	U	ug/L	5	5	U
BA-TMW1-111616	16111189-02A	2-Hexanone	0.13	U	ug/L	5	5	U
BA-TMW1-111616	16111189-02A	4-Methyl-2-pentanone	0.11	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Acetone	0.92	U	ug/L	10	10	U
BA-TMW1-111616	16111189-02A	Benzene	0.3	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Bromodichloromethane	0.23	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Bromoform	0.77	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Bromomethane	0.38	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW1-111616	16111189-02A	Carbon disulfide	0.23	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Carbon tetrachloride	0.31	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Chlorobenzene	0.27	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Chloroethane	0.29	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	cis-1,2-Dichloroethene	0.25	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	cis-1,3-Dichloropropene	0.39	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Ethylbenzene	0.4	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Methyl tert-butyl ether	0.12	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Methylene chloride	0.56	U	ug/L	5	5	U
BA-TMW1-111616	16111189-02A	Styrene	0.24	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Tetrachloroethene	0.27	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Toluene	0.37	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	trans-1,2-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	trans-1,3-Dichloropropene	0.82	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Trichloroethene	0.3	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Vinyl chloride	0.2	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02A	Xylenes, Total	1.3	U	ug/L	3	3	U
BA-TMW1-111616	16111189-02B	1,2,4-Trichlorobenzene	0.41	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	1,2-Dichlorobenzene	0.39	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	1,3-Dichlorobenzene	0.65	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	1,4-Dichlorobenzene	0.32	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2,2`-Oxybis(1-chloropropane)	0.23	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2,4,5-Trichlorophenol	0.17	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2,4,6-Trichlorophenol	0.25	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2,4-Dichlorophenol	0.35	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2,4-Dimethylphenol	0.36	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2,4-Dinitrophenol	0.4	U	ug/L	5	5	U
BA-TMW1-111616	16111189-02B	2,4-Dinitrotoluene	0.42	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2,6-Dinitrotoluene	0.33	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2-Chloronaphthalene	0.075	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	2-Chlorophenol	0.23	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2-Methylnaphthalene	0.065	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	2-Methylphenol	0.25	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW1-111616	16111189-02B	2-Nitroaniline	0.21	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	2-Nitrophenol	0.34	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	3&4-Methylphenol	0.21	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	3,3´-Dichlorobenzidine	1.6	U	ug/L	5	5	U
BA-TMW1-111616	16111189-02B	3-Nitroaniline	0.64	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	4,6-Dinitro-2-methylphenol	0.27	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	4-Bromophenyl phenyl ether	0.33	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	4-Chloro-3-methylphenol	0.26	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	4-Chloroaniline	0.34	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	4-Chlorophenyl phenyl ether	0.31	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	4-Nitroaniline	0.57	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	4-Nitrophenol	0.24	U	ug/L	5	5	U
BA-TMW1-111616	16111189-02B	Acenaphthene	0.081	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Acenaphthylene	0.075	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Anthracene	0.028	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Benzo(a)anthracene	0.022	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Benzo(a)pyrene	0.044	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Benzo(b)fluoranthene	0.051	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Benzo(g,h,i)perylene	0.03	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Benzo(k)fluoranthene	0.048	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Bis(2-chloroethoxy)methane	0.29	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Bis(2-chloroethyl)ether	0.37	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Bis(2-ethylhexyl)phthalate	0.4	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Butyl benzyl phthalate	0.3	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Carbazole	0.1	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Chrysene	0.048	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Dibenzo(a,h)anthracene	0.03	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Dibenzofuran	0.23	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Diethyl phthalate	0.17	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Dimethyl phthalate	0.18	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Di-n-butyl phthalate	0.21	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Di-n-octyl phthalate	0.15	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Fluoranthene	0.038	U	ug/L	0.1	0.1	U

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW1-111616	16111189-02B	Fluorene	0.051	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Hexachlorobenzene	0.44	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Hexachlorobutadiene	0.28	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Hexachlorocyclopentadiene	1.1	U	ug/L	5	5	U
BA-TMW1-111616	16111189-02B	Hexachloroethane	0.21	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Indeno(1,2,3-cd)pyrene	0.067	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Isophorone	0.34	U	ug/L	5	5	U
BA-TMW1-111616	16111189-02B	Naphthalene	0.067	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Nitrobenzene	0.26	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	N-Nitrosodi-n-propylamine	0.35	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	N-Nitrosodiphenylamine	0.23	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Pentachlorophenol	0.97	U	ug/L	5	5	U
BA-TMW1-111616	16111189-02B	Phenanthrene	0.03	U	ug/L	0.1	0.1	U
BA-TMW1-111616	16111189-02B	Phenol	0.21	U	ug/L	1	1	U
BA-TMW1-111616	16111189-02B	Pyrene	0.036	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03C	Aluminum	0.015		mg/L	0.01	0.015	
BA-TMW1-111616D	16111189-03C	Antimony	0.0025	J	mg/L	0.005	0.0025	J
BA-TMW1-111616D	16111189-03C	Arsenic	0.0013	J	mg/L	0.005	0.0013	J
BA-TMW1-111616D	16111189-03C	Barium	0.86		mg/L	0.005	0.86	J
BA-TMW1-111616D	16111189-03C	Beryllium	0.00012	U	mg/L	0.002	0.002	U
BA-TMW1-111616D	16111189-03C	Cadmium	6.5E-05	J	mg/L	0.002	0.000065	J
BA-TMW1-111616D	16111189-03C	Calcium	120		mg/L	0.5	120	
BA-TMW1-111616D	16111189-03C	Chromium	0.00065	U	mg/L	0.005	0.005	U
BA-TMW1-111616D	16111189-03C	Cobalt	0.0036	J	mg/L	0.005	0.0036	J
BA-TMW1-111616D	16111189-03C	Copper	0.0016	J	mg/L	0.005	0.0016	J
BA-TMW1-111616D	16111189-03C	Iron	0.024	J	mg/L	0.08	0.024	J
BA-TMW1-111616D	16111189-03C	Lead	0.00033	U	mg/L	0.005	0.005	U
BA-TMW1-111616D	16111189-03C	Magnesium	29		mg/L	0.2	29	
BA-TMW1-111616D	16111189-03C	Manganese	4.6		mg/L	0.05	4.6	
BA-TMW1-111616D	16111189-03C	Nickel	0.0086		mg/L	0.005	0.0086	
BA-TMW1-111616D	16111189-03C	Potassium	0.71		mg/L	0.2	0.71	
BA-TMW1-111616D	16111189-03C	Selenium	0.0009	U	mg/L	0.005	0.005	U
BA-TMW1-111616D	16111189-03C	Silver	7.3E-05	J	mg/L	0.005	0.000073	J

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW1-111616D	16111189-03C	Sodium	38		mg/L	0.2	38	
BA-TMW1-111616D	16111189-03C	Tin	0.00011	U	mg/L	0.002	0.002	U
BA-TMW1-111616D	16111189-03C	Zinc	0.23		mg/L	0.01	0.23	J
BA-TMW1-111616D	16111189-03C	Mercury	1.9E-05	U	mg/L	0.0002	0.0002	U
BA-TMW1-111616D	16111189-03B	4,4´-DDD	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	4,4´-DDE	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	4,4´-DDT	0.0017	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	Aldrin	0.0015	U	ug/L	0.01	0.01	U
BA-TMW1-111616D	16111189-03B	alpha-BHC	0.0025	U	ug/L	0.01	0.01	U
BA-TMW1-111616D	16111189-03B	alpha-Chlordane	0.0017	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	beta-BHC	0.0044	U	ug/L	0.01	0.01	U
BA-TMW1-111616D	16111189-03B	Chlordane, Technical	0.034	U	ug/L	0.5	0.5	U
BA-TMW1-111616D	16111189-03B	delta-BHC	0.0015	U	ug/L	0.01	0.01	U
BA-TMW1-111616D	16111189-03B	Dieldrin	0.0017	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	Endosulfan I	0.0017	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	Endosulfan II	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	Endosulfan sulfate	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	Endrin	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	Endrin aldehyde	0.003	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	Endrin ketone	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	gamma-BHC (Lindane)	0.0012	U	ug/L	0.01	0.01	U
BA-TMW1-111616D	16111189-03B	gamma-Chlordane	0.0012	U	ug/L	0.02	0.02	U
BA-TMW1-111616D	16111189-03B	Heptachlor	0.0017	U	ug/L	0.01	0.01	U
BA-TMW1-111616D	16111189-03B	Heptachlor epoxide	0.0017	U	ug/L	0.01	0.01	U
BA-TMW1-111616D	16111189-03B	Methoxychlor	0.0015	U	ug/L	0.04	0.04	U
BA-TMW1-111616D	16111189-03B	Toxaphene	0.11	U	ug/L	2	2	U
BA-TMW1-111616D	16111189-03B	Aroclor 1016	0.065	U	ug/L	0.2	0.2	U
BA-TMW1-111616D	16111189-03B	Aroclor 1221	0.065	U	ug/L	0.2	0.2	U
BA-TMW1-111616D	16111189-03B	Aroclor 1232	0.065	U	ug/L	0.2	0.2	U
BA-TMW1-111616D	16111189-03B	Aroclor 1242	0.065	U	ug/L	0.2	0.2	U
BA-TMW1-111616D	16111189-03B	Aroclor 1248	0.065	U	ug/L	0.2	0.2	U
BA-TMW1-111616D	16111189-03B	Aroclor 1254	0.025	U	ug/L	0.2	0.2	U
BA-TMW1-111616D	16111189-03B	Aroclor 1260	0.025	U	ug/L	0.2	0.2	U

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW1-111616D	16111189-03A	1,1,1-Trichloroethane	0.36	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	1,1,2,2-Tetrachloroethane	0.19	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	1,1,2-Trichloroethane	0.4	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	1,1-Dichloroethane	0.31	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	1,1-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	1,2-Dichloroethane	0.17	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	1,2-Dichloropropane	0.25	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	2-Butanone	0.58	U	ug/L	5	5	U
BA-TMW1-111616D	16111189-03A	2-Hexanone	0.13	U	ug/L	5	5	U
BA-TMW1-111616D	16111189-03A	4-Methyl-2-pentanone	0.11	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Acetone	0.92	U	ug/L	10	10	U
BA-TMW1-111616D	16111189-03A	Benzene	0.3	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Bromodichloromethane	0.23	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Bromoform	0.77	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Bromomethane	0.38	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Carbon disulfide	0.23	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Carbon tetrachloride	0.31	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Chlorobenzene	0.27	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Chloroethane	0.29	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	cis-1,2-Dichloroethene	0.25	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	cis-1,3-Dichloropropene	0.39	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Ethylbenzene	0.4	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Methyl tert-butyl ether	0.12	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Methylene chloride	0.56	U	ug/L	5	5	U
BA-TMW1-111616D	16111189-03A	Styrene	0.24	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Tetrachloroethene	0.27	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Toluene	0.37	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	trans-1,2-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	trans-1,3-Dichloropropene	0.82	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Trichloroethene	0.3	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Vinyl chloride	0.2	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03A	Xylenes, Total	1.3	U	ug/L	3	3	U
BA-TMW1-111616D	16111189-03B	1,2,4-Trichlorobenzene	0.41	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW1-111616D	16111189-03B	1,2-Dichlorobenzene	0.39	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	1,3-Dichlorobenzene	0.65	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	1,4-Dichlorobenzene	0.32	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2,2`-Oxybis(1-chloropropane)	0.23	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2,4,5-Trichlorophenol	0.17	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2,4,6-Trichlorophenol	0.25	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2,4-Dichlorophenol	0.35	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2,4-Dimethylphenol	0.36	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2,4-Dinitrophenol	0.4	U	ug/L	5	5	U
BA-TMW1-111616D	16111189-03B	2,4-Dinitrotoluene	0.42	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2,6-Dinitrotoluene	0.33	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2-Chloronaphthalene	0.075	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	2-Chlorophenol	0.23	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2-Methylnaphthalene	0.065	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	2-Methylphenol	0.25	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2-Nitroaniline	0.21	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	2-Nitrophenol	0.34	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	3&4-Methylphenol	0.21	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	3,3´-Dichlorobenzidine	1.6	U	ug/L	5	5	U
BA-TMW1-111616D	16111189-03B	3-Nitroaniline	0.64	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	4,6-Dinitro-2-methylphenol	0.27	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	4-Bromophenyl phenyl ether	0.33	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	4-Chloro-3-methylphenol	0.26	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	4-Chloroaniline	0.34	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	4-Chlorophenyl phenyl ether	0.31	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	4-Nitroaniline	0.57	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	4-Nitrophenol	0.24	U	ug/L	5	5	U
BA-TMW1-111616D	16111189-03B	Acenaphthene	0.081	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Acenaphthylene	0.075	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Anthracene	0.028	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Benzo(a)anthracene	0.022	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Benzo(a)pyrene	0.044	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Benzo(b)fluoranthene	0.051	U	ug/L	0.1	0.1	U

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW1-111616D	16111189-03B	Benzo(g,h,i)perylene	0.03	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Benzo(k)fluoranthene	0.048	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Bis(2-chloroethoxy)methane	0.29	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Bis(2-chloroethyl)ether	0.37	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Bis(2-ethylhexyl)phthalate	0.4	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Butyl benzyl phthalate	0.3	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Carbazole	0.1	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Chrysene	0.048	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Dibenzo(a,h)anthracene	0.03	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Dibenzofuran	0.23	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Diethyl phthalate	0.17	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Dimethyl phthalate	0.18	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Di-n-butyl phthalate	0.21	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Di-n-octyl phthalate	0.15	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Fluoranthene	0.038	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Fluorene	0.051	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Hexachlorobenzene	0.44	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Hexachlorobutadiene	0.28	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Hexachlorocyclopentadiene	1.1	U	ug/L	5	5	U
BA-TMW1-111616D	16111189-03B	Hexachloroethane	0.21	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Indeno(1,2,3-cd)pyrene	0.067	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Isophorone	0.34	U	ug/L	5	5	U
BA-TMW1-111616D	16111189-03B	Naphthalene	0.067	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Nitrobenzene	0.26	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	N-Nitrosodi-n-propylamine	0.35	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	N-Nitrosodiphenylamine	0.23	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Pentachlorophenol	0.97	U	ug/L	5	5	U
BA-TMW1-111616D	16111189-03B	Phenanthrene	0.03	U	ug/L	0.1	0.1	U
BA-TMW1-111616D	16111189-03B	Phenol	0.21	U	ug/L	1	1	U
BA-TMW1-111616D	16111189-03B	Pyrene	0.036	U	ug/L	0.1	0.1	U
Trip Blank	16111189-01A	1,1,1-Trichloroethane	0.36	U	ug/L	1	1	U
Trip Blank	16111189-01A	1,1,2,2-Tetrachloroethane	0.19	U	ug/L	1	1	U
Trip Blank	16111189-01A	1,1,2-Trichloroethane	0.4	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
Trip Blank	16111189-01A	1,1-Dichloroethane	0.31	U	ug/L	1	1	U
Trip Blank	16111189-01A	1,1-Dichloroethene	0.28	U	ug/L	1	1	U
Trip Blank	16111189-01A	1,2-Dichloroethane	0.17	U	ug/L	1	1	U
Trip Blank	16111189-01A	1,2-Dichloropropane	0.25	U	ug/L	1	1	U
Trip Blank	16111189-01A	2-Butanone	0.58	U	ug/L	5	5	U
Trip Blank	16111189-01A	2-Hexanone	0.13	U	ug/L	5	5	U
Trip Blank	16111189-01A	4-Methyl-2-pentanone	0.11	U	ug/L	1	1	U
Trip Blank	16111189-01A	Acetone	0.92	U	ug/L	10	10	U
Trip Blank	16111189-01A	Benzene	0.3	U	ug/L	1	1	U
Trip Blank	16111189-01A	Bromodichloromethane	0.23	U	ug/L	1	1	U
Trip Blank	16111189-01A	Bromoform	0.77	U	ug/L	1	1	U
Trip Blank	16111189-01A	Bromomethane	0.38	U	ug/L	1	1	U
Trip Blank	16111189-01A	Carbon disulfide	0.23	U	ug/L	1	1	U
Trip Blank	16111189-01A	Carbon tetrachloride	0.31	U	ug/L	1	1	U
Trip Blank	16111189-01A	Chlorobenzene	0.27	U	ug/L	1	1	U
Trip Blank	16111189-01A	Chloroethane	0.29	U	ug/L	1	1	U
Trip Blank	16111189-01A	cis-1,2-Dichloroethene	0.25	U	ug/L	1	1	U
Trip Blank	16111189-01A	cis-1,3-Dichloropropene	0.39	U	ug/L	1	1	U
Trip Blank	16111189-01A	Ethylbenzene	0.4	U	ug/L	1	1	U
Trip Blank	16111189-01A	Methyl tert-butyl ether	0.12	U	ug/L	1	1	U
Trip Blank	16111189-01A	Methylene chloride	0.95	J	ug/L	5	0.95	J
Trip Blank	16111189-01A	Styrene	0.24	U	ug/L	1	1	U
Trip Blank	16111189-01A	Tetrachloroethene	0.27	U	ug/L	1	1	U
Trip Blank	16111189-01A	Toluene	0.37	U	ug/L	1	1	U
Trip Blank	16111189-01A	trans-1,2-Dichloroethene	0.28	U	ug/L	1	1	U
Trip Blank	16111189-01A	trans-1,3-Dichloropropene	0.82	U	ug/L	1	1	U
Trip Blank	16111189-01A	Trichloroethene	0.3	U	ug/L	1	1	U
Trip Blank	16111189-01A	Vinyl chloride	0.2	U	ug/L	1	1	U
Trip Blank	16111189-01A	Xylenes, Total	1.3	U	ug/L	3	3	U

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Site Name	Bluff Avenue Site		**TDD No.**	0003-1607-010
Document Tracking No.	1341C			
Data Reviewer (signature and date)	Debbie Kuhl December 9, 2016		**Technical Reviewer (signature and date)**	Harry N. Ellis III 12 December 2016
Laboratory Report No.	16111216		**Laboratory**	ALS Environmental/Holland, MI
Analyses	Volatile organic compounds by EPA Method 8260B, polychlorinated biphenyls (PCB) by EPA Method 8082, organochlorine pesticides by EPA Method 8081, dissolved mercury by EPA Method 7470A, dissolved metals by EPA Method 6020A, and semivolatile organic compounds (SVOC) by EPA Method 8270D			
Samples and Matrix	Four water samples including one trip blank			
Field Duplicate Pairs	None			
Field Blanks	Trip Blank			

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014).

OVERALL EVALUATION

All results are acceptable and usable as qualified in the attached results summary.

Data completeness:

Within Criteria	Exceedance/Notes
N	No cyanide results are included in the data package, although cyanide analysis of all field samples was requested on the COC form. The Tetra Tech PM was contacted and confirmed with the laboratory that cyanide was not in the scope.

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
N	Methylene chloride was found in the trip blank at a concentration below the RL. No methylene chloride was found in the associated samples; therefore, no data were qualified.

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
N	**PCBs by EPA Methods 8082**. The %R of surrogate compound decachlorobiphenyl from sample BA-TMW4-111616 was below the lower control limit. All Aroclor results were qualified as estimated (flagged UJ) for this sample.

MS/MSD:

Within Criteria	Exceedance/Notes
NA	None of the samples in this SDG were used as MS/MSD.

Laboratory duplicates:

Within Criteria	Exceedance/Notes
Y	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	Sample BA-TMW4-111616 was analyzed at a ten-fold dilution for manganese, to bring it into calibration range.

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Detected results below the RL were qualified as estimated (flagged J) by the laboratory.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Bluff Avenue Site
ALS Environmental/16111216

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW2-111616	16111216-02C	SW6020A	Aluminum	0.01		mg/L	0.01	0.01	
BA-TMW2-111616	16111216-02C	SW6020A	Antimony	0.0027	J	mg/L	0.005	0.0027	J
BA-TMW2-111616	16111216-02C	SW6020A	Arsenic	0.00087	U	mg/L	0.005	0.005	U
BA-TMW2-111616	16111216-02C	SW6020A	Barium	0.72		mg/L	0.005	0.72	
BA-TMW2-111616	16111216-02C	SW6020A	Beryllium	0.00012	U	mg/L	0.002	0.002	U
BA-TMW2-111616	16111216-02C	SW6020A	Cadmium	0.000076	J	mg/L	0.002	0.000076	J
BA-TMW2-111616	16111216-02C	SW6020A	Calcium	110		mg/L	0.5	110	
BA-TMW2-111616	16111216-02C	SW6020A	Chromium	0.00065	U	mg/L	0.005	0.005	U
BA-TMW2-111616	16111216-02C	SW6020A	Cobalt	0.00045	J	mg/L	0.005	0.00045	J
BA-TMW2-111616	16111216-02C	SW6020A	Copper	0.0014	J	mg/L	0.005	0.0014	J
BA-TMW2-111616	16111216-02C	SW6020A	Iron	0.012	J	mg/L	0.08	0.012	J
BA-TMW2-111616	16111216-02C	SW6020A	Lead	0.00033	U	mg/L	0.005	0.005	U
BA-TMW2-111616	16111216-02C	SW6020A	Magnesium	42		mg/L	0.2	42	
BA-TMW2-111616	16111216-02C	SW6020A	Manganese	0.76		mg/L	0.005	0.76	
BA-TMW2-111616	16111216-02C	SW6020A	Nickel	0.0058		mg/L	0.005	0.0058	
BA-TMW2-111616	16111216-02C	SW6020A	Potassium	1.9		mg/L	0.2	1.9	
BA-TMW2-111616	16111216-02C	SW6020A	Selenium	0.0009	U	mg/L	0.005	0.005	U
BA-TMW2-111616	16111216-02C	SW6020A	Silver	0.000051	J	mg/L	0.005	0.000051	J
BA-TMW2-111616	16111216-02C	SW6020A	Sodium	51		mg/L	0.2	51	
BA-TMW2-111616	16111216-02C	SW6020A	Thallium	0.00016	U	mg/L	0.005	0.005	U
BA-TMW2-111616	16111216-02C	SW6020A	Vanadium	0.0016	J	mg/L	0.005	0.0016	J
BA-TMW2-111616	16111216-02C	SW6020A	Zinc	0.23		mg/L	0.01	0.23	
BA-TMW2-111616	16111216-02C	SW7470A	Mercury	0.000019	U	mg/L	0.0002	0.0002	U
BA-TMW2-111616	16111216-02B	SW8081	4,4´-DDD	0.0012	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	4,4´-DDE	0.0012	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	4,4´-DDT	0.0017	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	Aldrin	0.0015	U	ug/L	0.01	0.01	U
BA-TMW2-111616	16111216-02B	SW8081	alpha-BHC	0.0025	U	ug/L	0.01	0.01	U
BA-TMW2-111616	16111216-02B	SW8081	alpha-Chlordane	0.0017	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	beta-BHC	0.0044	U	ug/L	0.01	0.01	U
BA-TMW2-111616	16111216-02B	SW8081	Chlordane, Technical	0.034	U	ug/L	0.5	0.5	U
BA-TMW2-111616	16111216-02B	SW8081	delta-BHC	0.0015	U	ug/L	0.01	0.01	U
BA-TMW2-111616	16111216-02B	SW8081	Dieldrin	0.0017	U	ug/L	0.02	0.02	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW2-111616	16111216-02B	SW8081	Endosulfan I	0.0017	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	Endosulfan II	0.0012	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	Endosulfan sulfate	0.0012	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	Endrin	0.0012	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	Endrin aldehyde	0.003	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	Endrin ketone	0.002	J	ug/L	0.02	0.002	J
BA-TMW2-111616	16111216-02B	SW8081	gamma-BHC (Lindane)	0.0012	U	ug/L	0.01	0.01	U
BA-TMW2-111616	16111216-02B	SW8081	gamma-Chlordane	0.0012	U	ug/L	0.02	0.02	U
BA-TMW2-111616	16111216-02B	SW8081	Heptachlor	0.0017	U	ug/L	0.01	0.01	U
BA-TMW2-111616	16111216-02B	SW8081	Heptachlor epoxide	0.0017	U	ug/L	0.01	0.01	U
BA-TMW2-111616	16111216-02B	SW8081	Methoxychlor	0.0015	U	ug/L	0.04	0.04	U
BA-TMW2-111616	16111216-02B	SW8081	Toxaphene	0.11	U	ug/L	2	2	U
BA-TMW2-111616	16111216-02B	SW8082	Aroclor 1016	0.065	U	ug/L	0.2	0.2	U
BA-TMW2-111616	16111216-02B	SW8082	Aroclor 1221	0.065	U	ug/L	0.2	0.2	U
BA-TMW2-111616	16111216-02B	SW8082	Aroclor 1232	0.065	U	ug/L	0.2	0.2	U
BA-TMW2-111616	16111216-02B	SW8082	Aroclor 1242	0.065	U	ug/L	0.2	0.2	U
BA-TMW2-111616	16111216-02B	SW8082	Aroclor 1248	0.065	U	ug/L	0.2	0.2	U
BA-TMW2-111616	16111216-02B	SW8082	Aroclor 1254	0.025	U	ug/L	0.2	0.2	U
BA-TMW2-111616	16111216-02B	SW8082	Aroclor 1260	0.025	U	ug/L	0.2	0.2	U
BA-TMW2-111616	16111216-02A	SW8260B	1,1,1-Trichloroethane	0.36	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	1,1,2,2-Tetrachloroethane	0.19	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	1,1,2-Trichloroethane	0.4	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	1,1-Dichloroethane	0.31	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	1,1-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	1,2-Dichloroethane	0.17	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	1,2-Dichloropropane	0.25	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	2-Butanone	0.58	U	ug/L	5	5	U
BA-TMW2-111616	16111216-02A	SW8260B	2-Hexanone	0.13	U	ug/L	5	5	U
BA-TMW2-111616	16111216-02A	SW8260B	4-Methyl-2-pentanone	0.11	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Acetone	0.92	U	ug/L	10	10	U
BA-TMW2-111616	16111216-02A	SW8260B	Benzene	0.3	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Bromodichloromethane	0.23	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Bromoform	0.77	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW2-111616	16111216-02A	SW8260B	Bromomethane	0.38	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Carbon disulfide	0.23	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Carbon tetrachloride	0.31	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Chlorobenzene	0.27	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Chloroethane	0.29	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	cis-1,2-Dichloroethene	0.25	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	cis-1,3-Dichloropropene	0.39	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Ethylbenzene	0.4	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Methyl tert-butyl ether	0.12	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Methylene chloride	0.56	U	ug/L	5	5	U
BA-TMW2-111616	16111216-02A	SW8260B	Styrene	0.24	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Tetrachloroethene	0.27	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Toluene	0.37	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	trans-1,2-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	trans-1,3-Dichloropropene	0.82	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Trichloroethene	0.3	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Vinyl chloride	0.2	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02A	SW8260B	Xylenes, Total	1.3	U	ug/L	3	3	U
BA-TMW2-111616	16111216-02B	SW8270D	1,2,4-Trichlorobenzene	0.41	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	1,2-Dichlorobenzene	0.39	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	1,3-Dichlorobenzene	0.65	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	1,4-Dichlorobenzene	0.32	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2,2`-Oxybis(1-chloropropane)	0.23	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2,4,5-Trichlorophenol	0.17	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2,4,6-Trichlorophenol	0.25	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2,4-Dichlorophenol	0.35	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2,4-Dimethylphenol	0.36	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2,4-Dinitrophenol	0.4	U	ug/L	5	5	U
BA-TMW2-111616	16111216-02B	SW8270D	2,4-Dinitrotoluene	0.42	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2,6-Dinitrotoluene	0.33	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2-Chloronaphthalene	0.075	U	ug/L	0.1	0.1	U
BA-TMW2-111616	16111216-02B	SW8270D	2-Chlorophenol	0.23	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2-Methylnaphthalene	0.065	U	ug/L	0.1	0.1	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW2-111616	16111216-02B	SW8270D	2-Methylphenol	0.25	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2-Nitroaniline	0.21	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	2-Nitrophenol	0.34	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	3&4-Methylphenol	0.21	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	3,3´-Dichlorobenzidine	1.6	U	ug/L	5	5	U
BA-TMW2-111616	16111216-02B	SW8270D	3-Nitroaniline	0.64	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	4,6-Dinitro-2-methylphenol	0.27	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	4-Bromophenyl phenyl ether	0.33	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	4-Chloro-3-methylphenol	0.26	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	4-Chloroaniline	0.34	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	4-Chlorophenyl phenyl ether	0.31	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	4-Nitroaniline	0.57	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	4-Nitrophenol	0.24	U	ug/L	5	5	U
BA-TMW2-111616	16111216-02B	SW8270D	Acenaphthene	0.081	U	ug/L	0.1	0.1	U
BA-TMW2-111616	16111216-02B	SW8270D	Acenaphthylene	0.075	U	ug/L	0.1	0.1	U
BA-TMW2-111616	16111216-02B	SW8270D	Anthracene	0.028	U	ug/L	0.1	0.1	U
BA-TMW2-111616	16111216-02B	SW8270D	Benzo(a)anthracene	0.28		ug/L	0.1	0.28	
BA-TMW2-111616	16111216-02B	SW8270D	Benzo(a)pyrene	0.73		ug/L	0.1	0.73	
BA-TMW2-111616	16111216-02B	SW8270D	Benzo(b)fluoranthene	0.76		ug/L	0.1	0.76	
BA-TMW2-111616	16111216-02B	SW8270D	Benzo(g,h,i)perylene	0.33		ug/L	0.1	0.33	
BA-TMW2-111616	16111216-02B	SW8270D	Benzo(k)fluoranthene	0.33		ug/L	0.1	0.33	
BA-TMW2-111616	16111216-02B	SW8270D	Bis(2-chloroethoxy)methane	0.29	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Bis(2-chloroethyl)ether	0.37	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Bis(2-ethylhexyl)phthalate	0.86	J	ug/L	1	0.86	J
BA-TMW2-111616	16111216-02B	SW8270D	Butyl benzyl phthalate	0.3	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Carbazole	0.1	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Chrysene	0.15		ug/L	0.1	0.15	
BA-TMW2-111616	16111216-02B	SW8270D	Dibenzo(a,h)anthracene	0.03	U	ug/L	0.1	0.1	U
BA-TMW2-111616	16111216-02B	SW8270D	Dibenzofuran	0.23	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Diethyl phthalate	0.17	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Dimethyl phthalate	0.18	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Di-n-butyl phthalate	0.21	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Di-n-octyl phthalate	0.15	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW2-111616	16111216-02B	SW8270D	Fluoranthene	0.19		ug/L	0.1	0.19	
BA-TMW2-111616	16111216-02B	SW8270D	Fluorene	0.051	U	ug/L	0.1	0.1	U
BA-TMW2-111616	16111216-02B	SW8270D	Hexachlorobenzene	0.44	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Hexachlorobutadiene	0.28	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Hexachlorocyclopentadiene	1.1	U	ug/L	5	5	U
BA-TMW2-111616	16111216-02B	SW8270D	Hexachloroethane	0.21	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Indeno(1,2,3-cd)pyrene	0.98		ug/L	0.1	0.98	
BA-TMW2-111616	16111216-02B	SW8270D	Isophorone	0.34	U	ug/L	5	5	U
BA-TMW2-111616	16111216-02B	SW8270D	Naphthalene	0.067	U	ug/L	0.1	0.1	U
BA-TMW2-111616	16111216-02B	SW8270D	Nitrobenzene	0.26	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	N-Nitrosodi-n-propylamine	0.35	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	N-Nitrosodiphenylamine	0.23	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Pentachlorophenol	0.97	U	ug/L	5	5	U
BA-TMW2-111616	16111216-02B	SW8270D	Phenanthrene	0.03	U	ug/L	0.1	0.1	U
BA-TMW2-111616	16111216-02B	SW8270D	Phenol	0.21	U	ug/L	1	1	U
BA-TMW2-111616	16111216-02B	SW8270D	Pyrene	0.16		ug/L	0.1	0.16	
BA-TMW3-111616	16111216-03C	SW6020A	Aluminum	0.0042	U	mg/L	0.01	0.01	U
BA-TMW3-111616	16111216-03C	SW6020A	Antimony	0.00031	J	mg/L	0.005	0.00031	J
BA-TMW3-111616	16111216-03C	SW6020A	Arsenic	0.00087	U	mg/L	0.005	0.005	U
BA-TMW3-111616	16111216-03C	SW6020A	Barium	0.44		mg/L	0.005	0.44	
BA-TMW3-111616	16111216-03C	SW6020A	Beryllium	0.00012	U	mg/L	0.002	0.002	U
BA-TMW3-111616	16111216-03C	SW6020A	Cadmium	0.000082	J	mg/L	0.002	0.000082	J
BA-TMW3-111616	16111216-03C	SW6020A	Calcium	170		mg/L	0.5	170	
BA-TMW3-111616	16111216-03C	SW6020A	Chromium	0.00065	U	mg/L	0.005	0.005	U
BA-TMW3-111616	16111216-03C	SW6020A	Cobalt	0.00071	J	mg/L	0.005	0.00071	J
BA-TMW3-111616	16111216-03C	SW6020A	Copper	0.0023	J	mg/L	0.005	0.0023	J
BA-TMW3-111616	16111216-03C	SW6020A	Iron	0.0046	U	mg/L	0.08	0.08	U
BA-TMW3-111616	16111216-03C	SW6020A	Lead	0.00033	U	mg/L	0.005	0.005	U
BA-TMW3-111616	16111216-03C	SW6020A	Magnesium	27		mg/L	0.2	27	
BA-TMW3-111616	16111216-03C	SW6020A	Manganese	0.095		mg/L	0.005	0.095	
BA-TMW3-111616	16111216-03C	SW6020A	Nickel	0.0068		mg/L	0.005	0.0068	
BA-TMW3-111616	16111216-03C	SW6020A	Potassium	0.47		mg/L	0.2	0.47	
BA-TMW3-111616	16111216-03C	SW6020A	Selenium	0.0009	U	mg/L	0.005	0.005	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW3-111616	16111216-03C	SW6020A	Silver	0.00005	U	mg/L	0.005	0.005	U
BA-TMW3-111616	16111216-03C	SW6020A	Sodium	18		mg/L	0.2	18	
BA-TMW3-111616	16111216-03C	SW6020A	Thallium	0.00016	U	mg/L	0.005	0.005	U
BA-TMW3-111616	16111216-03C	SW6020A	Vanadium	0.0014	J	mg/L	0.005	0.0014	J
BA-TMW3-111616	16111216-03C	SW6020A	Zinc	0.3		mg/L	0.01	0.3	
BA-TMW3-111616	16111216-03C	SW7470A	Mercury	0.000019	U	mg/L	0.0002	0.0002	U
BA-TMW3-111616	16111216-03B	SW8081	4,4´-DDD	0.0012	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	4,4´-DDE	0.0012	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	4,4´-DDT	0.0017	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	Aldrin	0.0015	U	ug/L	0.01	0.01	U
BA-TMW3-111616	16111216-03B	SW8081	alpha-BHC	0.0025	U	ug/L	0.01	0.01	U
BA-TMW3-111616	16111216-03B	SW8081	alpha-Chlordane	0.0017	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	beta-BHC	0.0044	U	ug/L	0.01	0.01	U
BA-TMW3-111616	16111216-03B	SW8081	Chlordane, Technical	0.034	U	ug/L	0.5	0.5	U
BA-TMW3-111616	16111216-03B	SW8081	delta-BHC	0.0015	U	ug/L	0.01	0.01	U
BA-TMW3-111616	16111216-03B	SW8081	Dieldrin	0.0017	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	Endosulfan I	0.0017	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	Endosulfan II	0.0012	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	Endosulfan sulfate	0.0012	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	Endrin	0.0012	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	Endrin aldehyde	0.003	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	Endrin ketone	0.0012	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	gamma-BHC (Lindane)	0.0012	U	ug/L	0.01	0.01	U
BA-TMW3-111616	16111216-03B	SW8081	gamma-Chlordane	0.0012	U	ug/L	0.02	0.02	U
BA-TMW3-111616	16111216-03B	SW8081	Heptachlor	0.0017	U	ug/L	0.01	0.01	U
BA-TMW3-111616	16111216-03B	SW8081	Heptachlor epoxide	0.0017	U	ug/L	0.01	0.01	U
BA-TMW3-111616	16111216-03B	SW8081	Methoxychlor	0.0015	U	ug/L	0.04	0.04	U
BA-TMW3-111616	16111216-03B	SW8081	Toxaphene	0.11	U	ug/L	2	2	U
BA-TMW3-111616	16111216-03B	SW8082	Aroclor 1016	0.065	U	ug/L	0.2	0.2	U
BA-TMW3-111616	16111216-03B	SW8082	Aroclor 1221	0.065	U	ug/L	0.2	0.2	U
BA-TMW3-111616	16111216-03B	SW8082	Aroclor 1232	0.065	U	ug/L	0.2	0.2	U
BA-TMW3-111616	16111216-03B	SW8082	Aroclor 1242	0.065	U	ug/L	0.2	0.2	U
BA-TMW3-111616	16111216-03B	SW8082	Aroclor 1248	0.065	U	ug/L	0.2	0.2	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW3-111616	16111216-03B	SW8082	Aroclor 1254	0.025	U	ug/L	0.2	0.2	U
BA-TMW3-111616	16111216-03B	SW8082	Aroclor 1260	0.025	U	ug/L	0.2	0.2	U
BA-TMW3-111616	16111216-03A	SW8260B	1,1,1-Trichloroethane	0.36	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	1,1,2,2-Tetrachloroethane	0.19	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	1,1,2-Trichloroethane	0.4	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	1,1-Dichloroethane	0.31	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	1,1-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	1,2-Dichloroethane	0.17	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	1,2-Dichloropropane	0.25	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	2-Butanone	0.58	U	ug/L	5	5	U
BA-TMW3-111616	16111216-03A	SW8260B	2-Hexanone	0.13	U	ug/L	5	5	U
BA-TMW3-111616	16111216-03A	SW8260B	4-Methyl-2-pentanone	0.11	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Acetone	0.92	U	ug/L	10	10	U
BA-TMW3-111616	16111216-03A	SW8260B	Benzene	0.3	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Bromodichloromethane	0.23	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Bromoform	0.77	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Bromomethane	0.38	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Carbon disulfide	0.23	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Carbon tetrachloride	0.31	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Chlorobenzene	0.27	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Chloroethane	0.29	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	cis-1,2-Dichloroethene	0.25	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	cis-1,3-Dichloropropene	0.39	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Ethylbenzene	0.4	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Methyl tert-butyl ether	0.12	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Methylene chloride	0.56	U	ug/L	5	5	U
BA-TMW3-111616	16111216-03A	SW8260B	Styrene	0.24	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Tetrachloroethene	0.27	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Toluene	0.37	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	trans-1,2-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	trans-1,3-Dichloropropene	0.82	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Trichloroethene	0.3	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03A	SW8260B	Vinyl chloride	0.2	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW3-111616	16111216-03A	SW8260B	Xylenes, Total	1.3	U	ug/L	3	3	U
BA-TMW3-111616	16111216-03B	SW8270D	1,2,4-Trichlorobenzene	0.41	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	1,2-Dichlorobenzene	0.39	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	1,3-Dichlorobenzene	0.65	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	1,4-Dichlorobenzene	0.32	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2,2`-Oxybis(1-chloropropane)	0.23	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2,4,5-Trichlorophenol	0.17	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2,4,6-Trichlorophenol	0.25	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2,4-Dichlorophenol	0.35	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2,4-Dimethylphenol	0.36	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2,4-Dinitrophenol	0.4	U	ug/L	5	5	U
BA-TMW3-111616	16111216-03B	SW8270D	2,4-Dinitrotoluene	0.42	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2,6-Dinitrotoluene	0.33	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2-Chloronaphthalene	0.075	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	2-Chlorophenol	0.23	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2-Methylnaphthalene	0.065	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	2-Methylphenol	0.25	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2-Nitroaniline	0.21	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	2-Nitrophenol	0.34	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	3&4-Methylphenol	0.21	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	3,3´-Dichlorobenzidine	1.6	U	ug/L	5	5	U
BA-TMW3-111616	16111216-03B	SW8270D	3-Nitroaniline	0.64	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	4,6-Dinitro-2-methylphenol	0.27	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	4-Bromophenyl phenyl ether	0.33	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	4-Chloro-3-methylphenol	0.26	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	4-Chloroaniline	0.34	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	4-Chlorophenyl phenyl ether	0.31	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	4-Nitroaniline	0.57	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	4-Nitrophenol	0.24	U	ug/L	5	5	U
BA-TMW3-111616	16111216-03B	SW8270D	Acenaphthene	0.081	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Acenaphthylene	0.075	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Anthracene	0.028	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Benzo(a)anthracene	0.022	U	ug/L	0.1	0.1	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW3-111616	16111216-03B	SW8270D	Benzo(a)pyrene	0.044	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Benzo(b)fluoranthene	0.051	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Benzo(g,h,i)perylene	0.03	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Benzo(k)fluoranthene	0.048	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Bis(2-chloroethoxy)methane	0.29	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Bis(2-chloroethyl)ether	0.37	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Bis(2-ethylhexyl)phthalate	0.4	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Butyl benzyl phthalate	0.3	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Carbazole	0.1	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Chrysene	0.048	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Dibenzo(a,h)anthracene	0.03	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Dibenzofuran	0.23	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Diethyl phthalate	0.17	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Dimethyl phthalate	0.18	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Di-n-butyl phthalate	0.21	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Di-n-octyl phthalate	0.15	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Fluoranthene	0.038	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Fluorene	0.051	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Hexachlorobenzene	0.44	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Hexachlorobutadiene	0.28	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Hexachlorocyclopentadiene	1.1	U	ug/L	5	5	U
BA-TMW3-111616	16111216-03B	SW8270D	Hexachloroethane	0.21	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Indeno(1,2,3-cd)pyrene	0.067	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Isophorone	0.34	U	ug/L	5	5	U
BA-TMW3-111616	16111216-03B	SW8270D	Naphthalene	0.067	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Nitrobenzene	0.26	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	N-Nitrosodi-n-propylamine	0.35	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	N-Nitrosodiphenylamine	0.23	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Pentachlorophenol	0.97	U	ug/L	5	5	U
BA-TMW3-111616	16111216-03B	SW8270D	Phenanthrene	0.03	U	ug/L	0.1	0.1	U
BA-TMW3-111616	16111216-03B	SW8270D	Phenol	0.21	U	ug/L	1	1	U
BA-TMW3-111616	16111216-03B	SW8270D	Pyrene	0.036	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04C	SW6020A	Aluminum	0.78		mg/L	0.1	0.78	

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW4-111616	16111216-04C	SW6020A	Antimony	0.0028	J	mg/L	0.005	0.0028	J
BA-TMW4-111616	16111216-04C	SW6020A	Arsenic	0.0022	J	mg/L	0.005	0.0022	J
BA-TMW4-111616	16111216-04C	SW6020A	Barium	0.6		mg/L	0.005	0.6	
BA-TMW4-111616	16111216-04C	SW6020A	Beryllium	0.00017	J	mg/L	0.002	0.00017	J
BA-TMW4-111616	16111216-04C	SW6020A	Cadmium	0.00013	J	mg/L	0.002	0.00013	J
BA-TMW4-111616	16111216-04C	SW6020A	Calcium	290		mg/L	5	290	
BA-TMW4-111616	16111216-04C	SW6020A	Chromium	0.0034	J	mg/L	0.005	0.0034	J
BA-TMW4-111616	16111216-04C	SW6020A	Cobalt	0.003	J	mg/L	0.005	0.003	J
BA-TMW4-111616	16111216-04C	SW6020A	Copper	0.0065		mg/L	0.005	0.0065	
BA-TMW4-111616	16111216-04C	SW6020A	Iron	2.8		mg/L	0.08	2.8	
BA-TMW4-111616	16111216-04C	SW6020A	Lead	0.003	J	mg/L	0.005	0.003	J
BA-TMW4-111616	16111216-04C	SW6020A	Magnesium	64		mg/L	0.2	64	
BA-TMW4-111616	16111216-04C	SW6020A	Manganese	0.7		mg/L	0.005	0.7	
BA-TMW4-111616	16111216-04C	SW6020A	Nickel	0.013		mg/L	0.005	0.013	
BA-TMW4-111616	16111216-04C	SW6020A	Potassium	1.6		mg/L	0.2	1.6	
BA-TMW4-111616	16111216-04C	SW6020A	Selenium	0.0009	U	mg/L	0.005	0.005	U
BA-TMW4-111616	16111216-04C	SW6020A	Silver	0.00005	U	mg/L	0.005	0.005	U
BA-TMW4-111616	16111216-04C	SW6020A	Sodium	62		mg/L	0.2	62	
BA-TMW4-111616	16111216-04C	SW6020A	Thallium	0.00016	U	mg/L	0.005	0.005	U
BA-TMW4-111616	16111216-04C	SW6020A	Vanadium	0.0092		mg/L	0.005	0.0092	
BA-TMW4-111616	16111216-04C	SW6020A	Zinc	0.3		mg/L	0.01	0.3	
BA-TMW4-111616	16111216-04C	SW7470A	Mercury	0.000019	U	mg/L	0.0002	0.0002	U
BA-TMW4-111616	16111216-04B	SW8081	4,4´-DDD	0.0012	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	4,4´-DDE	0.0012	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	4,4´-DDT	0.0017	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	Aldrin	0.0015	U	ug/L	0.01	0.01	U
BA-TMW4-111616	16111216-04B	SW8081	alpha-BHC	0.0025	U	ug/L	0.01	0.01	U
BA-TMW4-111616	16111216-04B	SW8081	alpha-Chlordane	0.0017	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	beta-BHC	0.0044	U	ug/L	0.01	0.01	U
BA-TMW4-111616	16111216-04B	SW8081	Chlordane, Technical	0.034	U	ug/L	0.5	0.5	U
BA-TMW4-111616	16111216-04B	SW8081	delta-BHC	0.0015	U	ug/L	0.01	0.01	U
BA-TMW4-111616	16111216-04B	SW8081	Dieldrin	0.0017	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	Endosulfan I	0.0017	U	ug/L	0.02	0.02	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW4-111616	16111216-04B	SW8081	Endosulfan II	0.0012	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	Endosulfan sulfate	0.0012	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	Endrin	0.0012	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	Endrin aldehyde	0.003	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	Endrin ketone	0.0012	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	gamma-BHC (Lindane)	0.0012	U	ug/L	0.01	0.01	U
BA-TMW4-111616	16111216-04B	SW8081	gamma-Chlordane	0.0012	U	ug/L	0.02	0.02	U
BA-TMW4-111616	16111216-04B	SW8081	Heptachlor	0.0017	U	ug/L	0.01	0.01	U
BA-TMW4-111616	16111216-04B	SW8081	Heptachlor epoxide	0.0017	U	ug/L	0.01	0.01	U
BA-TMW4-111616	16111216-04B	SW8081	Methoxychlor	0.0015	U	ug/L	0.04	0.04	U
BA-TMW4-111616	16111216-04B	SW8081	Toxaphene	0.11	U	ug/L	2	2	U
BA-TMW4-111616	16111216-04B	SW8082	Aroclor 1016	0.068	U	ug/L	0.21	0.21	UJ
BA-TMW4-111616	16111216-04B	SW8082	Aroclor 1221	0.068	U	ug/L	0.21	0.21	UJ
BA-TMW4-111616	16111216-04B	SW8082	Aroclor 1232	0.068	U	ug/L	0.21	0.21	UJ
BA-TMW4-111616	16111216-04B	SW8082	Aroclor 1242	0.068	U	ug/L	0.21	0.21	UJ
BA-TMW4-111616	16111216-04B	SW8082	Aroclor 1248	0.068	U	ug/L	0.21	0.21	UJ
BA-TMW4-111616	16111216-04B	SW8082	Aroclor 1254	0.026	U	ug/L	0.21	0.21	UJ
BA-TMW4-111616	16111216-04B	SW8082	Aroclor 1260	0.026	U	ug/L	0.21	0.21	UJ
BA-TMW4-111616	16111216-04A	SW8260B	1,1,1-Trichloroethane	0.36	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	1,1,2,2-Tetrachloroethane	0.19	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	1,1,2-Trichloroethane	0.4	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	1,1-Dichloroethane	0.31	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	1,1-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	1,2-Dichloroethane	0.17	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	1,2-Dichloropropane	0.25	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	2-Butanone	0.58	U	ug/L	5	5	U
BA-TMW4-111616	16111216-04A	SW8260B	2-Hexanone	0.13	U	ug/L	5	5	U
BA-TMW4-111616	16111216-04A	SW8260B	4-Methyl-2-pentanone	0.11	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Acetone	3.4	J	ug/L	10	3.4	J
BA-TMW4-111616	16111216-04A	SW8260B	Benzene	0.3	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Bromodichloromethane	0.23	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Bromoform	0.77	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Bromomethane	0.38	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW4-111616	16111216-04A	SW8260B	Carbon disulfide	0.23	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Carbon tetrachloride	0.31	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Chlorobenzene	0.27	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Chloroethane	0.29	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	cis-1,2-Dichloroethene	0.25	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	cis-1,3-Dichloropropene	0.39	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Ethylbenzene	0.4	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Methyl tert-butyl ether	0.12	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Methylene chloride	0.56	U	ug/L	5	5	U
BA-TMW4-111616	16111216-04A	SW8260B	Styrene	0.24	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Tetrachloroethene	0.27	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Toluene	0.37	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	trans-1,2-Dichloroethene	0.28	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	trans-1,3-Dichloropropene	0.82	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Trichloroethene	0.3	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Vinyl chloride	0.2	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04A	SW8260B	Xylenes, Total	1.3	U	ug/L	3	3	U
BA-TMW4-111616	16111216-04B	SW8270D	1,2,4-Trichlorobenzene	0.41	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	1,2-Dichlorobenzene	0.39	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	1,3-Dichlorobenzene	0.65	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	1,4-Dichlorobenzene	0.32	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2,2`-Oxybis(1-chloropropane)	0.23	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2,4,5-Trichlorophenol	0.17	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2,4,6-Trichlorophenol	0.25	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2,4-Dichlorophenol	0.35	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2,4-Dimethylphenol	0.36	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2,4-Dinitrophenol	0.4	U	ug/L	5	5	U
BA-TMW4-111616	16111216-04B	SW8270D	2,4-Dinitrotoluene	0.42	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2,6-Dinitrotoluene	0.33	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2-Chloronaphthalene	0.075	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	2-Chlorophenol	0.23	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2-Methylnaphthalene	0.065	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	2-Methylphenol	0.25	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW4-111616	16111216-04B	SW8270D	2-Nitroaniline	0.21	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	2-Nitrophenol	0.34	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	3&4-Methylphenol	0.21	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	3,3´-Dichlorobenzidine	1.6	U	ug/L	5	5	U
BA-TMW4-111616	16111216-04B	SW8270D	3-Nitroaniline	0.64	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	4,6-Dinitro-2-methylphenol	0.27	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	4-Bromophenyl phenyl ether	0.33	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	4-Chloro-3-methylphenol	0.26	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	4-Chloroaniline	0.34	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	4-Chlorophenyl phenyl ether	0.31	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	4-Nitroaniline	0.57	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	4-Nitrophenol	0.24	U	ug/L	5	5	U
BA-TMW4-111616	16111216-04B	SW8270D	Acenaphthene	0.081	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Acenaphthylene	0.075	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Anthracene	0.028	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Benzo(a)anthracene	0.022	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Benzo(a)pyrene	0.044	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Benzo(b)fluoranthene	0.051	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Benzo(g,h,i)perylene	0.03	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Benzo(k)fluoranthene	0.048	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Bis(2-chloroethoxy)methane	0.29	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Bis(2-chloroethyl)ether	0.37	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Bis(2-ethylhexyl)phthalate	0.4	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Butyl benzyl phthalate	0.3	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Carbazole	0.1	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Chrysene	0.048	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Dibenzo(a,h)anthracene	0.03	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Dibenzofuran	0.23	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Diethyl phthalate	0.17	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Dimethyl phthalate	0.18	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Di-n-butyl phthalate	0.21	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Di-n-octyl phthalate	0.15	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Fluoranthene	0.038	U	ug/L	0.1	0.1	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
BA-TMW4-111616	16111216-04B	SW8270D	Fluorene	0.051	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Hexachlorobenzene	0.44	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Hexachlorobutadiene	0.28	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Hexachlorocyclopentadiene	1.1	U	ug/L	5	5	U
BA-TMW4-111616	16111216-04B	SW8270D	Hexachloroethane	0.21	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Indeno(1,2,3-cd)pyrene	0.067	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Isophorone	0.34	U	ug/L	5	5	U
BA-TMW4-111616	16111216-04B	SW8270D	Naphthalene	0.067	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Nitrobenzene	0.26	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	N-Nitrosodi-n-propylamine	0.35	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	N-Nitrosodiphenylamine	0.23	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Pentachlorophenol	0.97	U	ug/L	5	5	U
BA-TMW4-111616	16111216-04B	SW8270D	Phenanthrene	0.03	U	ug/L	0.1	0.1	U
BA-TMW4-111616	16111216-04B	SW8270D	Phenol	0.21	U	ug/L	1	1	U
BA-TMW4-111616	16111216-04B	SW8270D	Pyrene	0.036	U	ug/L	0.1	0.1	U
Trip Blank	16111216-01A	SW8260B	1,1,1-Trichloroethane	0.36	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	1,1,2,2-Tetrachloroethane	0.19	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	1,1,2-Trichloroethane	0.4	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	1,1-Dichloroethane	0.31	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	1,1-Dichloroethene	0.28	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	1,2-Dichloroethane	0.17	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	1,2-Dichloropropane	0.25	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	2-Butanone	0.58	U	ug/L	5	5	U
Trip Blank	16111216-01A	SW8260B	2-Hexanone	0.13	U	ug/L	5	5	U
Trip Blank	16111216-01A	SW8260B	4-Methyl-2-pentanone	0.11	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Acetone	0.92	U	ug/L	10	10	U
Trip Blank	16111216-01A	SW8260B	Benzene	0.3	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Bromodichloromethane	0.23	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Bromoform	0.77	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Bromomethane	0.38	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Carbon disulfide	0.23	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Carbon tetrachloride	0.31	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Chlorobenzene	0.27	U	ug/L	1	1	U

Lab_Location_ID	Lab_samp_no	Method	Analyte	Result	Lab_Qual	Units	RL	Final Result	Final Qual
Trip Blank	16111216-01A	SW8260B	Chloroethane	0.29	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	cis-1,2-Dichloroethene	0.25	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	cis-1,3-Dichloropropene	0.39	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Ethylbenzene	0.4	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Methyl tert-butyl ether	0.12	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Methylene chloride	0.77	J	ug/L	5	0.77	J
Trip Blank	16111216-01A	SW8260B	Styrene	0.24	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Tetrachloroethene	0.27	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Toluene	0.37	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	trans-1,2-Dichloroethene	0.28	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	trans-1,3-Dichloropropene	0.82	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Trichloroethene	0.3	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Vinyl chloride	0.2	U	ug/L	1	1	U
Trip Blank	16111216-01A	SW8260B	Xylenes, Total	1.3	U	ug/L	3	3	U

ATTACHMENT 1
LABORATORY ANALYTICAL REPORT

29-Nov-2016

Carol Nissen
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Bluff Avenue Site** Work Order: **16111186**

Dear Carol,

ALS Environmental received 8 samples on 17-Nov-2016 09:30 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 83.

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

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: MN: 998501

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ALS Group, USA

Date: 29-Nov-16

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Work Order: **16111186**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
16111186-01	Soil Trip Blank	Soil		11/15/2016 08:00	11/17/2016 09:30	☐
16111186-02	BA-SB01(1-3)111516	Soil		11/15/2016 10:00	11/17/2016 09:30	☐
16111186-02	BA-SB01(1-3)111516	Soil		11/15/2016 10:00	11/17/2016 09:30	☐
16111186-03	BA-SB02(1-4)111516	Soil		11/15/2016 11:30	11/17/2016 09:30	☐
16111186-03	BA-SB02(1-4)111516	Soil		11/15/2016 11:30	11/17/2016 09:30	☐
16111186-04	BA-SB02(1-4)111516D	Soil		11/15/2016 11:30	11/17/2016 09:30	☐
16111186-04	BA-SB02(1-4)111516D	Soil		11/15/2016 11:30	11/17/2016 09:30	☐
16111186-05	BA-SB03(2-4)111516	Soil		11/15/2016 12:30	11/17/2016 09:30	☐
16111186-05	BA-SB03(2-4)111516	Soil		11/15/2016 12:30	11/17/2016 09:30	☐
16111186-06	BA-SB04(1-3)111516	Soil		11/15/2016 13:30	11/17/2016 09:30	☐
16111186-06	BA-SB04(1-3)111516	Soil		11/15/2016 13:30	11/17/2016 09:30	☐
16111186-07	BA-SB05(1-3)111516	Soil		11/15/2016 14:00	11/17/2016 09:30	☐
16111186-07	BA-SB05(1-3)111516	Soil		11/15/2016 14:00	11/17/2016 09:30	☐
16111186-08	BA-SB06(2-4)111516	Soil		11/15/2016 15:00	11/17/2016 09:30	☐
16111186-08	BA-SB06(2-4)111516	Soil		11/15/2016 15:00	11/17/2016 09:30	☐

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Work Order: 16111186

Case Narrative

Samples for the above noted Work Order were received on 11/17/2016. 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 94783, Method 8260, Sample 16111186-03A MS: The MS/MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: Tetrachloroethene

No other deviations or anomalies were noted.

Extractable Organics:
Batch 94769, Method 8081, Sample 16111186-03BMSD: The MSD recovery was outside of the control limit. However, the MS recovery and the RPD between the MS and MSD was in control. No qualification is required for this analyte: 4,4'-DDT

Batch 94913, Method 8270, Sample 16111186-03B 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: Phenanthrene

Batch 94913, Method 8270, Sample 16111186-03B 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: See QC Summary

No other deviations or anomalies were noted.

Metals:
Batch 94883, Method 7471, Sample 16111186-03BMS: The MS/MSD recovery was below the

lower control limit. The corresponding result in the parent sample may be biased low for this analyte: Hg

Batch 94781, Method 6010, Sample 16111186-03BMS: The MS/MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Sb, V

Batch 94781, Method 6010, Sample 16111186-03BMS: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: Pb, Cu

Batch 94781, Method 6010, Sample 16111186-03BMS: The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Al, Ba, Ca, Fe, Mg, Mn, Zn

Batch 94781, Method 6010, Sample 16111186-03BMSD: 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: Pb, Cu, Zn

No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted. Prep Comments for VOC_5035_S, Sample 16111186-01A: Trip Blank Prep Comments for VOC_5035_S, Sample 16111186-02A: Updated (AK) Prep Comments for VOC_5035_S, Sample 16111186-03A: Updated (AK) Prep Comments for VOC_5035_S, Sample 16111186-04A: Updated (AK) Prep Comments for VOC_5035_S, Sample 16111186-05A: Updated (AK) Prep Comments for VOC_5035_S, Sample 16111186-06A: Updated (AK) Prep Comments for VOC_5035_S, Sample 16111186-07A: Updated (AK) Prep Comments for VOC_5035_S, Sample 16111186-08A: Updated (AK)

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: Soil Trip Blank
Collection Date: 11/15/2016 08:00 AM

Work Order: 16111186
Lab ID: 16111186-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260B**					Analyst: **BJB**
1,1,1-Trichloroethane	U		0.00015	0.0050	mg/Kg	1	11/22/2016 15:11
1,1,2,2-Tetrachloroethane	U		0.00012	0.0050	mg/Kg	1	11/22/2016 15:11
1,1,2-Trichloroethane	U		0.00062	0.0050	mg/Kg	1	11/22/2016 15:11
1,1-Dichloroethane	U		0.00013	0.0050	mg/Kg	1	11/22/2016 15:11
1,1-Dichloroethene	U		0.00017	0.0050	mg/Kg	1	11/22/2016 15:11
1,2-Dichloroethane	U		0.00015	0.0050	mg/Kg	1	11/22/2016 15:11
1,2-Dichloropropane	U		0.00036	0.0050	mg/Kg	1	11/22/2016 15:11
2-Butanone	U		0.00085	0.010	mg/Kg	1	11/22/2016 15:11
2-Hexanone	U		0.00067	0.0050	mg/Kg	1	11/22/2016 15:11
4-Methyl-2-pentanone	U		0.00018	0.0050	mg/Kg	1	11/22/2016 15:11
Acetone	U		0.0015	0.010	mg/Kg	1	11/22/2016 15:11
Benzene	U		0.000097	0.0050	mg/Kg	1	11/22/2016 15:11
Bromodichloromethane	U		0.00011	0.0050	mg/Kg	1	11/22/2016 15:11
Bromoform	U		0.00015	0.0050	mg/Kg	1	11/22/2016 15:11
Bromomethane	U		0.00031	0.010	mg/Kg	1	11/22/2016 15:11
Carbon disulfide	U		0.00019	0.0050	mg/Kg	1	11/22/2016 15:11
Carbon tetrachloride	U		0.00024	0.0050	mg/Kg	1	11/22/2016 15:11
Chlorobenzene	U		0.00016	0.0050	mg/Kg	1	11/22/2016 15:11
Chloroethane	U		0.00052	0.0050	mg/Kg	1	11/22/2016 15:11
Chloroform	U		0.00020	0.0050	mg/Kg	1	11/22/2016 15:11
Chloromethane	U		0.00026	0.010	mg/Kg	1	11/22/2016 15:11
cis-1,2-Dichloroethene	U		0.00012	0.0050	mg/Kg	1	11/22/2016 15:11
cis-1,3-Dichloropropene	U		0.00012	0.0050	mg/Kg	1	11/22/2016 15:11
Dibromochloromethane	U		0.00015	0.0050	mg/Kg	1	11/22/2016 15:11
Ethylbenzene	U		0.00012	0.0050	mg/Kg	1	11/22/2016 15:11
Methyl tert-butyl ether	U		0.00018	0.0050	mg/Kg	1	11/22/2016 15:11
Methylene chloride	U		0.00014	0.0050	mg/Kg	1	11/22/2016 15:11
Styrene	U		0.00030	0.0050	mg/Kg	1	11/22/2016 15:11
Tetrachloroethene	U		0.00022	0.0050	mg/Kg	1	11/22/2016 15:11
Toluene	U		0.00012	0.0050	mg/Kg	1	11/22/2016 15:11
trans-1,2-Dichloroethene	U		0.00023	0.0050	mg/Kg	1	11/22/2016 15:11
trans-1,3-Dichloropropene	U		0.00016	0.010	mg/Kg	1	11/22/2016 15:11
Trichloroethene	U		0.00019	0.0050	mg/Kg	1	11/22/2016 15:11
Vinyl chloride	U		0.00017	0.0050	mg/Kg	1	11/22/2016 15:11
Xylenes, Total	U		0.00054	0.0050	mg/Kg	1	11/22/2016 15:11
Surr: 1,2-Dichloroethane-d4	*105*			*70-120*	*%REC*	1	11/22/2016 15:11
Surr: 4-Bromofluorobenzene	*94.7*			*75-120*	*%REC*	1	11/22/2016 15:11
Surr: Dibromofluoromethane	*100*			*85-115*	*%REC*	1	11/22/2016 15:11

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: Soil Trip Blank
Collection Date: 11/15/2016 08:00 AM

Work Order: 16111186
Lab ID: 16111186-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Toluene-d8	*99.0*			*85-120*	*%REC*	1	11/22/2016 15:11

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB01(1-3)111516
Collection Date: 11/15/2016 10:00 AM

Work Order: 16111186
Lab ID: 16111186-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**					Analyst: **EB**
Aroclor 1016	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 18:51
Aroclor 1221	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 18:51
Aroclor 1232	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 18:51
Aroclor 1242	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 18:51
Aroclor 1248	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 18:51
Aroclor 1254	U		0.025	0.093	mg/Kg-dry	1	11/18/2016 18:51
Aroclor 1260	U		0.025	0.093	mg/Kg-dry	1	11/18/2016 18:51
Surr: Decachlorobiphenyl	*72.1*			*40-140*	*%REC*	1	11/18/2016 18:51
Surr: Tetrachloro-m-xylene	*83.1*			*45-124*	*%REC*	1	11/18/2016 18:51
PESTICIDES		Method: **SW8081**			Prep: SW3541 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.033	0.12	mg/Kg-dry	10	11/19/2016 02:12
4,4´-DDE	U		0.025	0.12	mg/Kg-dry	10	11/19/2016 02:12
4,4´-DDT	U		0.040	0.12	mg/Kg-dry	10	11/19/2016 02:12
Aldrin	U		0.054	0.12	mg/Kg-dry	10	11/19/2016 02:12
alpha-BHC	U		0.025	0.12	mg/Kg-dry	10	11/19/2016 02:12
alpha-Chlordane	U		0.034	0.12	mg/Kg-dry	10	11/19/2016 02:12
beta-BHC	U		0.050	0.12	mg/Kg-dry	10	11/19/2016 02:12
Chlordane, Technical	U		0.12	0.29	mg/Kg-dry	10	11/19/2016 02:12
delta-BHC	U		0.043	0.12	mg/Kg-dry	10	11/19/2016 02:12
Dieldrin	U		0.024	0.12	mg/Kg-dry	10	11/19/2016 02:12
Endosulfan I	U		0.035	0.12	mg/Kg-dry	10	11/19/2016 02:12
Endosulfan II	U		0.022	0.12	mg/Kg-dry	10	11/19/2016 02:12
Endosulfan sulfate	U		0.035	0.12	mg/Kg-dry	10	11/19/2016 02:12
Endrin	U		0.043	0.12	mg/Kg-dry	10	11/19/2016 02:12
Endrin aldehyde	U		0.031	0.12	mg/Kg-dry	10	11/19/2016 02:12
Endrin ketone	U		0.025	0.12	mg/Kg-dry	10	11/19/2016 02:12
gamma-BHC (Lindane)	U		0.028	0.12	mg/Kg-dry	10	11/19/2016 02:12
gamma-Chlordane	U		0.040	0.12	mg/Kg-dry	10	11/19/2016 02:12
Heptachlor	U		0.041	0.12	mg/Kg-dry	10	11/19/2016 02:12
Heptachlor epoxide	U		0.024	0.12	mg/Kg-dry	10	11/19/2016 02:12
Methoxychlor	U		0.047	0.12	mg/Kg-dry	10	11/19/2016 02:12
Toxaphene	U		0.13	0.70	mg/Kg-dry	10	11/19/2016 02:12
Surr: Decachlorobiphenyl	*110*			*47.5-136*	*%REC*	10	11/19/2016 02:12
Surr: Tetrachloro-m-xylene	*110*			*40.3-131*	*%REC*	10	11/19/2016 02:12
MERCURY BY CVAA		Method: **SW7471B**			Prep: SW7471 / 11/23/16		Analyst: **LR**
Mercury	**0.017**		**0.0024**	**0.015**	**mg/Kg-dry**	1	11/23/2016 17:29
METALS ANALYSIS BY ICP		Method: **SW846 6010C**			Prep: SW3050B / 11/18/16		Analyst: **RH**

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB01(1-3)111516
Collection Date: 11/15/2016 10:00 AM

Work Order: 16111186
Lab ID: 16111186-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**3,100**		**0.12**	**0.77**	**mg/Kg-dry**	1	11/18/2016 16:09
Antimony	**8.5**		**0.13**	**0.38**	**mg/Kg-dry**	1	11/18/2016 16:09
Arsenic	**3.2**		**0.10**	**0.38**	**mg/Kg-dry**	1	11/21/2016 11:08
Barium	**52**		**0.15**	**0.38**	**mg/Kg-dry**	1	11/18/2016 16:09
Beryllium	**0.057**	J	**0.012**	**0.15**	**mg/Kg-dry**	1	11/18/2016 16:09
Cadmium	**0.090**	J	**0.037**	**0.77**	**mg/Kg-dry**	1	11/18/2016 16:09
Calcium	**25,000**		**2.5**	**38**	**mg/Kg-dry**	1	11/18/2016 16:09
Chromium	**8.6**		**0.021**	**0.38**	**mg/Kg-dry**	1	11/18/2016 16:09
Cobalt	**4.3**		**0.031**	**0.38**	**mg/Kg-dry**	1	11/18/2016 16:09
Copper	**6.1**		**0.17**	**0.77**	**mg/Kg-dry**	1	11/18/2016 16:09
Iron	**8,700**		**0.46**	**6.1**	**mg/Kg-dry**	1	11/18/2016 16:09
Lead	**5.6**		**0.081**	**0.38**	**mg/Kg-dry**	1	11/18/2016 16:09
Magnesium	**11,000**		**1.4**	**15**	**mg/Kg-dry**	1	11/18/2016 16:09
Manganese	**500**		**0.023**	**0.38**	**mg/Kg-dry**	1	11/18/2016 16:09
Nickel	**9.7**		**0.15**	**0.38**	**mg/Kg-dry**	1	11/18/2016 16:09
Potassium	**640**		**2.8**	**15**	**mg/Kg-dry**	1	11/18/2016 16:09
Selenium	U		0.21	0.77	mg/Kg-dry	1	11/18/2016 16:09
Silver	U		0.048	0.38	mg/Kg-dry	1	11/18/2016 16:09
Sodium	**190**		**1.5**	**15**	**mg/Kg-dry**	1	11/18/2016 16:09
Thallium	**0.45**	J	**0.32**	**0.77**	**mg/Kg-dry**	1	11/18/2016 16:09
Vanadium	**12**		**0.040**	**0.38**	**mg/Kg-dry**	1	11/18/2016 16:09
Zinc	**26**		**0.061**	**0.77**	**mg/Kg-dry**	1	11/18/2016 16:09
SEMI-VOLATILE ORGANIC COMPOUNDS		Method:	**SW846 8270D**		Prep: SW3541 / 11/22/16		Analyst: **JF**
1,2,4-Trichlorobenzene	U		0.034	0.19	mg/Kg-dry	5	11/23/2016 06:08
1,2-Dichlorobenzene	U		0.048	0.19	mg/Kg-dry	5	11/23/2016 06:08
1,3-Dichlorobenzene	U		0.051	0.19	mg/Kg-dry	5	11/23/2016 06:08
1,4-Dichlorobenzene	U		0.051	0.19	mg/Kg-dry	5	11/23/2016 06:08
2,2`-Oxybis(1-chloropropane)	U		0.045	0.19	mg/Kg-dry	5	11/23/2016 06:08
2,4,5-Trichlorophenol	U		0.053	0.19	mg/Kg-dry	5	11/23/2016 06:08
2,4,6-Trichlorophenol	U		0.052	0.19	mg/Kg-dry	5	11/23/2016 06:08
2,4-Dichlorophenol	U		0.041	0.19	mg/Kg-dry	5	11/23/2016 06:08
2,4-Dimethylphenol	U		0.040	0.19	mg/Kg-dry	5	11/23/2016 06:08
2,4-Dinitrophenol	U		0.10	0.19	mg/Kg-dry	5	11/23/2016 06:08
2,4-Dinitrotoluene	U		0.051	0.19	mg/Kg-dry	5	11/23/2016 06:08
2,6-Dinitrotoluene	U		0.032	0.19	mg/Kg-dry	5	11/23/2016 06:08
2-Chloronaphthalene	U		0.027	0.039	mg/Kg-dry	5	11/23/2016 06:08
2-Chlorophenol	U		0.061	0.19	mg/Kg-dry	5	11/23/2016 06:08
2-Methylnaphthalene	U		0.020	0.039	mg/Kg-dry	5	11/23/2016 06:08
2-Methylphenol	U		0.052	0.19	mg/Kg-dry	5	11/23/2016 06:08

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB01(1-3)111516
Collection Date: 11/15/2016 10:00 AM

Work Order: 16111186
Lab ID: 16111186-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.044	0.19	mg/Kg-dry	5	11/23/2016 06:08
2-Nitrophenol	U		0.055	0.19	mg/Kg-dry	5	11/23/2016 06:08
3&4-Methylphenol	U		0.039	0.19	mg/Kg-dry	5	11/23/2016 06:08
3,3´-Dichlorobenzidine	U		0.029	0.97	mg/Kg-dry	5	11/23/2016 06:08
3-Nitroaniline	U		0.044	0.19	mg/Kg-dry	5	11/23/2016 06:08
4,6-Dinitro-2-methylphenol	U		0.049	0.19	mg/Kg-dry	5	11/23/2016 06:08
4-Bromophenyl phenyl ether	U		0.052	0.19	mg/Kg-dry	5	11/23/2016 06:08
4-Chloro-3-methylphenol	U		0.055	0.19	mg/Kg-dry	5	11/23/2016 06:08
4-Chloroaniline	U		0.031	0.39	mg/Kg-dry	5	11/23/2016 06:08
4-Chlorophenyl phenyl ether	U		0.054	0.19	mg/Kg-dry	5	11/23/2016 06:08
4-Nitroaniline	U		0.30	0.97	mg/Kg-dry	5	11/23/2016 06:08
4-Nitrophenol	U		0.17	0.19	mg/Kg-dry	5	11/23/2016 06:08
Acenaphthene	U		0.028	0.039	mg/Kg-dry	5	11/23/2016 06:08
Acenaphthylene	U		0.034	0.039	mg/Kg-dry	5	11/23/2016 06:08
Anthracene	U		0.027	0.039	mg/Kg-dry	5	11/23/2016 06:08
Benzo(a)anthracene	U		0.034	0.039	mg/Kg-dry	5	11/23/2016 06:08
Benzo(a)pyrene	U		0.024	0.039	mg/Kg-dry	5	11/23/2016 06:08
Benzo(b)fluoranthene	U		0.029	0.039	mg/Kg-dry	5	11/23/2016 06:08
Benzo(g,h,i)perylene	U		0.030	0.039	mg/Kg-dry	5	11/23/2016 06:08
Benzo(k)fluoranthene	U		0.029	0.039	mg/Kg-dry	5	11/23/2016 06:08
Bis(2-chloroethoxy)methane	U		0.019	0.19	mg/Kg-dry	5	11/23/2016 06:08
Bis(2-chloroethyl)ether	U		0.055	0.19	mg/Kg-dry	5	11/23/2016 06:08
Bis(2-ethylhexyl)phthalate	U		0.034	0.19	mg/Kg-dry	5	11/23/2016 06:08
Butyl benzyl phthalate	U		0.033	0.19	mg/Kg-dry	5	11/23/2016 06:08
Carbazole	U		0.021	0.19	mg/Kg-dry	5	11/23/2016 06:08
Chrysene	U		0.031	0.039	mg/Kg-dry	5	11/23/2016 06:08
Dibenzo(a,h)anthracene	U		0.021	0.039	mg/Kg-dry	5	11/23/2016 06:08
Dibenzofuran	U		0.029	0.19	mg/Kg-dry	5	11/23/2016 06:08
Diethyl phthalate	U		0.030	0.19	mg/Kg-dry	5	11/23/2016 06:08
Dimethyl phthalate	U		0.038	0.19	mg/Kg-dry	5	11/23/2016 06:08
Di-n-butyl phthalate	U		0.036	0.19	mg/Kg-dry	5	11/23/2016 06:08
Di-n-octyl phthalate	U		0.037	0.19	mg/Kg-dry	5	11/23/2016 06:08
Fluoranthene	U		0.019	0.039	mg/Kg-dry	5	11/23/2016 06:08
Fluorene	U		0.028	0.039	mg/Kg-dry	5	11/23/2016 06:08
Hexachlorobenzene	U		0.056	0.19	mg/Kg-dry	5	11/23/2016 06:08
Hexachlorobutadiene	U		0.11	0.19	mg/Kg-dry	5	11/23/2016 06:08
Hexachlorocyclopentadiene	U		0.066	0.19	mg/Kg-dry	5	11/23/2016 06:08
Hexachloroethane	U		0.080	0.19	mg/Kg-dry	5	11/23/2016 06:08
Indeno(1,2,3-cd)pyrene	U		0.027	0.039	mg/Kg-dry	5	11/23/2016 06:08
Isophorone	U		0.038	0.97	mg/Kg-dry	5	11/23/2016 06:08

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB01(1-3)111516
Collection Date: 11/15/2016 10:00 AM

Work Order: 16111186
Lab ID: 16111186-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.025	0.039	mg/Kg-dry	5	11/23/2016 06:08
Nitrobenzene	U		0.065	0.97	mg/Kg-dry	5	11/23/2016 06:08
N-Nitrosodi-n-propylamine	U		0.032	0.19	mg/Kg-dry	5	11/23/2016 06:08
N-Nitrosodiphenylamine	U		0.019	0.19	mg/Kg-dry	5	11/23/2016 06:08
Pentachlorophenol	U		0.072	0.19	mg/Kg-dry	5	11/23/2016 06:08
Phenanthrene	U		0.018	0.039	mg/Kg-dry	5	11/23/2016 06:08
Phenol	U		0.048	0.19	mg/Kg-dry	5	11/23/2016 06:08
Pyrene	**0.039**		**0.0070**	**0.039**	**mg/Kg-dry**	5	11/23/2016 06:08
Surr: 2,4,6-Tribromophenol	*72.8*			*34-140*	*%REC*	5	11/23/2016 06:08
Surr: 2-Fluorobiphenyl	*94.3*			*12-100*	*%REC*	5	11/23/2016 06:08
Surr: 2-Fluorophenol	*81.4*			*33-117*	*%REC*	5	11/23/2016 06:08
Surr: 4-Terphenyl-d14	*92.1*			*25-137*	*%REC*	5	11/23/2016 06:08
Surr: Nitrobenzene-d5	*64.4*			*37-107*	*%REC*	5	11/23/2016 06:08
Surr: Phenol-d6	*74.9*			*40-106*	*%REC*	5	11/23/2016 06:08
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**		Prep: SW5035 / 11/18/16		Analyst: **EMR**
1,1,1-Trichloroethane	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 20:48
1,1,2,2-Tetrachloroethane	U		0.0098	0.041	mg/Kg-dry	1	11/20/2016 20:48
1,1,2-Trichloroethane	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 20:48
1,1-Dichloroethane	U		0.010	0.041	mg/Kg-dry	1	11/20/2016 20:48
1,1-Dichloroethene	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:48
1,2-Dichloroethane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:48
1,2-Dichloropropane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:48
2-Butanone	U		0.055	0.27	mg/Kg-dry	1	11/20/2016 20:48
2-Hexanone	U		0.027	0.041	mg/Kg-dry	1	11/20/2016 20:48
4-Methyl-2-pentanone	U		0.030	0.041	mg/Kg-dry	1	11/20/2016 20:48
Acetone	U		0.074	0.14	mg/Kg-dry	1	11/20/2016 20:48
Benzene	U		0.0092	0.041	mg/Kg-dry	1	11/20/2016 20:48
Bromodichloromethane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:48
Bromoform	U		0.014	0.041	mg/Kg-dry	1	11/20/2016 20:48
Bromomethane	U		0.018	0.10	mg/Kg-dry	1	11/20/2016 20:48
Carbon disulfide	U		0.014	0.041	mg/Kg-dry	1	11/20/2016 20:48
Carbon tetrachloride	U		0.0072	0.041	mg/Kg-dry	1	11/20/2016 20:48
Chlorobenzene	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 20:48
Chloroethane	U		0.026	0.14	mg/Kg-dry	1	11/20/2016 20:48
Chloroform	U		0.014	0.041	mg/Kg-dry	1	11/20/2016 20:48
cis-1,2-Dichloroethene	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:48
cis-1,3-Dichloropropene	U		0.016	0.041	mg/Kg-dry	1	11/20/2016 20:48
Dibromochloromethane	U		0.0093	0.041	mg/Kg-dry	1	11/20/2016 20:48
Ethylbenzene	U		0.0095	0.041	mg/Kg-dry	1	11/20/2016 20:48

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB01(1-3)111516
Collection Date: 11/15/2016 10:00 AM

Work Order: 16111186
Lab ID: 16111186-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		0.013	0.041	mg/Kg-dry	1	11/20/2016 20:48
Methylene chloride	U		0.019	0.041	mg/Kg-dry	1	11/20/2016 20:48
Styrene	U		0.029	0.041	mg/Kg-dry	1	11/20/2016 20:48
Tetrachloroethene	U		0.020	0.041	mg/Kg-dry	1	11/20/2016 20:48
Toluene	U		0.013	0.041	mg/Kg-dry	1	11/20/2016 20:48
trans-1,2-Dichloroethene	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:48
trans-1,3-Dichloropropene	U		0.0073	0.041	mg/Kg-dry	1	11/20/2016 20:48
Trichloroethene	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:48
Vinyl chloride	U		0.013	0.041	mg/Kg-dry	1	11/20/2016 20:48
Xylenes, Total	U		0.031	0.12	mg/Kg-dry	1	11/20/2016 20:48
Surr: 1,2-Dichloroethane-d4	*96.2*			*70-130*	*%REC*	1	11/20/2016 20:48
Surr: 4-Bromofluorobenzene	*101*			*70-130*	*%REC*	1	11/20/2016 20:48
Surr: Dibromofluoromethane	*90.2*			*70-130*	*%REC*	1	11/20/2016 20:48
Surr: Toluene-d8	*101*			*70-130*	*%REC*	1	11/20/2016 20:48
CYANIDE, TOTAL			Method: **SW9012B**		Prep: SW9012B / 11/28/16		Analyst: **JB**
Cyanide, Total	**0.049**	J	**0.013**	**0.58**	**mg/Kg-dry**	1	11/28/2016 15:11
MOISTURE			Method: **SW3550C**				Analyst: **EDL**
Moisture	**15**		**0.025**	**0.050**	**% of sample**	1	11/18/2016 13:34

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**				Analyst: **EB**
Aroclor 1016	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 17:05
Aroclor 1221	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 17:05
Aroclor 1232	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 17:05
Aroclor 1242	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 17:05
Aroclor 1248	U		0.015	0.093	mg/Kg-dry	1	11/18/2016 17:05
Aroclor 1254	**0.13**		**0.025**	**0.093**	**mg/Kg-dry**	1	11/18/2016 17:05
Aroclor 1260	**0.065**	J	**0.025**	**0.093**	**mg/Kg-dry**	1	11/18/2016 17:05
Surr: Decachlorobiphenyl	*86.1*			*40-140*	*%REC*	1	11/18/2016 17:05
Surr: Tetrachloro-m-xylene	*89.1*			*45-124*	*%REC*	1	11/18/2016 17:05
PESTICIDES		Method:	**SW8081**		Prep: SW3541 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.016	0.057	mg/Kg-dry	5	11/18/2016 23:50
4,4´-DDE	U		0.012	0.057	mg/Kg-dry	5	11/18/2016 23:50
4,4´-DDT	U		0.020	0.057	mg/Kg-dry	5	11/18/2016 23:50
Aldrin	U		0.026	0.057	mg/Kg-dry	5	11/18/2016 23:50
alpha-BHC	U		0.012	0.057	mg/Kg-dry	5	11/18/2016 23:50
alpha-Chlordane	U		0.016	0.057	mg/Kg-dry	5	11/18/2016 23:50
beta-BHC	U		0.024	0.057	mg/Kg-dry	5	11/18/2016 23:50
Chlordane, Technical	U		0.057	0.14	mg/Kg-dry	5	11/18/2016 23:50
delta-BHC	U		0.021	0.057	mg/Kg-dry	5	11/18/2016 23:50
Dieldrin	U		0.012	0.057	mg/Kg-dry	5	11/18/2016 23:50
Endosulfan I	U		0.017	0.057	mg/Kg-dry	5	11/18/2016 23:50
Endosulfan II	U		0.011	0.057	mg/Kg-dry	5	11/18/2016 23:50
Endosulfan sulfate	U		0.017	0.057	mg/Kg-dry	5	11/18/2016 23:50
Endrin	U		0.021	0.057	mg/Kg-dry	5	11/18/2016 23:50
Endrin aldehyde	U		0.015	0.057	mg/Kg-dry	5	11/18/2016 23:50
Endrin ketone	U		0.012	0.057	mg/Kg-dry	5	11/18/2016 23:50
gamma-BHC (Lindane)	U		0.014	0.057	mg/Kg-dry	5	11/18/2016 23:50
gamma-Chlordane	U		0.019	0.057	mg/Kg-dry	5	11/18/2016 23:50
Heptachlor	U		0.020	0.057	mg/Kg-dry	5	11/18/2016 23:50
Heptachlor epoxide	U		0.012	0.057	mg/Kg-dry	5	11/18/2016 23:50
Methoxychlor	U		0.023	0.057	mg/Kg-dry	5	11/18/2016 23:50
Toxaphene	U		0.062	0.34	mg/Kg-dry	5	11/18/2016 23:50
Surr: Decachlorobiphenyl	*115*			*47.5-136*	*%REC*	5	11/18/2016 23:50
Surr: Tetrachloro-m-xylene	*110*			*40.3-131*	*%REC*	5	11/18/2016 23:50
MERCURY BY CVAA		Method:	**SW7471B**		Prep: SW7471 / 11/23/16		Analyst: **LR**
Mercury	**0.28**		**0.0050**	**0.030**	**mg/Kg-dry**	2	11/23/2016 18:56
METALS ANALYSIS BY ICP		Method:	**SW846 6010C**		Prep: SW3050B / 11/18/16		Analyst: **RH**

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**3,300**		**0.13**	**0.81**	**mg/Kg-dry**	1	11/18/2016 16:15
Antimony	**9.2**		**0.14**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Arsenic	**7.6**		**0.10**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Barium	**87**		**0.16**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Beryllium	**0.079**	J	**0.013**	**0.16**	**mg/Kg-dry**	1	11/18/2016 16:15
Cadmium	**0.44**	J	**0.039**	**0.81**	**mg/Kg-dry**	1	11/18/2016 16:15
Calcium	**19,000**		**2.6**	**40**	**mg/Kg-dry**	1	11/18/2016 16:15
Chromium	**9.3**		**0.023**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Cobalt	**4.4**		**0.032**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Copper	**15**		**0.18**	**0.81**	**mg/Kg-dry**	1	11/18/2016 16:15
Iron	**8,400**		**0.48**	**6.5**	**mg/Kg-dry**	1	11/18/2016 16:15
Lead	**32**		**0.086**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Magnesium	**8,000**		**1.4**	**16**	**mg/Kg-dry**	1	11/18/2016 16:15
Manganese	**380**		**0.024**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Nickel	**10**		**0.16**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Potassium	**680**		**2.9**	**16**	**mg/Kg-dry**	1	11/18/2016 16:15
Selenium	U		0.23	0.81	mg/Kg-dry	1	11/18/2016 16:15
Silver	**1.0**		**0.050**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Sodium	**79**		**1.6**	**16**	**mg/Kg-dry**	1	11/18/2016 16:15
Thallium	U		0.34	0.81	mg/Kg-dry	1	11/18/2016 16:15
Vanadium	**13**		**0.042**	**0.40**	**mg/Kg-dry**	1	11/18/2016 16:15
Zinc	**100**		**0.065**	**0.81**	**mg/Kg-dry**	1	11/18/2016 16:15
SEMI-VOLATILE ORGANIC COMPOUNDS		Method:	**SW846 8270D**		Prep: SW3541 / 11/22/16		Analyst: **JF**
1,2,4-Trichlorobenzene	U		0.0062	0.036	mg/Kg-dry	1	11/22/2016 21:22
1,2-Dichlorobenzene	U		0.0090	0.036	mg/Kg-dry	1	11/22/2016 21:22
1,3-Dichlorobenzene	U		0.0095	0.036	mg/Kg-dry	1	11/22/2016 21:22
1,4-Dichlorobenzene	U		0.0095	0.036	mg/Kg-dry	1	11/22/2016 21:22
2,2`-Oxybis(1-chloropropane)	U		0.0084	0.036	mg/Kg-dry	1	11/22/2016 21:22
2,4,5-Trichlorophenol	U		0.0098	0.036	mg/Kg-dry	1	11/22/2016 21:22
2,4,6-Trichlorophenol	U		0.0096	0.036	mg/Kg-dry	1	11/22/2016 21:22
2,4-Dichlorophenol	U		0.0076	0.036	mg/Kg-dry	1	11/22/2016 21:22
2,4-Dimethylphenol	U		0.0074	0.036	mg/Kg-dry	1	11/22/2016 21:22
2,4-Dinitrophenol	U		0.019	0.036	mg/Kg-dry	1	11/22/2016 21:22
2,4-Dinitrotoluene	U		0.0094	0.036	mg/Kg-dry	1	11/22/2016 21:22
2,6-Dinitrotoluene	U		0.0059	0.036	mg/Kg-dry	1	11/22/2016 21:22
2-Chloronaphthalene	U		0.0050	0.0072	mg/Kg-dry	1	11/22/2016 21:22
2-Chlorophenol	U		0.011	0.036	mg/Kg-dry	1	11/22/2016 21:22
2-Methylnaphthalene	**0.0043**	J	**0.0037**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
2-Methylphenol	U		0.0097	0.036	mg/Kg-dry	1	11/22/2016 21:22

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.0083	0.036	mg/Kg-dry	1	11/22/2016 21:22
2-Nitrophenol	U		0.010	0.036	mg/Kg-dry	1	11/22/2016 21:22
3&4-Methylphenol	U		0.0072	0.036	mg/Kg-dry	1	11/22/2016 21:22
3,3´-Dichlorobenzidine	U		0.0054	0.18	mg/Kg-dry	1	11/22/2016 21:22
3-Nitroaniline	U		0.0083	0.036	mg/Kg-dry	1	11/22/2016 21:22
4,6-Dinitro-2-methylphenol	U		0.0091	0.036	mg/Kg-dry	1	11/22/2016 21:22
4-Bromophenyl phenyl ether	U		0.0097	0.036	mg/Kg-dry	1	11/22/2016 21:22
4-Chloro-3-methylphenol	U		0.010	0.036	mg/Kg-dry	1	11/22/2016 21:22
4-Chloroaniline	U		0.0057	0.072	mg/Kg-dry	1	11/22/2016 21:22
4-Chlorophenyl phenyl ether	U		0.010	0.036	mg/Kg-dry	1	11/22/2016 21:22
4-Nitroaniline	U		0.056	0.18	mg/Kg-dry	1	11/22/2016 21:22
4-Nitrophenol	U		0.032	0.036	mg/Kg-dry	1	11/22/2016 21:22
Acenaphthene	U		0.0052	0.0072	mg/Kg-dry	1	11/22/2016 21:22
Acenaphthylene	U		0.0063	0.0072	mg/Kg-dry	1	11/22/2016 21:22
Anthracene	**0.017**		**0.0051**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Benzo(a)anthracene	**0.091**		**0.0062**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Benzo(a)pyrene	**0.15**		**0.0044**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Benzo(b)fluoranthene	**0.21**		**0.0054**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Benzo(g,h,i)perylene	**0.11**		**0.0055**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Benzo(k)fluoranthene	**0.072**		**0.0055**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Bis(2-chloroethoxy)methane	U		0.0035	0.036	mg/Kg-dry	1	11/22/2016 21:22
Bis(2-chloroethyl)ether	U		0.010	0.036	mg/Kg-dry	1	11/22/2016 21:22
Bis(2-ethylhexyl)phthalate	**0.079**		**0.0063**	**0.036**	**mg/Kg-dry**	1	11/22/2016 21:22
Butyl benzyl phthalate	U		0.0061	0.036	mg/Kg-dry	1	11/22/2016 21:22
Carbazole	**0.016**	J	**0.0039**	**0.036**	**mg/Kg-dry**	1	11/22/2016 21:22
Chrysene	**0.14**		**0.0058**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Dibenzo(a,h)anthracene	**0.043**		**0.0039**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Dibenzofuran	**0.0065**	J	**0.0053**	**0.036**	**mg/Kg-dry**	1	11/22/2016 21:22
Diethyl phthalate	U		0.0055	0.036	mg/Kg-dry	1	11/22/2016 21:22
Dimethyl phthalate	U		0.0070	0.036	mg/Kg-dry	1	11/22/2016 21:22
Di-n-butyl phthalate	**0.010**	J	**0.0066**	**0.036**	**mg/Kg-dry**	1	11/22/2016 21:22
Di-n-octyl phthalate	**0.10**		**0.0069**	**0.036**	**mg/Kg-dry**	1	11/22/2016 21:22
Fluoranthene	**0.23**		**0.0035**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Fluorene	**0.0065**	J	**0.0052**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Hexachlorobenzene	U		0.010	0.036	mg/Kg-dry	1	11/22/2016 21:22
Hexachlorobutadiene	U		0.020	0.036	mg/Kg-dry	1	11/22/2016 21:22
Hexachlorocyclopentadiene	U		0.012	0.036	mg/Kg-dry	1	11/22/2016 21:22
Hexachloroethane	U		0.015	0.036	mg/Kg-dry	1	11/22/2016 21:22
Indeno(1,2,3-cd)pyrene	**0.17**		**0.0050**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Isophorone	U		0.0070	0.18	mg/Kg-dry	1	11/22/2016 21:22

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.0046	0.0072	mg/Kg-dry	1	11/22/2016 21:22
Nitrobenzene	U		0.012	0.18	mg/Kg-dry	1	11/22/2016 21:22
N-Nitrosodi-n-propylamine	U		0.0059	0.036	mg/Kg-dry	1	11/22/2016 21:22
N-Nitrosodiphenylamine	U		0.0035	0.036	mg/Kg-dry	1	11/22/2016 21:22
Pentachlorophenol	U		0.013	0.036	mg/Kg-dry	1	11/22/2016 21:22
Phenanthrene	**0.14**		**0.0034**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Phenol	U		0.0090	0.036	mg/Kg-dry	1	11/22/2016 21:22
Pyrene	**0.24**		**0.0013**	**0.0072**	**mg/Kg-dry**	1	11/22/2016 21:22
Surr: 2,4,6-Tribromophenol	*84.3*			*34-140*	*%REC*	1	11/22/2016 21:22
Surr: 2-Fluorobiphenyl	*83.9*			*12-100*	*%REC*	1	11/22/2016 21:22
Surr: 2-Fluorophenol	*75.9*			*33-117*	*%REC*	1	11/22/2016 21:22
Surr: 4-Terphenyl-d14	*109*			*25-137*	*%REC*	1	11/22/2016 21:22
Surr: Nitrobenzene-d5	*62.7*			*37-107*	*%REC*	1	11/22/2016 21:22
Surr: Phenol-d6	*73.2*			*40-106*	*%REC*	1	11/22/2016 21:22
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**		Prep: SW5035 / 11/18/16		Analyst: **LSY**
1,1,1-Trichloroethane	U		0.011	0.038	mg/Kg-dry	1	11/19/2016 11:08
1,1,2,2-Tetrachloroethane	U		0.0092	0.038	mg/Kg-dry	1	11/19/2016 11:08
1,1,2-Trichloroethane	U		0.011	0.038	mg/Kg-dry	1	11/19/2016 11:08
1,1-Dichloroethane	U		0.0097	0.038	mg/Kg-dry	1	11/19/2016 11:08
1,1-Dichloroethene	U		0.010	0.038	mg/Kg-dry	1	11/19/2016 11:08
1,2-Dichloroethane	U		0.010	0.038	mg/Kg-dry	1	11/19/2016 11:08
1,2-Dichloropropane	U		0.011	0.038	mg/Kg-dry	1	11/19/2016 11:08
2-Butanone	U		0.051	0.25	mg/Kg-dry	1	11/19/2016 11:08
2-Hexanone	U		0.025	0.038	mg/Kg-dry	1	11/19/2016 11:08
4-Methyl-2-pentanone	U		0.028	0.038	mg/Kg-dry	1	11/19/2016 11:08
Acetone	U		0.069	0.13	mg/Kg-dry	1	11/19/2016 11:08
Benzene	U		0.0086	0.038	mg/Kg-dry	1	11/19/2016 11:08
Bromodichloromethane	U		0.010	0.038	mg/Kg-dry	1	11/19/2016 11:08
Bromoform	U		0.014	0.038	mg/Kg-dry	1	11/19/2016 11:08
Bromomethane	U		0.017	0.095	mg/Kg-dry	1	11/19/2016 11:08
Carbon disulfide	U		0.013	0.038	mg/Kg-dry	1	11/19/2016 11:08
Carbon tetrachloride	U		0.0068	0.038	mg/Kg-dry	1	11/19/2016 11:08
Chlorobenzene	U		0.011	0.038	mg/Kg-dry	1	11/19/2016 11:08
Chloroethane	U		0.024	0.13	mg/Kg-dry	1	11/19/2016 11:08
Chloroform	U		0.013	0.038	mg/Kg-dry	1	11/19/2016 11:08
cis-1,2-Dichloroethene	U		0.011	0.038	mg/Kg-dry	1	11/19/2016 11:08
cis-1,3-Dichloropropene	U		0.015	0.038	mg/Kg-dry	1	11/19/2016 11:08
Dibromochloromethane	U		0.0087	0.038	mg/Kg-dry	1	11/19/2016 11:08
Ethylbenzene	U		0.0089	0.038	mg/Kg-dry	1	11/19/2016 11:08

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		0.012	0.038	mg/Kg-dry	1	11/19/2016 11:08
Methylene chloride	U		0.017	0.038	mg/Kg-dry	1	11/19/2016 11:08
Styrene	U		0.027	0.038	mg/Kg-dry	1	11/19/2016 11:08
Tetrachloroethene	U		0.019	0.038	mg/Kg-dry	1	11/19/2016 11:08
Toluene	U		0.013	0.038	mg/Kg-dry	1	11/19/2016 11:08
trans-1,2-Dichloroethene	U		0.011	0.038	mg/Kg-dry	1	11/19/2016 11:08
trans-1,3-Dichloropropene	U		0.0068	0.038	mg/Kg-dry	1	11/19/2016 11:08
Trichloroethene	U		0.010	0.038	mg/Kg-dry	1	11/19/2016 11:08
Vinyl chloride	U		0.012	0.038	mg/Kg-dry	1	11/19/2016 11:08
Xylenes, Total	U		0.030	0.11	mg/Kg-dry	1	11/19/2016 11:08
Surr: 1,2-Dichloroethane-d4	*95.8*			*70-130*	*%REC*	1	11/19/2016 11:08
Surr: 4-Bromofluorobenzene	*91.4*			*70-130*	*%REC*	1	11/19/2016 11:08
Surr: Dibromofluoromethane	*97.2*			*70-130*	*%REC*	1	11/19/2016 11:08
Surr: Toluene-d8	*98.0*			*70-130*	*%REC*	1	11/19/2016 11:08
CYANIDE, TOTAL			Method: **SW9012B**		Prep: SW9012B / 11/28/16		Analyst: **JB**
Cyanide, Total	**0.033**	J	**0.013**	**0.58**	**mg/Kg-dry**	1	11/28/2016 15:11
MOISTURE			Method: **SW3550C**				Analyst: **EDL**
Moisture	**12**		**0.025**	**0.050**	**% of sample**	1	11/18/2016 13:34

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516D
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**				Analyst: **EB**
Aroclor 1016	U		0.016	0.094	mg/Kg-dry	1	11/18/2016 19:08
Aroclor 1221	U		0.016	0.094	mg/Kg-dry	1	11/18/2016 19:08
Aroclor 1232	U		0.016	0.094	mg/Kg-dry	1	11/18/2016 19:08
Aroclor 1242	U		0.016	0.094	mg/Kg-dry	1	11/18/2016 19:08
Aroclor 1248	U		0.016	0.094	mg/Kg-dry	1	11/18/2016 19:08
Aroclor 1254	**0.090**	J	**0.026**	**0.094**	**mg/Kg-dry**	1	11/18/2016 19:08
Aroclor 1260	**0.041**	J	**0.026**	**0.094**	**mg/Kg-dry**	1	11/18/2016 19:08
Surr: Decachlorobiphenyl	*77.1*			*40-140*	*%REC*	1	11/18/2016 19:08
Surr: Tetrachloro-m-xylene	*81.1*			*45-124*	*%REC*	1	11/18/2016 19:08
PESTICIDES		Method:	**SW8081**		Prep: SW3541 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.016	0.057	mg/Kg-dry	5	11/19/2016 03:41
4,4´-DDE	U		0.012	0.057	mg/Kg-dry	5	11/19/2016 03:41
4,4´-DDT	U		0.020	0.057	mg/Kg-dry	5	11/19/2016 03:41
Aldrin	U		0.026	0.057	mg/Kg-dry	5	11/19/2016 03:41
alpha-BHC	U		0.012	0.057	mg/Kg-dry	5	11/19/2016 03:41
alpha-Chlordane	U		0.016	0.057	mg/Kg-dry	5	11/19/2016 03:41
beta-BHC	U		0.024	0.057	mg/Kg-dry	5	11/19/2016 03:41
Chlordane, Technical	U		0.057	0.14	mg/Kg-dry	5	11/19/2016 03:41
delta-BHC	U		0.021	0.057	mg/Kg-dry	5	11/19/2016 03:41
Dieldrin	U		0.012	0.057	mg/Kg-dry	5	11/19/2016 03:41
Endosulfan I	U		0.017	0.057	mg/Kg-dry	5	11/19/2016 03:41
Endosulfan II	U		0.011	0.057	mg/Kg-dry	5	11/19/2016 03:41
Endosulfan sulfate	U		0.017	0.057	mg/Kg-dry	5	11/19/2016 03:41
Endrin	U		0.021	0.057	mg/Kg-dry	5	11/19/2016 03:41
Endrin aldehyde	U		0.015	0.057	mg/Kg-dry	5	11/19/2016 03:41
Endrin ketone	U		0.012	0.057	mg/Kg-dry	5	11/19/2016 03:41
gamma-BHC (Lindane)	U		0.014	0.057	mg/Kg-dry	5	11/19/2016 03:41
gamma-Chlordane	U		0.019	0.057	mg/Kg-dry	5	11/19/2016 03:41
Heptachlor	U		0.020	0.057	mg/Kg-dry	5	11/19/2016 03:41
Heptachlor epoxide	U		0.012	0.057	mg/Kg-dry	5	11/19/2016 03:41
Methoxychlor	U		0.023	0.057	mg/Kg-dry	5	11/19/2016 03:41
Toxaphene	U		0.062	0.34	mg/Kg-dry	5	11/19/2016 03:41
Surr: Decachlorobiphenyl	*120*			*47.5-136*	*%REC*	5	11/19/2016 03:41
Surr: Tetrachloro-m-xylene	*120*			*40.3-131*	*%REC*	5	11/19/2016 03:41
MERCURY BY CVAA		Method:	**SW7471B**		Prep: SW7471 / 11/23/16		Analyst: **LR**
Mercury	**0.18**		**0.0025**	**0.015**	**mg/Kg-dry**	1	11/23/2016 17:39
METALS ANALYSIS BY ICP		Method:	**SW846 6010C**		Prep: SW3050B / 11/18/16		Analyst: **RH**

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516D
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**3,300**		**0.13**	**0.83**	**mg/Kg-dry**	1	11/18/2016 16:31
Antimony	**9.8**		**0.14**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Arsenic	**6.5**		**0.11**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Barium	**74**		**0.17**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Beryllium	**0.072**	J	**0.013**	**0.17**	**mg/Kg-dry**	1	11/18/2016 16:31
Cadmium	**0.37**	J	**0.040**	**0.83**	**mg/Kg-dry**	1	11/18/2016 16:31
Calcium	**21,000**		**2.7**	**42**	**mg/Kg-dry**	1	11/18/2016 16:31
Chromium	**9.9**		**0.023**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Cobalt	**4.3**		**0.033**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Copper	**13**		**0.18**	**0.83**	**mg/Kg-dry**	1	11/18/2016 16:31
Iron	**8,800**		**0.50**	**6.7**	**mg/Kg-dry**	1	11/18/2016 16:31
Lead	**26**		**0.089**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Magnesium	**8,900**		**1.5**	**17**	**mg/Kg-dry**	1	11/18/2016 16:31
Manganese	**360**		**0.025**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Nickel	**9.9**		**0.17**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Potassium	**710**		**3.0**	**17**	**mg/Kg-dry**	1	11/18/2016 16:31
Selenium	U		0.23	0.83	mg/Kg-dry	1	11/18/2016 16:31
Silver	**0.77**		**0.052**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Sodium	**86**		**1.7**	**17**	**mg/Kg-dry**	1	11/18/2016 16:31
Thallium	U		0.35	0.83	mg/Kg-dry	1	11/18/2016 16:31
Vanadium	**14**		**0.043**	**0.42**	**mg/Kg-dry**	1	11/18/2016 16:31
Zinc	**82**		**0.067**	**0.83**	**mg/Kg-dry**	1	11/18/2016 16:31
SEMI-VOLATILE ORGANIC COMPOUNDS			Method: **SW846 8270D**		Prep: SW3541 / 11/22/16		Analyst: **RS**
1,2,4-Trichlorobenzene	U		0.0065	0.037	mg/Kg-dry	1	11/22/2016 23:03
1,2-Dichlorobenzene	U		0.0094	0.037	mg/Kg-dry	1	11/22/2016 23:03
1,3-Dichlorobenzene	U		0.0099	0.037	mg/Kg-dry	1	11/22/2016 23:03
1,4-Dichlorobenzene	U		0.0099	0.037	mg/Kg-dry	1	11/22/2016 23:03
2,2`-Oxybis(1-chloropropane)	U		0.0088	0.037	mg/Kg-dry	1	11/22/2016 23:03
2,4,5-Trichlorophenol	U		0.010	0.037	mg/Kg-dry	1	11/22/2016 23:03
2,4,6-Trichlorophenol	U		0.010	0.037	mg/Kg-dry	1	11/22/2016 23:03
2,4-Dichlorophenol	U		0.0079	0.037	mg/Kg-dry	1	11/22/2016 23:03
2,4-Dimethylphenol	U		0.0077	0.037	mg/Kg-dry	1	11/22/2016 23:03
2,4-Dinitrophenol	U		0.020	0.037	mg/Kg-dry	1	11/22/2016 23:03
2,4-Dinitrotoluene	U		0.0098	0.037	mg/Kg-dry	1	11/22/2016 23:03
2,6-Dinitrotoluene	U		0.0062	0.037	mg/Kg-dry	1	11/22/2016 23:03
2-Chloronaphthalene	U		0.0053	0.0075	mg/Kg-dry	1	11/22/2016 23:03
2-Chlorophenol	U		0.012	0.037	mg/Kg-dry	1	11/22/2016 23:03
2-Methylnaphthalene	U		0.0038	0.0075	mg/Kg-dry	1	11/22/2016 23:03
2-Methylphenol	U		0.010	0.037	mg/Kg-dry	1	11/22/2016 23:03

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516D
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.0086	0.037	mg/Kg-dry	1	11/22/2016 23:03
2-Nitrophenol	U		0.011	0.037	mg/Kg-dry	1	11/22/2016 23:03
3&4-Methylphenol	**0.11**		**0.0076**	**0.037**	**mg/Kg-dry**	1	11/22/2016 23:03
3,3´-Dichlorobenzidine	U		0.0056	0.19	mg/Kg-dry	1	11/22/2016 23:03
3-Nitroaniline	U		0.0086	0.037	mg/Kg-dry	1	11/22/2016 23:03
4,6-Dinitro-2-methylphenol	U		0.0095	0.037	mg/Kg-dry	1	11/22/2016 23:03
4-Bromophenyl phenyl ether	U		0.010	0.037	mg/Kg-dry	1	11/22/2016 23:03
4-Chloro-3-methylphenol	U		0.011	0.037	mg/Kg-dry	1	11/22/2016 23:03
4-Chloroaniline	U		0.0060	0.076	mg/Kg-dry	1	11/22/2016 23:03
4-Chlorophenyl phenyl ether	U		0.010	0.037	mg/Kg-dry	1	11/22/2016 23:03
4-Nitroaniline	U		0.058	0.19	mg/Kg-dry	1	11/22/2016 23:03
4-Nitrophenol	U		0.034	0.037	mg/Kg-dry	1	11/22/2016 23:03
Acenaphthene	U		0.0054	0.0075	mg/Kg-dry	1	11/22/2016 23:03
Acenaphthylene	**0.023**		**0.0065**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Anthracene	**0.013**		**0.0053**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Benzo(a)anthracene	**0.075**		**0.0065**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Benzo(a)pyrene	**0.091**		**0.0046**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Benzo(b)fluoranthene	**0.17**		**0.0056**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Benzo(g,h,i)perylene	**0.084**		**0.0058**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Benzo(k)fluoranthene	**0.059**		**0.0057**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Bis(2-chloroethoxy)methane	U		0.0036	0.037	mg/Kg-dry	1	11/22/2016 23:03
Bis(2-chloroethyl)ether	U		0.011	0.037	mg/Kg-dry	1	11/22/2016 23:03
Bis(2-ethylhexyl)phthalate	U		0.0065	0.037	mg/Kg-dry	1	11/22/2016 23:03
Butyl benzyl phthalate	U		0.0064	0.037	mg/Kg-dry	1	11/22/2016 23:03
Carbazole	U		0.0041	0.037	mg/Kg-dry	1	11/22/2016 23:03
Chrysene	**0.14**		**0.0061**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Dibenzo(a,h)anthracene	**0.029**		**0.0041**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Dibenzofuran	U		0.0055	0.037	mg/Kg-dry	1	11/22/2016 23:03
Diethyl phthalate	U		0.0058	0.037	mg/Kg-dry	1	11/22/2016 23:03
Dimethyl phthalate	U		0.0073	0.037	mg/Kg-dry	1	11/22/2016 23:03
Di-n-butyl phthalate	U		0.0069	0.037	mg/Kg-dry	1	11/22/2016 23:03
Di-n-octyl phthalate	U		0.0072	0.037	mg/Kg-dry	1	11/22/2016 23:03
Fluoranthene	**0.16**		**0.0036**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Fluorene	U		0.0055	0.0075	mg/Kg-dry	1	11/22/2016 23:03
Hexachlorobenzene	U		0.011	0.037	mg/Kg-dry	1	11/22/2016 23:03
Hexachlorobutadiene	U		0.020	0.037	mg/Kg-dry	1	11/22/2016 23:03
Hexachlorocyclopentadiene	U		0.013	0.037	mg/Kg-dry	1	11/22/2016 23:03
Hexachloroethane	U		0.016	0.037	mg/Kg-dry	1	11/22/2016 23:03
Indeno(1,2,3-cd)pyrene	**0.10**		**0.0052**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Isophorone	U		0.0074	0.19	mg/Kg-dry	1	11/22/2016 23:03

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516D
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.0048	0.0075	mg/Kg-dry	1	11/22/2016 23:03
Nitrobenzene	U		0.013	0.19	mg/Kg-dry	1	11/22/2016 23:03
N-Nitrosodi-n-propylamine	U		0.0062	0.037	mg/Kg-dry	1	11/22/2016 23:03
N-Nitrosodiphenylamine	U		0.0036	0.037	mg/Kg-dry	1	11/22/2016 23:03
Pentachlorophenol	U		0.014	0.037	mg/Kg-dry	1	11/22/2016 23:03
Phenanthrene	**0.11**		**0.0035**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Phenol	U		0.0094	0.037	mg/Kg-dry	1	11/22/2016 23:03
Pyrene	**0.24**		**0.0014**	**0.0075**	**mg/Kg-dry**	1	11/22/2016 23:03
Surr: 2,4,6-Tribromophenol	*73.7*			*34-140*	*%REC*	1	11/22/2016 23:03
Surr: 2-Fluorobiphenyl	*69.0*			*12-100*	*%REC*	1	11/22/2016 23:03
Surr: 2-Fluorophenol	*41.4*			*33-117*	*%REC*	1	11/22/2016 23:03
Surr: 4-Terphenyl-d14	*100*			*25-137*	*%REC*	1	11/22/2016 23:03
Surr: Nitrobenzene-d5	*32.6*	S		*37-107*	*%REC*	1	11/22/2016 23:03
Surr: Phenol-d6	*45.6*			*40-106*	*%REC*	1	11/22/2016 23:03
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**		Prep: SW5035 / 11/18/16		Analyst: **EMR**
1,1,1-Trichloroethane	U		0.011	0.039	mg/Kg-dry	1	11/20/2016 21:09
1,1,2,2-Tetrachloroethane	U		0.0094	0.039	mg/Kg-dry	1	11/20/2016 21:09
1,1,2-Trichloroethane	U		0.012	0.039	mg/Kg-dry	1	11/20/2016 21:09
1,1-Dichloroethane	U		0.0099	0.039	mg/Kg-dry	1	11/20/2016 21:09
1,1-Dichloroethene	U		0.010	0.039	mg/Kg-dry	1	11/20/2016 21:09
1,2-Dichloroethane	U		0.011	0.039	mg/Kg-dry	1	11/20/2016 21:09
1,2-Dichloropropane	U		0.011	0.039	mg/Kg-dry	1	11/20/2016 21:09
2-Butanone	U		0.052	0.26	mg/Kg-dry	1	11/20/2016 21:09
2-Hexanone	U		0.026	0.039	mg/Kg-dry	1	11/20/2016 21:09
4-Methyl-2-pentanone	U		0.028	0.039	mg/Kg-dry	1	11/20/2016 21:09
Acetone	U		0.071	0.13	mg/Kg-dry	1	11/20/2016 21:09
Benzene	U		0.0088	0.039	mg/Kg-dry	1	11/20/2016 21:09
Bromodichloromethane	U		0.010	0.039	mg/Kg-dry	1	11/20/2016 21:09
Bromoform	U		0.014	0.039	mg/Kg-dry	1	11/20/2016 21:09
Bromomethane	U		0.017	0.097	mg/Kg-dry	1	11/20/2016 21:09
Carbon disulfide	U		0.013	0.039	mg/Kg-dry	1	11/20/2016 21:09
Carbon tetrachloride	U		0.0069	0.039	mg/Kg-dry	1	11/20/2016 21:09
Chlorobenzene	U		0.012	0.039	mg/Kg-dry	1	11/20/2016 21:09
Chloroethane	U		0.025	0.13	mg/Kg-dry	1	11/20/2016 21:09
Chloroform	U		0.013	0.039	mg/Kg-dry	1	11/20/2016 21:09
cis-1,2-Dichloroethene	U		0.011	0.039	mg/Kg-dry	1	11/20/2016 21:09
cis-1,3-Dichloropropene	U		0.015	0.039	mg/Kg-dry	1	11/20/2016 21:09
Dibromochloromethane	U		0.0089	0.039	mg/Kg-dry	1	11/20/2016 21:09
Ethylbenzene	U		0.0091	0.039	mg/Kg-dry	1	11/20/2016 21:09

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB02(1-4)111516D
Collection Date: 11/15/2016 11:30 AM

Work Order: 16111186
Lab ID: 16111186-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		0.013	0.039	mg/Kg-dry	1	11/20/2016 21:09
Methylene chloride	U		0.018	0.039	mg/Kg-dry	1	11/20/2016 21:09
Styrene	U		0.027	0.039	mg/Kg-dry	1	11/20/2016 21:09
Tetrachloroethene	U		0.019	0.039	mg/Kg-dry	1	11/20/2016 21:09
Toluene	U		0.013	0.039	mg/Kg-dry	1	11/20/2016 21:09
trans-1,2-Dichloroethene	U		0.011	0.039	mg/Kg-dry	1	11/20/2016 21:09
trans-1,3-Dichloropropene	U		0.0070	0.039	mg/Kg-dry	1	11/20/2016 21:09
Trichloroethene	U		0.010	0.039	mg/Kg-dry	1	11/20/2016 21:09
Vinyl chloride	U		0.012	0.039	mg/Kg-dry	1	11/20/2016 21:09
Xylenes, Total	U		0.030	0.12	mg/Kg-dry	1	11/20/2016 21:09
Surr: 1,2-Dichloroethane-d4	*96.8*			*70-130*	*%REC*	1	11/20/2016 21:09
Surr: 4-Bromofluorobenzene	*100*			*70-130*	*%REC*	1	11/20/2016 21:09
Surr: Dibromofluoromethane	*91.0*			*70-130*	*%REC*	1	11/20/2016 21:09
Surr: Toluene-d8	*101*			*70-130*	*%REC*	1	11/20/2016 21:09
CYANIDE, TOTAL			Method: **SW9012B**		Prep: SW9012B / 11/28/16		Analyst: **JB**
Cyanide, Total	**0.037**	J	**0.013**	**0.57**	**mg/Kg-dry**	1	11/28/2016 15:11
MOISTURE			Method: **SW3550C**				Analyst: **EDL**
Moisture	**13**		**0.025**	**0.050**	**% of sample**	1	11/18/2016 13:34

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB03(2-4)111516
Collection Date: 11/15/2016 12:30 PM

Work Order: 16111186
Lab ID: 16111186-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**				Analyst: **EB**
Aroclor 1016	U		0.017	0.10	mg/Kg-dry	1	11/18/2016 20:01
Aroclor 1221	U		0.017	0.10	mg/Kg-dry	1	11/18/2016 20:01
Aroclor 1232	U		0.017	0.10	mg/Kg-dry	1	11/18/2016 20:01
Aroclor 1242	U		0.017	0.10	mg/Kg-dry	1	11/18/2016 20:01
Aroclor 1248	U		0.017	0.10	mg/Kg-dry	1	11/18/2016 20:01
Aroclor 1254	U		0.028	0.10	mg/Kg-dry	1	11/18/2016 20:01
Aroclor 1260	U		0.028	0.10	mg/Kg-dry	1	11/18/2016 20:01
Surr: Decachlorobiphenyl	*93.1*			*40-140*	*%REC*	1	11/18/2016 20:01
Surr: Tetrachloro-m-xylene	*91.1*			*45-124*	*%REC*	1	11/18/2016 20:01
PESTICIDES		Method:	**SW8081**		Prep: SW3541 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.0035	0.012	mg/Kg-dry	1	11/19/2016 03:59
4,4´-DDE	U		0.0027	0.012	mg/Kg-dry	1	11/19/2016 03:59
4,4´-DDT	U		0.0043	0.012	mg/Kg-dry	1	11/19/2016 03:59
Aldrin	U		0.0056	0.012	mg/Kg-dry	1	11/19/2016 03:59
alpha-BHC	U		0.0026	0.012	mg/Kg-dry	1	11/19/2016 03:59
alpha-Chlordane	U		0.0035	0.012	mg/Kg-dry	1	11/19/2016 03:59
beta-BHC	U		0.0053	0.012	mg/Kg-dry	1	11/19/2016 03:59
Chlordane, Technical	U		0.012	0.031	mg/Kg-dry	1	11/19/2016 03:59
delta-BHC	U		0.0045	0.012	mg/Kg-dry	1	11/19/2016 03:59
Dieldrin	U		0.0026	0.012	mg/Kg-dry	1	11/19/2016 03:59
Endosulfan I	U		0.0037	0.012	mg/Kg-dry	1	11/19/2016 03:59
Endosulfan II	U		0.0023	0.012	mg/Kg-dry	1	11/19/2016 03:59
Endosulfan sulfate	U		0.0037	0.012	mg/Kg-dry	1	11/19/2016 03:59
Endrin	U		0.0045	0.012	mg/Kg-dry	1	11/19/2016 03:59
Endrin aldehyde	U		0.0032	0.012	mg/Kg-dry	1	11/19/2016 03:59
Endrin ketone	U		0.0027	0.012	mg/Kg-dry	1	11/19/2016 03:59
gamma-BHC (Lindane)	U		0.0030	0.012	mg/Kg-dry	1	11/19/2016 03:59
gamma-Chlordane	U		0.0042	0.012	mg/Kg-dry	1	11/19/2016 03:59
Heptachlor	U		0.0043	0.012	mg/Kg-dry	1	11/19/2016 03:59
Heptachlor epoxide	U		0.0026	0.012	mg/Kg-dry	1	11/19/2016 03:59
Methoxychlor	U		0.0050	0.012	mg/Kg-dry	1	11/19/2016 03:59
Toxaphene	U		0.013	0.074	mg/Kg-dry	1	11/19/2016 03:59
Surr: Decachlorobiphenyl	*101*			*47.5-136*	*%REC*	1	11/19/2016 03:59
Surr: Tetrachloro-m-xylene	*118*			*40.3-131*	*%REC*	1	11/19/2016 03:59
MERCURY BY CVAA		Method:	**SW7471B**		Prep: SW7471 / 11/23/16		Analyst: **LR**
Mercury	**0.014**	J	**0.0029**	**0.017**	**mg/Kg-dry**	1	11/23/2016 17:42
METALS ANALYSIS BY ICP		Method:	**SW846 6010C**		Prep: SW3050B / 11/18/16		Analyst: **RH**

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB03(2-4)111516
Collection Date: 11/15/2016 12:30 PM

Work Order: 16111186
Lab ID: 16111186-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**2,700**		**0.15**	**0.98**	**mg/Kg-dry**	1	11/18/2016 16:37
Antimony	**7.3**		**0.17**	**0.49**	**mg/Kg-dry**	1	11/18/2016 16:37
Arsenic	**2.5**		**0.13**	**0.49**	**mg/Kg-dry**	1	11/21/2016 11:13
Barium	**42**		**0.20**	**0.49**	**mg/Kg-dry**	1	11/18/2016 16:37
Beryllium	**0.058**	J	**0.016**	**0.20**	**mg/Kg-dry**	1	11/18/2016 16:37
Cadmium	**0.079**	J	**0.047**	**0.98**	**mg/Kg-dry**	1	11/18/2016 16:37
Calcium	**21,000**		**3.2**	**49**	**mg/Kg-dry**	1	11/18/2016 16:37
Chromium	**7.3**		**0.028**	**0.49**	**mg/Kg-dry**	1	11/18/2016 16:37
Cobalt	**4.1**		**0.039**	**0.49**	**mg/Kg-dry**	1	11/18/2016 16:37
Copper	**4.6**		**0.22**	**0.98**	**mg/Kg-dry**	1	11/18/2016 16:37
Iron	**6,900**		**0.59**	**7.9**	**mg/Kg-dry**	1	11/18/2016 16:37
Lead	**3.3**		**0.10**	**0.49**	**mg/Kg-dry**	1	11/18/2016 16:37
Magnesium	**9,000**		**1.8**	**20**	**mg/Kg-dry**	1	11/18/2016 16:37
Manganese	**330**		**0.030**	**0.49**	**mg/Kg-dry**	1	11/18/2016 16:37
Nickel	**8.6**		**0.20**	**0.49**	**mg/Kg-dry**	1	11/18/2016 16:37
Potassium	**510**		**3.6**	**20**	**mg/Kg-dry**	1	11/18/2016 16:37
Selenium	U		0.28	0.98	mg/Kg-dry	1	11/18/2016 16:37
Silver	U		0.061	0.49	mg/Kg-dry	1	11/18/2016 16:37
Sodium	**93**		**2.0**	**20**	**mg/Kg-dry**	1	11/18/2016 16:37
Thallium	U		0.41	0.98	mg/Kg-dry	1	11/18/2016 16:37
Vanadium	**12**		**0.051**	**0.49**	**mg/Kg-dry**	1	11/18/2016 16:37
Zinc	**21**		**0.079**	**0.98**	**mg/Kg-dry**	1	11/18/2016 16:37
SEMI-VOLATILE ORGANIC COMPOUNDS			Method: **SW846 8270D**		Prep: SW3541 / 11/22/16		Analyst: **RS**
1,2,4-Trichlorobenzene	U		0.0070	0.040	mg/Kg-dry	1	11/22/2016 23:29
1,2-Dichlorobenzene	U		0.010	0.040	mg/Kg-dry	1	11/22/2016 23:29
1,3-Dichlorobenzene	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29
1,4-Dichlorobenzene	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29
2,2`-Oxybis(1-chloropropane)	U		0.0094	0.040	mg/Kg-dry	1	11/22/2016 23:29
2,4,5-Trichlorophenol	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29
2,4,6-Trichlorophenol	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29
2,4-Dichlorophenol	U		0.0085	0.040	mg/Kg-dry	1	11/22/2016 23:29
2,4-Dimethylphenol	U		0.0082	0.040	mg/Kg-dry	1	11/22/2016 23:29
2,4-Dinitrophenol	U		0.022	0.040	mg/Kg-dry	1	11/22/2016 23:29
2,4-Dinitrotoluene	U		0.010	0.040	mg/Kg-dry	1	11/22/2016 23:29
2,6-Dinitrotoluene	U		0.0066	0.040	mg/Kg-dry	1	11/22/2016 23:29
2-Chloronaphthalene	U		0.0056	0.0081	mg/Kg-dry	1	11/22/2016 23:29
2-Chlorophenol	U		0.013	0.040	mg/Kg-dry	1	11/22/2016 23:29
2-Methylnaphthalene	U		0.0041	0.0081	mg/Kg-dry	1	11/22/2016 23:29
2-Methylphenol	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB03(2-4)111516
Collection Date: 11/15/2016 12:30 PM

Work Order: 16111186
Lab ID: 16111186-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.0092	0.040	mg/Kg-dry	1	11/22/2016 23:29
2-Nitrophenol	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29
3&4-Methylphenol	U		0.0081	0.040	mg/Kg-dry	1	11/22/2016 23:29
3,3´-Dichlorobenzidine	U		0.0060	0.20	mg/Kg-dry	1	11/22/2016 23:29
3-Nitroaniline	U		0.0092	0.040	mg/Kg-dry	1	11/22/2016 23:29
4,6-Dinitro-2-methylphenol	U		0.010	0.040	mg/Kg-dry	1	11/22/2016 23:29
4-Bromophenyl phenyl ether	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29
4-Chloro-3-methylphenol	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29
4-Chloroaniline	U		0.0064	0.081	mg/Kg-dry	1	11/22/2016 23:29
4-Chlorophenyl phenyl ether	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29
4-Nitroaniline	U		0.062	0.20	mg/Kg-dry	1	11/22/2016 23:29
4-Nitrophenol	U		0.036	0.040	mg/Kg-dry	1	11/22/2016 23:29
Acenaphthene	U		0.0058	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Acenaphthylene	U		0.0070	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Anthracene	U		0.0057	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Benzo(a)anthracene	U		0.0070	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Benzo(a)pyrene	U		0.0049	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Benzo(b)fluoranthene	U		0.0060	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Benzo(g,h,i)perylene	U		0.0062	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Benzo(k)fluoranthene	U		0.0061	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Bis(2-chloroethoxy)methane	U		0.0039	0.040	mg/Kg-dry	1	11/22/2016 23:29
Bis(2-chloroethyl)ether	U		0.011	0.040	mg/Kg-dry	1	11/22/2016 23:29
Bis(2-ethylhexyl)phthalate	U		0.0070	0.040	mg/Kg-dry	1	11/22/2016 23:29
Butyl benzyl phthalate	U		0.0068	0.040	mg/Kg-dry	1	11/22/2016 23:29
Carbazole	U		0.0043	0.040	mg/Kg-dry	1	11/22/2016 23:29
Chrysene	U		0.0065	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Dibenzo(a,h)anthracene	U		0.0043	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Dibenzofuran	U		0.0059	0.040	mg/Kg-dry	1	11/22/2016 23:29
Diethyl phthalate	U		0.0062	0.040	mg/Kg-dry	1	11/22/2016 23:29
Dimethyl phthalate	U		0.0078	0.040	mg/Kg-dry	1	11/22/2016 23:29
Di-n-butyl phthalate	U		0.0074	0.040	mg/Kg-dry	1	11/22/2016 23:29
Di-n-octyl phthalate	U		0.0077	0.040	mg/Kg-dry	1	11/22/2016 23:29
Fluoranthene	U		0.0039	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Fluorene	U		0.0058	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Hexachlorobenzene	U		0.012	0.040	mg/Kg-dry	1	11/22/2016 23:29
Hexachlorobutadiene	U		0.022	0.040	mg/Kg-dry	1	11/22/2016 23:29
Hexachlorocyclopentadiene	U		0.014	0.040	mg/Kg-dry	1	11/22/2016 23:29
Hexachloroethane	U		0.017	0.040	mg/Kg-dry	1	11/22/2016 23:29
Indeno(1,2,3-cd)pyrene	U		0.0056	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Isophorone	U		0.0079	0.20	mg/Kg-dry	1	11/22/2016 23:29

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB03(2-4)111516
Collection Date: 11/15/2016 12:30 PM

Work Order: 16111186
Lab ID: 16111186-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.0051	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Nitrobenzene	U		0.014	0.20	mg/Kg-dry	1	11/22/2016 23:29
N-Nitrosodi-n-propylamine	U		0.0066	0.040	mg/Kg-dry	1	11/22/2016 23:29
N-Nitrosodiphenylamine	U		0.0039	0.040	mg/Kg-dry	1	11/22/2016 23:29
Pentachlorophenol	U		0.015	0.040	mg/Kg-dry	1	11/22/2016 23:29
Phenanthrene	U		0.0037	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Phenol	U		0.010	0.040	mg/Kg-dry	1	11/22/2016 23:29
Pyrene	U		0.0015	0.0081	mg/Kg-dry	1	11/22/2016 23:29
Surr: 2,4,6-Tribromophenol	*71.8*			*34-140*	*%REC*	1	11/22/2016 23:29
Surr: 2-Fluorobiphenyl	*82.7*			*12-100*	*%REC*	1	11/22/2016 23:29
Surr: 2-Fluorophenol	*68.5*			*33-117*	*%REC*	1	11/22/2016 23:29
Surr: 4-Terphenyl-d14	*103*			*25-137*	*%REC*	1	11/22/2016 23:29
Surr: Nitrobenzene-d5	*59.5*			*37-107*	*%REC*	1	11/22/2016 23:29
Surr: Phenol-d6	*55.6*			*40-106*	*%REC*	1	11/22/2016 23:29
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**		Prep: SW5035 / 11/18/16		Analyst: **EMR**
1,1,1-Trichloroethane	U		0.013	0.044	mg/Kg-dry	1	11/20/2016 21:29
1,1,2,2-Tetrachloroethane	U		0.011	0.044	mg/Kg-dry	1	11/20/2016 21:29
1,1,2-Trichloroethane	U		0.013	0.044	mg/Kg-dry	1	11/20/2016 21:29
1,1-Dichloroethane	U		0.011	0.044	mg/Kg-dry	1	11/20/2016 21:29
1,1-Dichloroethene	U		0.012	0.044	mg/Kg-dry	1	11/20/2016 21:29
1,2-Dichloroethane	U		0.012	0.044	mg/Kg-dry	1	11/20/2016 21:29
1,2-Dichloropropane	U		0.012	0.044	mg/Kg-dry	1	11/20/2016 21:29
2-Butanone	U		0.059	0.29	mg/Kg-dry	1	11/20/2016 21:29
2-Hexanone	U		0.029	0.044	mg/Kg-dry	1	11/20/2016 21:29
4-Methyl-2-pentanone	U		0.032	0.044	mg/Kg-dry	1	11/20/2016 21:29
Acetone	U		0.080	0.15	mg/Kg-dry	1	11/20/2016 21:29
Benzene	U		0.010	0.044	mg/Kg-dry	1	11/20/2016 21:29
Bromodichloromethane	U		0.012	0.044	mg/Kg-dry	1	11/20/2016 21:29
Bromoform	U		0.016	0.044	mg/Kg-dry	1	11/20/2016 21:29
Bromomethane	U		0.019	0.11	mg/Kg-dry	1	11/20/2016 21:29
Carbon disulfide	U		0.015	0.044	mg/Kg-dry	1	11/20/2016 21:29
Carbon tetrachloride	U		0.0078	0.044	mg/Kg-dry	1	11/20/2016 21:29
Chlorobenzene	U		0.013	0.044	mg/Kg-dry	1	11/20/2016 21:29
Chloroethane	U		0.028	0.15	mg/Kg-dry	1	11/20/2016 21:29
Chloroform	U		0.015	0.044	mg/Kg-dry	1	11/20/2016 21:29
cis-1,2-Dichloroethene	U		0.012	0.044	mg/Kg-dry	1	11/20/2016 21:29
cis-1,3-Dichloropropene	U		0.017	0.044	mg/Kg-dry	1	11/20/2016 21:29
Dibromochloromethane	U		0.010	0.044	mg/Kg-dry	1	11/20/2016 21:29
Ethylbenzene	U		0.010	0.044	mg/Kg-dry	1	11/20/2016 21:29

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB03(2-4)111516
Collection Date: 11/15/2016 12:30 PM

Work Order: 16111186
Lab ID: 16111186-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		0.014	0.044	mg/Kg-dry	1	11/20/2016 21:29
Methylene chloride	U		0.020	0.044	mg/Kg-dry	1	11/20/2016 21:29
Styrene	U		0.031	0.044	mg/Kg-dry	1	11/20/2016 21:29
Tetrachloroethene	U		0.022	0.044	mg/Kg-dry	1	11/20/2016 21:29
Toluene	U		0.015	0.044	mg/Kg-dry	1	11/20/2016 21:29
trans-1,2-Dichloroethene	U		0.012	0.044	mg/Kg-dry	1	11/20/2016 21:29
trans-1,3-Dichloropropene	U		0.0079	0.044	mg/Kg-dry	1	11/20/2016 21:29
Trichloroethene	U		0.012	0.044	mg/Kg-dry	1	11/20/2016 21:29
Vinyl chloride	U		0.014	0.044	mg/Kg-dry	1	11/20/2016 21:29
Xylenes, Total	U		0.034	0.13	mg/Kg-dry	1	11/20/2016 21:29
Surr: 1,2-Dichloroethane-d4	*95.9*			*70-130*	*%REC*	1	11/20/2016 21:29
Surr: 4-Bromofluorobenzene	*100*			*70-130*	*%REC*	1	11/20/2016 21:29
Surr: Dibromofluoromethane	*88.5*			*70-130*	*%REC*	1	11/20/2016 21:29
Surr: Toluene-d8	*98.4*			*70-130*	*%REC*	1	11/20/2016 21:29
CYANIDE, TOTAL		Method:	**SW9012B**		Prep: SW9012B / 11/28/16		Analyst: **JB**
Cyanide, Total	U		0.014	0.62	mg/Kg-dry	1	11/28/2016 15:11
MOISTURE		Method:	**SW3550C**				Analyst: **EDL**
Moisture	**19**		**0.025**	**0.050**	**% of sample**	1	11/18/2016 13:34

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB04(1-3)111516
Collection Date: 11/15/2016 01:30 PM

Work Order: 16111186
Lab ID: 16111186-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**				Analyst: **EB**
Aroclor 1016	U		0.016	0.099	mg/Kg-dry	1	11/18/2016 20:18
Aroclor 1221	U		0.016	0.099	mg/Kg-dry	1	11/18/2016 20:18
Aroclor 1232	U		0.016	0.099	mg/Kg-dry	1	11/18/2016 20:18
Aroclor 1242	U		0.016	0.099	mg/Kg-dry	1	11/18/2016 20:18
Aroclor 1248	U		0.016	0.099	mg/Kg-dry	1	11/18/2016 20:18
Aroclor 1254	U		0.027	0.099	mg/Kg-dry	1	11/18/2016 20:18
Aroclor 1260	U		0.027	0.099	mg/Kg-dry	1	11/18/2016 20:18
Surr: Decachlorobiphenyl	*89.1*			*40-140*	*%REC*	1	11/18/2016 20:18
Surr: Tetrachloro-m-xylene	*87.1*			*45-124*	*%REC*	1	11/18/2016 20:18
PESTICIDES		Method:	**SW8081**		Prep: SW3541 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.0034	0.012	mg/Kg-dry	1	11/19/2016 03:05
4,4´-DDE	U		0.0026	0.012	mg/Kg-dry	1	11/19/2016 03:05
4,4´-DDT	U		0.0041	0.012	mg/Kg-dry	1	11/19/2016 03:05
Aldrin	U		0.0054	0.012	mg/Kg-dry	1	11/19/2016 03:05
alpha-BHC	U		0.0025	0.012	mg/Kg-dry	1	11/19/2016 03:05
alpha-Chlordane	U		0.0034	0.012	mg/Kg-dry	1	11/19/2016 03:05
beta-BHC	U		0.0051	0.012	mg/Kg-dry	1	11/19/2016 03:05
Chlordane, Technical	U		0.012	0.030	mg/Kg-dry	1	11/19/2016 03:05
delta-BHC	U		0.0044	0.012	mg/Kg-dry	1	11/19/2016 03:05
Dieldrin	U		0.0025	0.012	mg/Kg-dry	1	11/19/2016 03:05
Endosulfan I	U		0.0035	0.012	mg/Kg-dry	1	11/19/2016 03:05
Endosulfan II	U		0.0023	0.012	mg/Kg-dry	1	11/19/2016 03:05
Endosulfan sulfate	U		0.0035	0.012	mg/Kg-dry	1	11/19/2016 03:05
Endrin	U		0.0044	0.012	mg/Kg-dry	1	11/19/2016 03:05
Endrin aldehyde	U		0.0031	0.012	mg/Kg-dry	1	11/19/2016 03:05
Endrin ketone	U		0.0026	0.012	mg/Kg-dry	1	11/19/2016 03:05
gamma-BHC (Lindane)	U		0.0029	0.012	mg/Kg-dry	1	11/19/2016 03:05
gamma-Chlordane	U		0.0040	0.012	mg/Kg-dry	1	11/19/2016 03:05
Heptachlor	U		0.0041	0.012	mg/Kg-dry	1	11/19/2016 03:05
Heptachlor epoxide	U		0.0025	0.012	mg/Kg-dry	1	11/19/2016 03:05
Methoxychlor	U		0.0048	0.012	mg/Kg-dry	1	11/19/2016 03:05
Toxaphene	U		0.013	0.072	mg/Kg-dry	1	11/19/2016 03:05
Surr: Decachlorobiphenyl	*98.1*			*47.5-136*	*%REC*	1	11/19/2016 03:05
Surr: Tetrachloro-m-xylene	*121*			*40.3-131*	*%REC*	1	11/19/2016 03:05
MERCURY BY CVAA		Method:	**SW7471B**		Prep: SW7471 / 11/23/16		Analyst: **LR**
Mercury	**0.022**		**0.0026**	**0.016**	**mg/Kg-dry**	1	11/23/2016 17:44
METALS ANALYSIS BY ICP		Method:	**SW846 6010C**		Prep: SW3050B / 11/18/16		Analyst: **RH**

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB04(1-3)111516
Collection Date: 11/15/2016 01:30 PM

Work Order: 16111186
Lab ID: 16111186-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**3,900**		**0.15**	**0.95**	**mg/Kg-dry**	1	11/18/2016 16:59
Antimony	**9.4**		**0.16**	**0.47**	**mg/Kg-dry**	1	11/18/2016 16:59
Arsenic	**3.5**		**0.12**	**0.47**	**mg/Kg-dry**	1	11/18/2016 16:59
Barium	**54**		**0.19**	**0.47**	**mg/Kg-dry**	1	11/18/2016 16:59
Beryllium	**0.13**	J	**0.015**	**0.19**	**mg/Kg-dry**	1	11/18/2016 16:59
Cadmium	**0.10**	J	**0.045**	**0.95**	**mg/Kg-dry**	1	11/18/2016 16:59
Calcium	**25,000**		**3.1**	**47**	**mg/Kg-dry**	1	11/18/2016 16:59
Chromium	**9.5**		**0.026**	**0.47**	**mg/Kg-dry**	1	11/18/2016 16:59
Cobalt	**5.5**		**0.038**	**0.47**	**mg/Kg-dry**	1	11/18/2016 16:59
Copper	**7.5**		**0.21**	**0.95**	**mg/Kg-dry**	1	11/18/2016 16:59
Iron	**9,600**		**0.57**	**7.6**	**mg/Kg-dry**	1	11/18/2016 16:59
Lead	**4.8**		**0.10**	**0.47**	**mg/Kg-dry**	1	11/18/2016 16:59
Magnesium	**11,000**		**1.7**	**19**	**mg/Kg-dry**	1	11/18/2016 16:59
Manganese	**370**		**0.028**	**0.47**	**mg/Kg-dry**	1	11/18/2016 16:59
Nickel	**12**		**0.19**	**0.47**	**mg/Kg-dry**	1	11/18/2016 16:59
Potassium	**670**		**3.4**	**19**	**mg/Kg-dry**	1	11/18/2016 16:59
Selenium	U		0.26	0.95	mg/Kg-dry	1	11/18/2016 16:59
Silver	U		0.059	0.47	mg/Kg-dry	1	11/18/2016 16:59
Sodium	**130**		**1.9**	**19**	**mg/Kg-dry**	1	11/18/2016 16:59
Thallium	U		0.40	0.95	mg/Kg-dry	1	11/18/2016 16:59
Vanadium	**15**		**0.049**	**0.47**	**mg/Kg-dry**	1	11/18/2016 16:59
Zinc	**31**		**0.076**	**0.95**	**mg/Kg-dry**	1	11/18/2016 16:59
SEMI-VOLATILE ORGANIC COMPOUNDS			Method: **SW846 8270D**		Prep: SW3546 / 11/22/16		Analyst: **JF**
1,2,4-Trichlorobenzene	U		0.0069	0.039	mg/Kg-dry	1	11/23/2016 04:37
1,2-Dichlorobenzene	U		0.0099	0.039	mg/Kg-dry	1	11/23/2016 04:37
1,3-Dichlorobenzene	U		0.010	0.039	mg/Kg-dry	1	11/23/2016 04:37
1,4-Dichlorobenzene	U		0.010	0.039	mg/Kg-dry	1	11/23/2016 04:37
2,2`-Oxybis(1-chloropropane)	U		0.0093	0.039	mg/Kg-dry	1	11/23/2016 04:37
2,4,5-Trichlorophenol	U		0.011	0.039	mg/Kg-dry	1	11/23/2016 04:37
2,4,6-Trichlorophenol	U		0.011	0.039	mg/Kg-dry	1	11/23/2016 04:37
2,4-Dichlorophenol	U		0.0084	0.039	mg/Kg-dry	1	11/23/2016 04:37
2,4-Dimethylphenol	U		0.0081	0.039	mg/Kg-dry	1	11/23/2016 04:37
2,4-Dinitrophenol	U		0.021	0.039	mg/Kg-dry	1	11/23/2016 04:37
2,4-Dinitrotoluene	U		0.010	0.039	mg/Kg-dry	1	11/23/2016 04:37
2,6-Dinitrotoluene	U		0.0065	0.039	mg/Kg-dry	1	11/23/2016 04:37
2-Chloronaphthalene	U		0.0055	0.0079	mg/Kg-dry	1	11/23/2016 04:37
2-Chlorophenol	U		0.012	0.039	mg/Kg-dry	1	11/23/2016 04:37
2-Methylnaphthalene	U		0.0040	0.0079	mg/Kg-dry	1	11/23/2016 04:37
2-Methylphenol	U		0.011	0.039	mg/Kg-dry	1	11/23/2016 04:37

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB04(1-3)111516
Collection Date: 11/15/2016 01:30 PM

Work Order: 16111186
Lab ID: 16111186-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.0091	0.039	mg/Kg-dry	1	11/23/2016 04:37
2-Nitrophenol	U		0.011	0.039	mg/Kg-dry	1	11/23/2016 04:37
3&4-Methylphenol	U		0.0080	0.039	mg/Kg-dry	1	11/23/2016 04:37
3,3´-Dichlorobenzidine	U		0.0059	0.20	mg/Kg-dry	1	11/23/2016 04:37
3-Nitroaniline	U		0.0091	0.039	mg/Kg-dry	1	11/23/2016 04:37
4,6-Dinitro-2-methylphenol	U		0.010	0.039	mg/Kg-dry	1	11/23/2016 04:37
4-Bromophenyl phenyl ether	U		0.011	0.039	mg/Kg-dry	1	11/23/2016 04:37
4-Chloro-3-methylphenol	U		0.011	0.039	mg/Kg-dry	1	11/23/2016 04:37
4-Chloroaniline	U		0.0063	0.080	mg/Kg-dry	1	11/23/2016 04:37
4-Chlorophenyl phenyl ether	U		0.011	0.039	mg/Kg-dry	1	11/23/2016 04:37
4-Nitroaniline	U		0.062	0.20	mg/Kg-dry	1	11/23/2016 04:37
4-Nitrophenol	U		0.035	0.039	mg/Kg-dry	1	11/23/2016 04:37
Acenaphthene	U		0.0057	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Acenaphthylene	U		0.0069	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Anthracene	U		0.0056	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Benzo(a)anthracene	U		0.0069	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Benzo(a)pyrene	U		0.0049	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Benzo(b)fluoranthene	U		0.0059	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Benzo(g,h,i)perylene	U		0.0061	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Benzo(k)fluoranthene	U		0.0060	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Bis(2-chloroethoxy)methane	U		0.0038	0.039	mg/Kg-dry	1	11/23/2016 04:37
Bis(2-chloroethyl)ether	U		0.011	0.039	mg/Kg-dry	1	11/23/2016 04:37
Bis(2-ethylhexyl)phthalate	U		0.0069	0.039	mg/Kg-dry	1	11/23/2016 04:37
Butyl benzyl phthalate	U		0.0067	0.039	mg/Kg-dry	1	11/23/2016 04:37
Carbazole	U		0.0043	0.039	mg/Kg-dry	1	11/23/2016 04:37
Chrysene	U		0.0064	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Dibenzo(a,h)anthracene	U		0.0043	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Dibenzofuran	U		0.0058	0.039	mg/Kg-dry	1	11/23/2016 04:37
Diethyl phthalate	U		0.0061	0.039	mg/Kg-dry	1	11/23/2016 04:37
Dimethyl phthalate	U		0.0077	0.039	mg/Kg-dry	1	11/23/2016 04:37
Di-n-butyl phthalate	U		0.0073	0.039	mg/Kg-dry	1	11/23/2016 04:37
Di-n-octyl phthalate	U		0.0076	0.039	mg/Kg-dry	1	11/23/2016 04:37
Fluoranthene	U		0.0038	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Fluorene	U		0.0058	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Hexachlorobenzene	U		0.012	0.039	mg/Kg-dry	1	11/23/2016 04:37
Hexachlorobutadiene	U		0.022	0.039	mg/Kg-dry	1	11/23/2016 04:37
Hexachlorocyclopentadiene	U		0.014	0.039	mg/Kg-dry	1	11/23/2016 04:37
Hexachloroethane	U		0.016	0.039	mg/Kg-dry	1	11/23/2016 04:37
Indeno(1,2,3-cd)pyrene	U		0.0055	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Isophorone	U		0.0077	0.20	mg/Kg-dry	1	11/23/2016 04:37

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB04(1-3)111516
Collection Date: 11/15/2016 01:30 PM

Work Order: 16111186
Lab ID: 16111186-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.0051	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Nitrobenzene	U		0.013	0.20	mg/Kg-dry	1	11/23/2016 04:37
N-Nitrosodi-n-propylamine	U		0.0065	0.039	mg/Kg-dry	1	11/23/2016 04:37
N-Nitrosodiphenylamine	U		0.0038	0.039	mg/Kg-dry	1	11/23/2016 04:37
Pentachlorophenol	U		0.015	0.039	mg/Kg-dry	1	11/23/2016 04:37
Phenanthrene	U		0.0037	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Phenol	U		0.0099	0.039	mg/Kg-dry	1	11/23/2016 04:37
Pyrene	U		0.0014	0.0079	mg/Kg-dry	1	11/23/2016 04:37
Surr: 2,4,6-Tribromophenol	*63.1*			*34-140*	*%REC*	1	11/23/2016 04:37
Surr: 2-Fluorobiphenyl	*86.2*			*12-100*	*%REC*	1	11/23/2016 04:37
Surr: 2-Fluorophenol	*71.9*			*33-117*	*%REC*	1	11/23/2016 04:37
Surr: 4-Terphenyl-d14	*94.2*			*25-137*	*%REC*	1	11/23/2016 04:37
Surr: Nitrobenzene-d5	*65.9*			*37-107*	*%REC*	1	11/23/2016 04:37
Surr: Phenol-d6	*72.1*			*40-106*	*%REC*	1	11/23/2016 04:37
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**		Prep: SW5035 / 11/18/16		Analyst: **EMR**
1,1,1-Trichloroethane	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 21:50
1,1,2,2-Tetrachloroethane	U		0.010	0.041	mg/Kg-dry	1	11/20/2016 21:50
1,1,2-Trichloroethane	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 21:50
1,1-Dichloroethane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 21:50
1,1-Dichloroethene	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 21:50
1,2-Dichloroethane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 21:50
1,2-Dichloropropane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 21:50
2-Butanone	U		0.056	0.28	mg/Kg-dry	1	11/20/2016 21:50
2-Hexanone	U		0.027	0.041	mg/Kg-dry	1	11/20/2016 21:50
4-Methyl-2-pentanone	U		0.030	0.041	mg/Kg-dry	1	11/20/2016 21:50
Acetone	U		0.075	0.14	mg/Kg-dry	1	11/20/2016 21:50
Benzene	U		0.0094	0.041	mg/Kg-dry	1	11/20/2016 21:50
Bromodichloromethane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 21:50
Bromoform	U		0.015	0.041	mg/Kg-dry	1	11/20/2016 21:50
Bromomethane	U		0.018	0.10	mg/Kg-dry	1	11/20/2016 21:50
Carbon disulfide	U		0.014	0.041	mg/Kg-dry	1	11/20/2016 21:50
Carbon tetrachloride	U		0.0073	0.041	mg/Kg-dry	1	11/20/2016 21:50
Chlorobenzene	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 21:50
Chloroethane	U		0.026	0.14	mg/Kg-dry	1	11/20/2016 21:50
Chloroform	U		0.014	0.041	mg/Kg-dry	1	11/20/2016 21:50
cis-1,2-Dichloroethene	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 21:50
cis-1,3-Dichloropropene	U		0.016	0.041	mg/Kg-dry	1	11/20/2016 21:50
Dibromochloromethane	U		0.0094	0.041	mg/Kg-dry	1	11/20/2016 21:50
Ethylbenzene	U		0.0097	0.041	mg/Kg-dry	1	11/20/2016 21:50

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB04(1-3)111516
Collection Date: 11/15/2016 01:30 PM

Work Order: 16111186
Lab ID: 16111186-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		0.013	0.041	mg/Kg-dry	1	11/20/2016 21:50
Methylene chloride	U		0.019	0.041	mg/Kg-dry	1	11/20/2016 21:50
Styrene	U		0.029	0.041	mg/Kg-dry	1	11/20/2016 21:50
Tetrachloroethene	U		0.020	0.041	mg/Kg-dry	1	11/20/2016 21:50
Toluene	U		0.014	0.041	mg/Kg-dry	1	11/20/2016 21:50
trans-1,2-Dichloroethene	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 21:50
trans-1,3-Dichloropropene	U		0.0074	0.041	mg/Kg-dry	1	11/20/2016 21:50
Trichloroethene	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 21:50
Vinyl chloride	U		0.013	0.041	mg/Kg-dry	1	11/20/2016 21:50
Xylenes, Total	U		0.032	0.12	mg/Kg-dry	1	11/20/2016 21:50
Surr: 1,2-Dichloroethane-d4	*97.2*			*70-130*	*%REC*	1	11/20/2016 21:50
Surr: 4-Bromofluorobenzene	*101*			*70-130*	*%REC*	1	11/20/2016 21:50
Surr: Dibromofluoromethane	*91.8*			*70-130*	*%REC*	1	11/20/2016 21:50
Surr: Toluene-d8	*99.8*			*70-130*	*%REC*	1	11/20/2016 21:50
CYANIDE, TOTAL			Method: **SW9012B**		Prep: SW9012B / 11/28/16		Analyst: **JB**
Cyanide, Total	**0.032**	J	**0.013**	**0.60**	**mg/Kg-dry**	1	11/28/2016 15:11
MOISTURE			Method: **SW3550C**				Analyst: **EDL**
Moisture	**16**		**0.025**	**0.050**	**% of sample**	1	11/18/2016 13:34

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB05(1-3)111516
Collection Date: 11/15/2016 02:00 PM

Work Order: 16111186
Lab ID: 16111186-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**				Analyst: **EB**
Aroclor 1016	U		0.016	0.097	mg/Kg-dry	1	11/18/2016 20:36
Aroclor 1221	U		0.016	0.097	mg/Kg-dry	1	11/18/2016 20:36
Aroclor 1232	U		0.016	0.097	mg/Kg-dry	1	11/18/2016 20:36
Aroclor 1242	U		0.016	0.097	mg/Kg-dry	1	11/18/2016 20:36
Aroclor 1248	U		0.016	0.097	mg/Kg-dry	1	11/18/2016 20:36
Aroclor 1254	**0.12**		**0.026**	**0.097**	**mg/Kg-dry**	1	11/18/2016 20:36
Aroclor 1260	U		0.026	0.097	mg/Kg-dry	1	11/18/2016 20:36
Surr: Decachlorobiphenyl	*89.1*			*40-140*	*%REC*	1	11/18/2016 20:36
Surr: Tetrachloro-m-xylene	*87.1*			*45-124*	*%REC*	1	11/18/2016 20:36
PESTICIDES		Method:	**SW8081**		Prep: SW3541 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.0033	0.012	mg/Kg-dry	1	11/19/2016 02:30
4,4´-DDE	U		0.0026	0.012	mg/Kg-dry	1	11/19/2016 02:30
4,4´-DDT	U		0.0041	0.012	mg/Kg-dry	1	11/19/2016 02:30
Aldrin	U		0.0054	0.012	mg/Kg-dry	1	11/19/2016 02:30
alpha-BHC	U		0.0025	0.012	mg/Kg-dry	1	11/19/2016 02:30
alpha-Chlordane	U		0.0034	0.012	mg/Kg-dry	1	11/19/2016 02:30
beta-BHC	U		0.0050	0.012	mg/Kg-dry	1	11/19/2016 02:30
Chlordane, Technical	U		0.012	0.030	mg/Kg-dry	1	11/19/2016 02:30
delta-BHC	U		0.0043	0.012	mg/Kg-dry	1	11/19/2016 02:30
Dieldrin	U		0.0025	0.012	mg/Kg-dry	1	11/19/2016 02:30
Endosulfan I	U		0.0035	0.012	mg/Kg-dry	1	11/19/2016 02:30
Endosulfan II	U		0.0022	0.012	mg/Kg-dry	1	11/19/2016 02:30
Endosulfan sulfate	U		0.0035	0.012	mg/Kg-dry	1	11/19/2016 02:30
Endrin	U		0.0043	0.012	mg/Kg-dry	1	11/19/2016 02:30
Endrin aldehyde	U		0.0031	0.012	mg/Kg-dry	1	11/19/2016 02:30
Endrin ketone	U		0.0026	0.012	mg/Kg-dry	1	11/19/2016 02:30
gamma-BHC (Lindane)	U		0.0029	0.012	mg/Kg-dry	1	11/19/2016 02:30
gamma-Chlordane	U		0.0040	0.012	mg/Kg-dry	1	11/19/2016 02:30
Heptachlor	U		0.0041	0.012	mg/Kg-dry	1	11/19/2016 02:30
Heptachlor epoxide	U		0.0025	0.012	mg/Kg-dry	1	11/19/2016 02:30
Methoxychlor	U		0.0048	0.012	mg/Kg-dry	1	11/19/2016 02:30
Toxaphene	U		0.013	0.071	mg/Kg-dry	1	11/19/2016 02:30
Surr: Decachlorobiphenyl	*99.1*			*47.5-136*	*%REC*	1	11/19/2016 02:30
Surr: Tetrachloro-m-xylene	*114*			*40.3-131*	*%REC*	1	11/19/2016 02:30
MERCURY BY CVAA		Method:	**SW7471B**		Prep: SW7471 / 11/23/16		Analyst: **LR**
Mercury	**0.038**		**0.0026**	**0.016**	**mg/Kg-dry**	1	11/23/2016 17:47
METALS ANALYSIS BY ICP		Method:	**SW846 6010C**		Prep: SW3050B / 11/18/16		Analyst: **RH**

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB05(1-3)111516
Collection Date: 11/15/2016 02:00 PM

Work Order: 16111186
Lab ID: 16111186-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**4,800**		**0.13**	**0.86**	**mg/Kg-dry**	1	11/18/2016 17:04
Antimony	**11**		**0.15**	**0.43**	**mg/Kg-dry**	1	11/18/2016 17:04
Arsenic	**4.9**		**0.11**	**0.43**	**mg/Kg-dry**	1	11/18/2016 17:04
Barium	**110**		**0.17**	**0.43**	**mg/Kg-dry**	1	11/18/2016 17:04
Beryllium	**0.21**		**0.014**	**0.17**	**mg/Kg-dry**	1	11/18/2016 17:04
Cadmium	**0.24**	J	**0.041**	**0.86**	**mg/Kg-dry**	1	11/18/2016 17:04
Calcium	**27,000**		**2.8**	**43**	**mg/Kg-dry**	1	11/18/2016 17:04
Chromium	**12**		**0.024**	**0.43**	**mg/Kg-dry**	1	11/18/2016 17:04
Cobalt	**7.2**		**0.034**	**0.43**	**mg/Kg-dry**	1	11/18/2016 17:04
Copper	**10**		**0.19**	**0.86**	**mg/Kg-dry**	1	11/18/2016 17:04
Iron	**12,000**		**0.51**	**6.9**	**mg/Kg-dry**	1	11/18/2016 17:04
Lead	**8.5**		**0.091**	**0.43**	**mg/Kg-dry**	1	11/18/2016 17:04
Magnesium	**13,000**		**1.5**	**17**	**mg/Kg-dry**	1	11/18/2016 17:04
Manganese	**1,100**		**0.26**	**4.3**	**mg/Kg-dry**	10	11/21/2016 11:19
Nickel	**16**		**0.17**	**0.43**	**mg/Kg-dry**	1	11/18/2016 17:04
Potassium	**1,100**		**3.1**	**17**	**mg/Kg-dry**	1	11/18/2016 17:04
Selenium	U		0.24	0.86	mg/Kg-dry	1	11/18/2016 17:04
Silver	**0.18**	J	**0.053**	**0.43**	**mg/Kg-dry**	1	11/18/2016 17:04
Sodium	**91**		**1.7**	**17**	**mg/Kg-dry**	1	11/18/2016 17:04
Thallium	**0.76**	J	**0.36**	**0.86**	**mg/Kg-dry**	1	11/18/2016 17:04
Vanadium	**18**		**0.045**	**0.43**	**mg/Kg-dry**	1	11/18/2016 17:04
Zinc	**45**		**0.069**	**0.86**	**mg/Kg-dry**	1	11/18/2016 17:04
SEMI-VOLATILE ORGANIC COMPOUNDS			Method: **SW846 8270D**		Prep: SW3546 / 11/22/16		Analyst: **JF**
1,2,4-Trichlorobenzene	U		0.0066	0.038	mg/Kg-dry	1	11/23/2016 05:00
1,2-Dichlorobenzene	U		0.0095	0.038	mg/Kg-dry	1	11/23/2016 05:00
1,3-Dichlorobenzene	U		0.010	0.038	mg/Kg-dry	1	11/23/2016 05:00
1,4-Dichlorobenzene	U		0.010	0.038	mg/Kg-dry	1	11/23/2016 05:00
2,2`-Oxybis(1-chloropropane)	U		0.0090	0.038	mg/Kg-dry	1	11/23/2016 05:00
2,4,5-Trichlorophenol	U		0.010	0.038	mg/Kg-dry	1	11/23/2016 05:00
2,4,6-Trichlorophenol	U		0.010	0.038	mg/Kg-dry	1	11/23/2016 05:00
2,4-Dichlorophenol	U		0.0081	0.038	mg/Kg-dry	1	11/23/2016 05:00
2,4-Dimethylphenol	U		0.0078	0.038	mg/Kg-dry	1	11/23/2016 05:00
2,4-Dinitrophenol	U		0.021	0.038	mg/Kg-dry	1	11/23/2016 05:00
2,4-Dinitrotoluene	U		0.010	0.038	mg/Kg-dry	1	11/23/2016 05:00
2,6-Dinitrotoluene	U		0.0063	0.038	mg/Kg-dry	1	11/23/2016 05:00
2-Chloronaphthalene	U		0.0053	0.0077	mg/Kg-dry	1	11/23/2016 05:00
2-Chlorophenol	U		0.012	0.038	mg/Kg-dry	1	11/23/2016 05:00
2-Methylnaphthalene	U		0.0039	0.0077	mg/Kg-dry	1	11/23/2016 05:00
2-Methylphenol	U		0.010	0.038	mg/Kg-dry	1	11/23/2016 05:00

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB05(1-3)111516
Collection Date: 11/15/2016 02:00 PM

Work Order: 16111186
Lab ID: 16111186-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.0088	0.038	mg/Kg-dry	1	11/23/2016 05:00
2-Nitrophenol	U		0.011	0.038	mg/Kg-dry	1	11/23/2016 05:00
3&4-Methylphenol	U		0.0077	0.038	mg/Kg-dry	1	11/23/2016 05:00
3,3´-Dichlorobenzidine	U		0.0057	0.19	mg/Kg-dry	1	11/23/2016 05:00
3-Nitroaniline	U		0.0088	0.038	mg/Kg-dry	1	11/23/2016 05:00
4,6-Dinitro-2-methylphenol	U		0.0096	0.038	mg/Kg-dry	1	11/23/2016 05:00
4-Bromophenyl phenyl ether	U		0.010	0.038	mg/Kg-dry	1	11/23/2016 05:00
4-Chloro-3-methylphenol	U		0.011	0.038	mg/Kg-dry	1	11/23/2016 05:00
4-Chloroaniline	U		0.0060	0.077	mg/Kg-dry	1	11/23/2016 05:00
4-Chlorophenyl phenyl ether	U		0.011	0.038	mg/Kg-dry	1	11/23/2016 05:00
4-Nitroaniline	U		0.059	0.19	mg/Kg-dry	1	11/23/2016 05:00
4-Nitrophenol	U		0.034	0.038	mg/Kg-dry	1	11/23/2016 05:00
Acenaphthene	U		0.0055	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Acenaphthylene	U		0.0066	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Anthracene	U		0.0054	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Benzo(a)anthracene	U		0.0066	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Benzo(a)pyrene	U		0.0047	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Benzo(b)fluoranthene	U		0.0057	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Benzo(g,h,i)perylene	U		0.0059	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Benzo(k)fluoranthene	U		0.0058	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Bis(2-chloroethoxy)methane	U		0.0037	0.038	mg/Kg-dry	1	11/23/2016 05:00
Bis(2-chloroethyl)ether	U		0.011	0.038	mg/Kg-dry	1	11/23/2016 05:00
Bis(2-ethylhexyl)phthalate	U		0.0066	0.038	mg/Kg-dry	1	11/23/2016 05:00
Butyl benzyl phthalate	**0.045**		**0.0065**	**0.038**	**mg/Kg-dry**	1	11/23/2016 05:00
Carbazole	U		0.0041	0.038	mg/Kg-dry	1	11/23/2016 05:00
Chrysene	U		0.0062	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Dibenzo(a,h)anthracene	U		0.0041	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Dibenzofuran	U		0.0056	0.038	mg/Kg-dry	1	11/23/2016 05:00
Diethyl phthalate	U		0.0059	0.038	mg/Kg-dry	1	11/23/2016 05:00
Dimethyl phthalate	U		0.0075	0.038	mg/Kg-dry	1	11/23/2016 05:00
Di-n-butyl phthalate	U		0.0070	0.038	mg/Kg-dry	1	11/23/2016 05:00
Di-n-octyl phthalate	U		0.0073	0.038	mg/Kg-dry	1	11/23/2016 05:00
Fluoranthene	U		0.0037	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Fluorene	U		0.0056	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Hexachlorobenzene	U		0.011	0.038	mg/Kg-dry	1	11/23/2016 05:00
Hexachlorobutadiene	U		0.021	0.038	mg/Kg-dry	1	11/23/2016 05:00
Hexachlorocyclopentadiene	U		0.013	0.038	mg/Kg-dry	1	11/23/2016 05:00
Hexachloroethane	U		0.016	0.038	mg/Kg-dry	1	11/23/2016 05:00
Indeno(1,2,3-cd)pyrene	U		0.0053	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Isophorone	U		0.0075	0.19	mg/Kg-dry	1	11/23/2016 05:00

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB05(1-3)111516
Collection Date: 11/15/2016 02:00 PM

Work Order: 16111186
Lab ID: 16111186-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.0049	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Nitrobenzene	U		0.013	0.19	mg/Kg-dry	1	11/23/2016 05:00
N-Nitrosodi-n-propylamine	U		0.0063	0.038	mg/Kg-dry	1	11/23/2016 05:00
N-Nitrosodiphenylamine	U		0.0037	0.038	mg/Kg-dry	1	11/23/2016 05:00
Pentachlorophenol	U		0.014	0.038	mg/Kg-dry	1	11/23/2016 05:00
Phenanthrene	U		0.0036	0.0077	mg/Kg-dry	1	11/23/2016 05:00
Phenol	U		0.0095	0.038	mg/Kg-dry	1	11/23/2016 05:00
Pyrene	**0.0054**	J	**0.0014**	**0.0077**	**mg/Kg-dry**	1	11/23/2016 05:00
Surr: 2,4,6-Tribromophenol	*68.8*			*34-140*	*%REC*	1	11/23/2016 05:00
Surr: 2-Fluorobiphenyl	*85.9*			*12-100*	*%REC*	1	11/23/2016 05:00
Surr: 2-Fluorophenol	*76.0*			*33-117*	*%REC*	1	11/23/2016 05:00
Surr: 4-Terphenyl-d14	*102*			*25-137*	*%REC*	1	11/23/2016 05:00
Surr: Nitrobenzene-d5	*69.9*			*37-107*	*%REC*	1	11/23/2016 05:00
Surr: Phenol-d6	*76.6*			*40-106*	*%REC*	1	11/23/2016 05:00
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**		Prep: SW5035 / 11/18/16		Analyst: **BG**
1,1,1-Trichloroethane	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 20:09
1,1,2,2-Tetrachloroethane	U		0.010	0.041	mg/Kg-dry	1	11/20/2016 20:09
1,1,2-Trichloroethane	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 20:09
1,1-Dichloroethane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:09
1,1-Dichloroethene	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:09
1,2-Dichloroethane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:09
1,2-Dichloropropane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:09
2-Butanone	U		0.056	0.28	mg/Kg-dry	1	11/20/2016 20:09
2-Hexanone	U		0.027	0.041	mg/Kg-dry	1	11/20/2016 20:09
4-Methyl-2-pentanone	U		0.030	0.041	mg/Kg-dry	1	11/20/2016 20:09
Acetone	U		0.075	0.14	mg/Kg-dry	1	11/20/2016 20:09
Benzene	U		0.0094	0.041	mg/Kg-dry	1	11/20/2016 20:09
Bromodichloromethane	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:09
Bromoform	U		0.015	0.041	mg/Kg-dry	1	11/20/2016 20:09
Bromomethane	U		0.018	0.10	mg/Kg-dry	1	11/20/2016 20:09
Carbon disulfide	U		0.014	0.041	mg/Kg-dry	1	11/20/2016 20:09
Carbon tetrachloride	U		0.0073	0.041	mg/Kg-dry	1	11/20/2016 20:09
Chlorobenzene	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 20:09
Chloroethane	U		0.026	0.14	mg/Kg-dry	1	11/20/2016 20:09
Chloroform	U		0.014	0.041	mg/Kg-dry	1	11/20/2016 20:09
cis-1,2-Dichloroethene	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 20:09
cis-1,3-Dichloropropene	U		0.016	0.041	mg/Kg-dry	1	11/20/2016 20:09
Dibromochloromethane	U		0.0094	0.041	mg/Kg-dry	1	11/20/2016 20:09
Ethylbenzene	U		0.0097	0.041	mg/Kg-dry	1	11/20/2016 20:09

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB05(1-3)111516
Collection Date: 11/15/2016 02:00 PM

Work Order: 16111186
Lab ID: 16111186-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		0.013	0.041	mg/Kg-dry	1	11/20/2016 20:09
Methylene chloride	U		0.019	0.041	mg/Kg-dry	1	11/20/2016 20:09
Styrene	U		0.029	0.041	mg/Kg-dry	1	11/20/2016 20:09
Tetrachloroethene	U		0.020	0.041	mg/Kg-dry	1	11/20/2016 20:09
Toluene	U		0.014	0.041	mg/Kg-dry	1	11/20/2016 20:09
trans-1,2-Dichloroethene	U		0.012	0.041	mg/Kg-dry	1	11/20/2016 20:09
trans-1,3-Dichloropropene	U		0.0074	0.041	mg/Kg-dry	1	11/20/2016 20:09
Trichloroethene	U		0.011	0.041	mg/Kg-dry	1	11/20/2016 20:09
Vinyl chloride	U		0.013	0.041	mg/Kg-dry	1	11/20/2016 20:09
Xylenes, Total	U		0.032	0.12	mg/Kg-dry	1	11/20/2016 20:09
Surr: 1,2-Dichloroethane-d4	*97.0*			*70-130*	*%REC*	1	11/20/2016 20:09
Surr: 4-Bromofluorobenzene	*91.6*			*70-130*	*%REC*	1	11/20/2016 20:09
Surr: Dibromofluoromethane	*97.4*			*70-130*	*%REC*	1	11/20/2016 20:09
Surr: Toluene-d8	*97.4*			*70-130*	*%REC*	1	11/20/2016 20:09
CYANIDE, TOTAL			Method: **SW9012B**		Prep: SW9012B / 11/28/16		Analyst: **JB**
Cyanide, Total	**0.059**	J	**0.013**	**0.59**	**mg/Kg-dry**	1	11/28/2016 15:11
MOISTURE			Method: **SW3550C**				Analyst: **EDL**
Moisture	**16**		**0.025**	**0.050**	**% of sample**	1	11/18/2016 13:34

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB06(2-4)111516
Collection Date: 11/15/2016 03:00 PM

Work Order: 16111186
Lab ID: 16111186-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**				Analyst: **EB**
Aroclor 1016	U		0.017	0.11	mg/Kg-dry	1	11/18/2016 20:53
Aroclor 1221	U		0.017	0.11	mg/Kg-dry	1	11/18/2016 20:53
Aroclor 1232	U		0.017	0.11	mg/Kg-dry	1	11/18/2016 20:53
Aroclor 1242	U		0.017	0.11	mg/Kg-dry	1	11/18/2016 20:53
Aroclor 1248	U		0.017	0.11	mg/Kg-dry	1	11/18/2016 20:53
Aroclor 1254	U		0.029	0.11	mg/Kg-dry	1	11/18/2016 20:53
Aroclor 1260	U		0.029	0.11	mg/Kg-dry	1	11/18/2016 20:53
Surr: Decachlorobiphenyl	*89.1*			*40-140*	*%REC*	1	11/18/2016 20:53
Surr: Tetrachloro-m-xylene	*87.1*			*45-124*	*%REC*	1	11/18/2016 20:53
PESTICIDES		Method:	**SW8081**		Prep: SW3541 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.0036	0.013	mg/Kg-dry	1	11/19/2016 03:23
4,4´-DDE	U		0.0028	0.013	mg/Kg-dry	1	11/19/2016 03:23
4,4´-DDT	U		0.0044	0.013	mg/Kg-dry	1	11/19/2016 03:23
Aldrin	U		0.0059	0.013	mg/Kg-dry	1	11/19/2016 03:23
alpha-BHC	U		0.0027	0.013	mg/Kg-dry	1	11/19/2016 03:23
alpha-Chlordane	U		0.0037	0.013	mg/Kg-dry	1	11/19/2016 03:23
beta-BHC	U		0.0055	0.013	mg/Kg-dry	1	11/19/2016 03:23
Chlordane, Technical	U		0.013	0.032	mg/Kg-dry	1	11/19/2016 03:23
delta-BHC	U		0.0047	0.013	mg/Kg-dry	1	11/19/2016 03:23
Dieldrin	U		0.0027	0.013	mg/Kg-dry	1	11/19/2016 03:23
Endosulfan I	U		0.0038	0.013	mg/Kg-dry	1	11/19/2016 03:23
Endosulfan II	U		0.0024	0.013	mg/Kg-dry	1	11/19/2016 03:23
Endosulfan sulfate	U		0.0038	0.013	mg/Kg-dry	1	11/19/2016 03:23
Endrin	U		0.0047	0.013	mg/Kg-dry	1	11/19/2016 03:23
Endrin aldehyde	U		0.0034	0.013	mg/Kg-dry	1	11/19/2016 03:23
Endrin ketone	U		0.0028	0.013	mg/Kg-dry	1	11/19/2016 03:23
gamma-BHC (Lindane)	U		0.0031	0.013	mg/Kg-dry	1	11/19/2016 03:23
gamma-Chlordane	U		0.0043	0.013	mg/Kg-dry	1	11/19/2016 03:23
Heptachlor	U		0.0045	0.013	mg/Kg-dry	1	11/19/2016 03:23
Heptachlor epoxide	U		0.0027	0.013	mg/Kg-dry	1	11/19/2016 03:23
Methoxychlor	U		0.0052	0.013	mg/Kg-dry	1	11/19/2016 03:23
Toxaphene	U		0.014	0.077	mg/Kg-dry	1	11/19/2016 03:23
Surr: Decachlorobiphenyl	*94.1*			*47.5-136*	*%REC*	1	11/19/2016 03:23
Surr: Tetrachloro-m-xylene	*121*			*40.3-131*	*%REC*	1	11/19/2016 03:23
MERCURY BY CVAA		Method:	**SW7471B**		Prep: SW7471 / 11/23/16		Analyst: **LR**
Mercury	**0.059**		**0.0027**	**0.016**	**mg/Kg-dry**	1	11/23/2016 17:57
METALS ANALYSIS BY ICP		Method:	**SW846 6010C**		Prep: SW3050B / 11/18/16		Analyst: **RH**

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB06(2-4)111516
Collection Date: 11/15/2016 03:00 PM

Work Order: 16111186
Lab ID: 16111186-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**5,500**		**0.16**	**1.0**	**mg/Kg-dry**	1	11/18/2016 17:10
Antimony	**13**		**0.18**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Arsenic	**5.0**		**0.13**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Barium	**89**		**0.21**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Beryllium	**0.22**		**0.017**	**0.21**	**mg/Kg-dry**	1	11/18/2016 17:10
Cadmium	**0.30**	J	**0.050**	**1.0**	**mg/Kg-dry**	1	11/18/2016 17:10
Calcium	**25,000**		**3.4**	**52**	**mg/Kg-dry**	1	11/18/2016 17:10
Chromium	**13**		**0.029**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Cobalt	**7.2**		**0.041**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Copper	**11**		**0.23**	**1.0**	**mg/Kg-dry**	1	11/18/2016 17:10
Iron	**12,000**		**0.62**	**8.3**	**mg/Kg-dry**	1	11/18/2016 17:10
Lead	**10**		**0.11**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Magnesium	**12,000**		**1.8**	**21**	**mg/Kg-dry**	1	11/18/2016 17:10
Manganese	**740**		**0.031**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Nickel	**17**		**0.21**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Potassium	**1,100**		**3.8**	**21**	**mg/Kg-dry**	1	11/18/2016 17:10
Selenium	U		0.29	1.0	mg/Kg-dry	1	11/18/2016 17:10
Silver	**0.11**	J	**0.064**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Sodium	**150**		**2.1**	**21**	**mg/Kg-dry**	1	11/18/2016 17:10
Thallium	**0.61**	J	**0.44**	**1.0**	**mg/Kg-dry**	1	11/18/2016 17:10
Vanadium	**20**		**0.054**	**0.52**	**mg/Kg-dry**	1	11/18/2016 17:10
Zinc	**48**		**0.083**	**1.0**	**mg/Kg-dry**	1	11/18/2016 17:10
SEMI-VOLATILE ORGANIC COMPOUNDS		Method:	**SW846 8270D**		Prep: SW3546 / 11/22/16		Analyst: **JF**
1,2,4-Trichlorobenzene	U		0.0072	0.041	mg/Kg-dry	1	11/23/2016 05:22
1,2-Dichlorobenzene	U		0.010	0.041	mg/Kg-dry	1	11/23/2016 05:22
1,3-Dichlorobenzene	U		0.011	0.041	mg/Kg-dry	1	11/23/2016 05:22
1,4-Dichlorobenzene	U		0.011	0.041	mg/Kg-dry	1	11/23/2016 05:22
2,2`-Oxybis(1-chloropropane)	U		0.0097	0.041	mg/Kg-dry	1	11/23/2016 05:22
2,4,5-Trichlorophenol	U		0.011	0.041	mg/Kg-dry	1	11/23/2016 05:22
2,4,6-Trichlorophenol	U		0.011	0.041	mg/Kg-dry	1	11/23/2016 05:22
2,4-Dichlorophenol	U		0.0087	0.041	mg/Kg-dry	1	11/23/2016 05:22
2,4-Dimethylphenol	U		0.0085	0.041	mg/Kg-dry	1	11/23/2016 05:22
2,4-Dinitrophenol	U		0.022	0.041	mg/Kg-dry	1	11/23/2016 05:22
2,4-Dinitrotoluene	U		0.011	0.041	mg/Kg-dry	1	11/23/2016 05:22
2,6-Dinitrotoluene	U		0.0068	0.041	mg/Kg-dry	1	11/23/2016 05:22
2-Chloronaphthalene	U		0.0058	0.0083	mg/Kg-dry	1	11/23/2016 05:22
2-Chlorophenol	U		0.013	0.041	mg/Kg-dry	1	11/23/2016 05:22
2-Methylnaphthalene	U		0.0042	0.0083	mg/Kg-dry	1	11/23/2016 05:22
2-Methylphenol	U		0.011	0.041	mg/Kg-dry	1	11/23/2016 05:22

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB06(2-4)111516
Collection Date: 11/15/2016 03:00 PM

Work Order: 16111186
Lab ID: 16111186-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.0095	0.041	mg/Kg-dry	1	11/23/2016 05:22
2-Nitrophenol	U		0.012	0.041	mg/Kg-dry	1	11/23/2016 05:22
3&4-Methylphenol	U		0.0083	0.041	mg/Kg-dry	1	11/23/2016 05:22
3,3´-Dichlorobenzidine	U		0.0061	0.21	mg/Kg-dry	1	11/23/2016 05:22
3-Nitroaniline	U		0.0095	0.041	mg/Kg-dry	1	11/23/2016 05:22
4,6-Dinitro-2-methylphenol	U		0.010	0.041	mg/Kg-dry	1	11/23/2016 05:22
4-Bromophenyl phenyl ether	U		0.011	0.041	mg/Kg-dry	1	11/23/2016 05:22
4-Chloro-3-methylphenol	U		0.012	0.041	mg/Kg-dry	1	11/23/2016 05:22
4-Chloroaniline	U		0.0065	0.083	mg/Kg-dry	1	11/23/2016 05:22
4-Chlorophenyl phenyl ether	U		0.011	0.041	mg/Kg-dry	1	11/23/2016 05:22
4-Nitroaniline	U		0.064	0.21	mg/Kg-dry	1	11/23/2016 05:22
4-Nitrophenol	U		0.037	0.041	mg/Kg-dry	1	11/23/2016 05:22
Acenaphthene	U		0.0060	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Acenaphthylene	U		0.0072	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Anthracene	U		0.0058	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Benzo(a)anthracene	**0.014**		**0.0072**	**0.0083**	**mg/Kg-dry**	1	11/23/2016 05:22
Benzo(a)pyrene	U		0.0051	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Benzo(b)fluoranthene	U		0.0062	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Benzo(g,h,i)perylene	U		0.0063	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Benzo(k)fluoranthene	U		0.0063	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Bis(2-chloroethoxy)methane	U		0.0040	0.041	mg/Kg-dry	1	11/23/2016 05:22
Bis(2-chloroethyl)ether	U		0.012	0.041	mg/Kg-dry	1	11/23/2016 05:22
Bis(2-ethylhexyl)phthalate	**0.063**		**0.0072**	**0.041**	**mg/Kg-dry**	1	11/23/2016 05:22
Butyl benzyl phthalate	U		0.0070	0.041	mg/Kg-dry	1	11/23/2016 05:22
Carbazole	U		0.0045	0.041	mg/Kg-dry	1	11/23/2016 05:22
Chrysene	U		0.0067	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Dibenzo(a,h)anthracene	U		0.0045	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Dibenzofuran	U		0.0061	0.041	mg/Kg-dry	1	11/23/2016 05:22
Diethyl phthalate	U		0.0063	0.041	mg/Kg-dry	1	11/23/2016 05:22
Dimethyl phthalate	U		0.0081	0.041	mg/Kg-dry	1	11/23/2016 05:22
Di-n-butyl phthalate	U		0.0076	0.041	mg/Kg-dry	1	11/23/2016 05:22
Di-n-octyl phthalate	U		0.0079	0.041	mg/Kg-dry	1	11/23/2016 05:22
Fluoranthene	**0.0091**		**0.0040**	**0.0083**	**mg/Kg-dry**	1	11/23/2016 05:22
Fluorene	U		0.0060	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Hexachlorobenzene	U		0.012	0.041	mg/Kg-dry	1	11/23/2016 05:22
Hexachlorobutadiene	U		0.022	0.041	mg/Kg-dry	1	11/23/2016 05:22
Hexachlorocyclopentadiene	U		0.014	0.041	mg/Kg-dry	1	11/23/2016 05:22
Hexachloroethane	U		0.017	0.041	mg/Kg-dry	1	11/23/2016 05:22
Indeno(1,2,3-cd)pyrene	U		0.0058	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Isophorone	U		0.0081	0.21	mg/Kg-dry	1	11/23/2016 05:22

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB06(2-4)111516
Collection Date: 11/15/2016 03:00 PM

Work Order: 16111186
Lab ID: 16111186-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.0053	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Nitrobenzene	U		0.014	0.21	mg/Kg-dry	1	11/23/2016 05:22
N-Nitrosodi-n-propylamine	U		0.0068	0.041	mg/Kg-dry	1	11/23/2016 05:22
N-Nitrosodiphenylamine	U		0.0040	0.041	mg/Kg-dry	1	11/23/2016 05:22
Pentachlorophenol	U		0.015	0.041	mg/Kg-dry	1	11/23/2016 05:22
Phenanthrene	U		0.0038	0.0083	mg/Kg-dry	1	11/23/2016 05:22
Phenol	U		0.010	0.041	mg/Kg-dry	1	11/23/2016 05:22
Pyrene	**0.011**		**0.0015**	**0.0083**	**mg/Kg-dry**	1	11/23/2016 05:22
Surr: 2,4,6-Tribromophenol	*67.1*			*34-140*	*%REC*	1	11/23/2016 05:22
Surr: 2-Fluorobiphenyl	*85.1*			*12-100*	*%REC*	1	11/23/2016 05:22
Surr: 2-Fluorophenol	*75.5*			*33-117*	*%REC*	1	11/23/2016 05:22
Surr: 4-Terphenyl-d14	*94.7*			*25-137*	*%REC*	1	11/23/2016 05:22
Surr: Nitrobenzene-d5	*69.2*			*37-107*	*%REC*	1	11/23/2016 05:22
Surr: Phenol-d6	*75.7*			*40-106*	*%REC*	1	11/23/2016 05:22
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**		Prep: SW5035 / 11/18/16		Analyst: **BG**
1,1,1-Trichloroethane	U		0.013	0.047	mg/Kg-dry	1	11/20/2016 20:36
1,1,2,2-Tetrachloroethane	U		0.011	0.047	mg/Kg-dry	1	11/20/2016 20:36
1,1,2-Trichloroethane	U		0.014	0.047	mg/Kg-dry	1	11/20/2016 20:36
1,1-Dichloroethane	U		0.012	0.047	mg/Kg-dry	1	11/20/2016 20:36
1,1-Dichloroethene	U		0.013	0.047	mg/Kg-dry	1	11/20/2016 20:36
1,2-Dichloroethane	U		0.013	0.047	mg/Kg-dry	1	11/20/2016 20:36
1,2-Dichloropropane	U		0.013	0.047	mg/Kg-dry	1	11/20/2016 20:36
2-Butanone	U		0.063	0.31	mg/Kg-dry	1	11/20/2016 20:36
2-Hexanone	U		0.031	0.047	mg/Kg-dry	1	11/20/2016 20:36
4-Methyl-2-pentanone	U		0.034	0.047	mg/Kg-dry	1	11/20/2016 20:36
Acetone	U		0.085	0.16	mg/Kg-dry	1	11/20/2016 20:36
Benzene	U		0.011	0.047	mg/Kg-dry	1	11/20/2016 20:36
Bromodichloromethane	U		0.013	0.047	mg/Kg-dry	1	11/20/2016 20:36
Bromoform	U		0.017	0.047	mg/Kg-dry	1	11/20/2016 20:36
Bromomethane	U		0.020	0.12	mg/Kg-dry	1	11/20/2016 20:36
Carbon disulfide	U		0.016	0.047	mg/Kg-dry	1	11/20/2016 20:36
Carbon tetrachloride	U		0.0083	0.047	mg/Kg-dry	1	11/20/2016 20:36
Chlorobenzene	U		0.014	0.047	mg/Kg-dry	1	11/20/2016 20:36
Chloroethane	U		0.030	0.16	mg/Kg-dry	1	11/20/2016 20:36
Chloroform	U		0.016	0.047	mg/Kg-dry	1	11/20/2016 20:36
cis-1,2-Dichloroethene	U		0.013	0.047	mg/Kg-dry	1	11/20/2016 20:36
cis-1,3-Dichloropropene	U		0.018	0.047	mg/Kg-dry	1	11/20/2016 20:36
Dibromochloromethane	U		0.011	0.047	mg/Kg-dry	1	11/20/2016 20:36
Ethylbenzene	U		0.011	0.047	mg/Kg-dry	1	11/20/2016 20:36

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

ALS Group, USA

Date: *29-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-SB06(2-4)111516
Collection Date: 11/15/2016 03:00 PM

Work Order: 16111186
Lab ID: 16111186-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		0.015	0.047	mg/Kg-dry	1	11/20/2016 20:36
Methylene chloride	U		0.021	0.047	mg/Kg-dry	1	11/20/2016 20:36
Styrene	U		0.033	0.047	mg/Kg-dry	1	11/20/2016 20:36
Tetrachloroethene	U		0.023	0.047	mg/Kg-dry	1	11/20/2016 20:36
Toluene	U		0.016	0.047	mg/Kg-dry	1	11/20/2016 20:36
trans-1,2-Dichloroethene	U		0.013	0.047	mg/Kg-dry	1	11/20/2016 20:36
trans-1,3-Dichloropropene	U		0.0084	0.047	mg/Kg-dry	1	11/20/2016 20:36
Trichloroethene	U		0.013	0.047	mg/Kg-dry	1	11/20/2016 20:36
Vinyl chloride	U		0.015	0.047	mg/Kg-dry	1	11/20/2016 20:36
Xylenes, Total	U		0.036	0.14	mg/Kg-dry	1	11/20/2016 20:36
Surr: 1,2-Dichloroethane-d4	*93.3*			*70-130*	*%REC*	1	11/20/2016 20:36
Surr: 4-Bromofluorobenzene	*91.7*			*70-130*	*%REC*	1	11/20/2016 20:36
Surr: Dibromofluoromethane	*99.5*			*70-130*	*%REC*	1	11/20/2016 20:36
Surr: Toluene-d8	*98.0*			*70-130*	*%REC*	1	11/20/2016 20:36
CYANIDE, TOTAL			Method: **SW9012B**		Prep: SW9012B / 11/28/16		Analyst: **JB**
Cyanide, Total	**0.042**	J	**0.014**	**0.64**	**mg/Kg-dry**	1	11/28/2016 15:11
MOISTURE			Method: **SW3550C**				Analyst: **EDL**
Moisture	**22**		**0.025**	**0.050**	**% of sample**	1	11/18/2016 15:13

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

ALS Group, USA

Date: 29-Nov-16

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
WorkOrder: **16111186**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	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.

Acronym	Description
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

Units Reported	Description
% of sample	Percent of Sample
mg/Kg	Milligrams per Kilogram
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

Date: 29-Nov-16

QC BATCH REPORT

Batch ID: **94768A** Instrument ID **GC14** Method: **SW8082**

MBLK Sample ID: **PBLKS1-94768-94768A** Units: **µg/Kg** Analysis Date: **11/18/2016 04:30 PM**
Client ID: Run ID: **GC14_161118A** SeqNo: **4163868** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	U	83								
Aroclor 1221	U	83								
Aroclor 1232	U	83								
Aroclor 1242	U	83								
Aroclor 1248	U	83								
Aroclor 1254	U	83								
Aroclor 1260	U	83								
Surr: Decachlorobiphenyl	*29.67*	0	*33.3*	0	*89.1*	*40-140*	0			
Surr: Tetrachloro-m-xylene	*30*	0	*33.3*	0	*90.1*	*45-124*	0			

LCS Sample ID: **PLCSS1-94768-94768A** Units: **µg/Kg** Analysis Date: **11/18/2016 04:48 PM**
Client ID: Run ID: **GC14_161118A** SeqNo: **4163869** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	807.3	83	833	0	96.9	50-130	0			
Aroclor 1260	819.7	83	833	0	98.4	50-130	0			
Surr: Decachlorobiphenyl	*31*	0	*33.3*	0	*93.1*	*40-140*	0			
Surr: Tetrachloro-m-xylene	*29.67*	0	*33.3*	0	*89.1*	*45-124*	0			

MS Sample ID: **16111186-03B MS** Units: **µg/Kg** Analysis Date: **11/18/2016 05:23 PM**
Client ID: **BA-SB02(1-4)111516** Run ID: **GC14_161118A** SeqNo: **4163871** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	862.1	82	821	0	105	40-140	0			
Aroclor 1260	871	82	821	56.67	99.2	40-140	0			
Surr: Decachlorobiphenyl	*28.91*	0	*32.82*	0	*88.1*	*40-140*	0			
Surr: Tetrachloro-m-xylene	*28.58*	0	*32.82*	0	*87.1*	*45-124*	0			

MSD Sample ID: **16111186-03B MSD** Units: **µg/Kg** Analysis Date: **11/18/2016 05:40 PM**
Client ID: **BA-SB02(1-4)111516** Run ID: **GC14_161118A** SeqNo: **4163872** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	846	81	812.5	0	104	40-140	862.1	1.89	50	
Aroclor 1260	851.8	81	812.5	56.67	97.9	40-140	871	2.22	50	
Surr: Decachlorobiphenyl	*29.26*	0	*32.48*	0	*90.1*	*40-140*	28.91	*1.2*	*50*	
Surr: Tetrachloro-m-xylene	*29.26*	0	*32.48*	0	*90.1*	*45-124*	28.58	*2.34*	*50*	

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94768A** Instrument ID **GC14** Method: **SW8082**

The following samples were analyzed in this batch:

16111186-02B	16111186-03B	16111186-04B
16111186-05B	16111186-06B	16111186-07B
16111186-08B		

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94769** Instrument ID **GC12** Method: **SW8081**

MBLK Sample ID: **PBLKS1-94769-94769** Units: **µg/Kg** Analysis Date: **11/18/2016 11:15 PM**

Client ID: Run ID: **GC12_161118A** SeqNo: **4164025** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	U	10								
4,4´-DDE	U	10								
4,4´-DDT	U	10								
Aldrin	U	10								
alpha-BHC	U	10								
alpha-Chlordane	U	10								
beta-BHC	U	10								
Chlordane, Technical	U	25								
delta-BHC	U	10								
Dieldrin	U	10								
Endosulfan I	U	10								
Endosulfan II	U	10								
Endosulfan sulfate	U	10								
Endrin	U	10								
Endrin aldehyde	U	10								
Endrin ketone	U	10								
gamma-BHC (Lindane)	U	10								
gamma-Chlordane	U	10								
Heptachlor	U	10								
Heptachlor epoxide	U	10								
Methoxychlor	U	10								
Toxaphene	U	60								
Surr: Decachlorobiphenyl	*29.67*	0	*33.3*	0	*89.1*	*47.5-136*	0			
Surr: Tetrachloro-m-xylene	*29.33*	0	*33.3*	0	*88.1*	*40.3-131*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94769** Instrument ID **GC12** Method: **SW8081**

LCS Sample ID: **PLCSS1-94769-94769** Units: **µg/Kg** Analysis Date: **11/18/2016 11:32 PM**

Client ID: Run ID: **GC12_161118A** SeqNo: **4164026** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	38.33	10	33.33	0	115	41.5-132	0			
4,4´-DDE	37	10	33.33	0	111	44.8-127	0			
4,4´-DDT	39.67	10	33.33	0	119	33.2-145	0			
Aldrin	35.33	10	33.33	0	106	44.7-119	0			
alpha-BHC	35.67	10	33.33	0	107	39.3-125	0			
alpha-Chlordane	36	10	33.33	0	108	44-124	0			
beta-BHC	36	10	33.33	0	108	43.1-125	0			
delta-BHC	40.67	10	33.33	0	122	39.7-131	0			
Dieldrin	36.33	10	33.33	0	109	43.1-127	0			
Endosulfan I	35.67	10	33.33	0	107	44.8-127	0			
Endosulfan II	36	10	33.33	0	108	42.5-130	0			
Endosulfan sulfate	36.67	10	33.33	0	110	36.5-138	0			
Endrin	36.33	10	33.33	0	109	36.5-141	0			
Endrin aldehyde	35.33	10	33.33	0	106	37.5-130	0			
Endrin ketone	35.67	10	33.33	0	107	37.7-140	0			
gamma-BHC (Lindane)	36.33	10	33.33	0	109	43.5-120	0			
gamma-Chlordane	37.67	10	33.33	0	113	39.4-127	0			
Heptachlor	36.67	10	33.33	0	110	47-120	0			
Heptachlor epoxide	36.67	10	33.33	0	110	45.2-126	0			
Methoxychlor	39	10	33.33	0	117	32.4-143	0			
Surr: Decachlorobiphenyl	*33.33*	0	*33.3*	0	*100*	*47.5-136*	0			
Surr: Tetrachloro-m-xylene	*33.67*	0	*33.3*	0	*101*	*40.3-131*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94769** Instrument ID **GC12** Method: **SW8081**

MS Sample ID: **16111186-03B MS** Units: **µg/Kg** Analysis Date: **11/19/2016 12:08 A**

Client ID: **BA-SB02(1-4)111516** Run ID: **GC12_161118A** SeqNo: **4164030** Prep Date: **11/18/2016** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	37.85	49	32.91	0	115	41.5-132	0			J
4,4´-DDE	39.49	49	32.91	0	120	44.8-127	0			J
4,4´-DDT	46.07	49	32.91	0	140	33.2-145	0			J
Aldrin	34.56	49	32.91	0	105	44.7-119	0			J
alpha-BHC	32.91	49	32.91	0	100	39.3-125	0			J
alpha-Chlordane	36.2	49	32.91	0	110	44-124	0			J
beta-BHC	39.49	49	32.91	0	120	43.1-125	0			J
delta-BHC	37.85	49	32.91	0	115	39.7-131	0			J
Dieldrin	37.85	49	32.91	6.667	94.8	43.1-127	0			J
Endosulfan I	34.56	49	32.91	0	105	44.8-127	0			J
Endosulfan II	34.56	49	32.91	0	105	42.5-130	0			J
Endosulfan sulfate	37.85	49	32.91	0	115	36.5-138	0			J
Endrin	36.2	49	32.91	0	110	36.5-141	0			J
Endrin aldehyde	36.2	49	32.91	0	110	37.5-130	0			J
Endrin ketone	36.2	49	32.91	0	110	37.7-140	0			J
gamma-BHC (Lindane)	34.56	49	32.91	0	105	43.5-120	0			J
gamma-Chlordane	37.85	49	32.91	0	115	39.4-127	0			J
Heptachlor	34.56	49	32.91	0	105	47-120	0			J
Heptachlor epoxide	37.85	49	32.91	0	115	45.2-126	0			J
Methoxychlor	39.49	49	32.91	0	120	32.4-143	0			J
Surr: Decachlorobiphenyl	*36.2*	0	*32.88*	0	*110*	*47.5-136*	0			
Surr: Tetrachloro-m-xylene	*31.26*	0	*32.88*	0	*95.1*	*40.3-131*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94769** Instrument ID **GC12** Method: **SW8081**

MSD Sample ID: **16111186-03B MSD** Units: **µg/Kg** Analysis Date: **11/19/2016 12:26 A**

Client ID: **BA-SB02(1-4)111516** Run ID: **GC12_161118A** SeqNo: **4164031** Prep Date: **11/18/2016** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	37.42	49	32.54	0	115	41.5-132	37.85	0	35	J
4,4´-DDE	40.67	49	32.54	0	125	44.8-127	39.49	0	35	J
4,4´-DDT	50.44	49	32.54	0	155	33.2-145	46.07	9.04	35	S
Aldrin	35.79	49	32.54	0	110	44.7-119	34.56	0	35	J
alpha-BHC	34.17	49	32.54	0	105	39.3-125	32.91	0	35	J
alpha-Chlordane	37.42	49	32.54	0	115	44-124	36.2	0	35	J
beta-BHC	39.05	49	32.54	0	120	43.1-125	39.49	0	35	J
delta-BHC	39.05	49	32.54	0	120	39.7-131	37.85	0	35	J
Dieldrin	40.67	49	32.54	6.667	105	43.1-127	37.85	0	35	J
Endosulfan I	35.79	49	32.54	0	110	44.8-127	34.56	0	35	J
Endosulfan II	35.79	49	32.54	0	110	42.5-130	34.56	0	35	J
Endosulfan sulfate	39.05	49	32.54	0	120	36.5-138	37.85	0	35	J
Endrin	37.42	49	32.54	0	115	36.5-141	36.2	0	35	J
Endrin aldehyde	35.79	49	32.54	0	110	37.5-130	36.2	0	35	J
Endrin ketone	35.79	49	32.54	0	110	37.7-140	36.2	0	35	J
gamma-BHC (Lindane)	35.79	49	32.54	0	110	43.5-120	34.56	0	35	J
gamma-Chlordane	40.67	49	32.54	0	125	39.4-127	37.85	0	35	J
Heptachlor	35.79	49	32.54	0	110	47-120	34.56	0	35	J
Heptachlor epoxide	39.05	49	32.54	0	120	45.2-126	37.85	0	35	J
Methoxychlor	40.67	49	32.54	0	125	32.4-143	39.49	0	35	J
Surr: Decachlorobiphenyl	*35.79*	0	*32.51*	0	*110*	*47.5-136*	36.2	*1.13*	*35*	
Surr: Tetrachloro-m-xylene	*32.54*	0	*32.51*	0	*100*	*40.3-131*	31.26	*4*	*35*	

The following samples were analyzed in this batch:

16111186-02B	16111186-03B	16111186-04B
16111186-05B	16111186-06B	16111186-07B
16111186-08B		

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94883** Instrument ID **HG1** Method: **SW7471B**

MBLK Sample ID: **MBLK-94883-94883** Units: **mg/Kg** Analysis Date: **11/23/2016 05:24 PM**
Client ID: Run ID: **HG1_161123A** SeqNo: **4171745** Prep Date: **11/23/2016** 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-94883-94883** Units: **mg/Kg** Analysis Date: **11/23/2016 05:26 PM**
Client ID: Run ID: **HG1_161123A** SeqNo: **4171746** Prep Date: **11/23/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.175	0.020	0.1665	0	105	80-120	0			

MS Sample ID: **16111186-03BMS** Units: **mg/Kg** Analysis Date: **11/23/2016 06:58 PM**
Client ID: **BA-SB02(1-4)111516** Run ID: **HG1_161123A** SeqNo: **4171779** Prep Date: **11/23/2016** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.2439	0.027	0.1112	0.2467	-2.52	75-125	0			S

MSD Sample ID: **16111186-03BMSD** Units: **mg/Kg** Analysis Date: **11/23/2016 07:01 PM**
Client ID: **BA-SB02(1-4)111516** Run ID: **HG1_161123A** SeqNo: **4171780** Prep Date: **11/23/2016** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.2623	0.027	0.112	0.2467	14	75-125	0.2439	7.29	35	S

The following samples were analyzed in this batch:

16111186-02B	16111186-03B	16111186-04B
16111186-05B	16111186-06B	16111186-07B
16111186-08B		

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94781** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-94781-94781** Units: **mg/Kg** Analysis Date: **11/18/2016 03:53 PM**

Client ID: Run ID: **ICP2_161118A** SeqNo: **4162914** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.50								
Antimony	U	0.25								
Barium	U	0.25								
Beryllium	U	0.10								
Cadmium	U	0.50								
Calcium	U	25								
Chromium	0.01868	0.25								J
Cobalt	U	0.25								
Copper	U	0.50								
Iron	U	4.0								
Lead	U	0.25								
Magnesium	U	10								
Manganese	U	0.25								
Nickel	U	0.25								
Potassium	2.895	10								J
Selenium	U	0.50								
Silver	U	0.25								
Sodium	3.956	10								J
Thallium	U	0.50								
Vanadium	U	0.25								
Zinc	0.07921	0.50								J

MBLK Sample ID: **MBLK-94781-94781** Units: **mg/Kg** Analysis Date: **11/21/2016 10:57 A**

Client ID: Run ID: **ICP2_161121A** SeqNo: **4164956** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94781** Instrument ID **ICP2** Method: **SW846 6010C**

LCS Sample ID: **LCS-94781-94781** Units: **mg/Kg** Analysis Date: **11/18/2016 03:58 PM**

Client ID: Run ID: **ICP2_161118A** SeqNo: **4162915** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	5.21	0.50	5	0	104	80-120	0			
Antimony	4.933	0.25	5	0	98.7	80-120	0			
Arsenic	4.766	0.25	5	0	95.3	80-120	0			
Barium	4.649	0.25	5	0	93	80-120	0			
Beryllium	4.48	0.10	5	0	89.6	80-120	0			
Cadmium	4.751	0.50	5	0	95	80-120	0			
Calcium	455.3	25	500	0	91.1	80-120	0			
Chromium	4.94	0.25	5	0	98.8	80-120	0			
Cobalt	4.83	0.25	5	0	96.6	80-120	0			
Copper	4.707	0.50	5	0	94.1	80-120	0			
Iron	461.1	4.0	500	0	92.2	80-120	0			
Lead	4.634	0.25	5	0	92.7	80-120	0			
Magnesium	476.7	10	500	0	95.3	80-120	0			
Manganese	4.592	0.25	5	0	91.8	80-120	0			
Nickel	4.658	0.25	5	0	93.2	80-120	0			
Potassium	472.4	10	500	0	94.5	80-120	0			
Selenium	4.32	0.50	5	0	86.4	80-120	0			
Silver	4.568	0.25	5	0	91.4	80-120	0			
Sodium	482.3	10	500	0	96.5	80-120	0			
Thallium	4.916	0.50	5	0	98.3	80-120	0			
Vanadium	4.632	0.25	5	0	92.6	80-120	0			
Zinc	4.678	0.50	5	0	93.6	80-120	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94781** Instrument ID **ICP2** Method: **SW846 6010C**

MS Sample ID: **16111186-03BMS** Units: **mg/Kg** Analysis Date: **11/18/2016 04:20 PM**

Client ID: **BA-SB02(1-4)111516** Run ID: **ICP2_161118A** SeqNo: **4162919** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	4450	0.71	7.092	2880	22100	75-125	0			SO
Antimony	17.86	0.35	7.092	8.074	138	75-125	0			S
Arsenic	13.77	0.35	7.092	6.616	101	75-125	0			
Barium	72.21	0.35	7.092	75.94	-52.7	75-125	0			SO
Beryllium	6.686	0.14	7.092	0.06926	93.3	75-125	0			
Cadmium	7.826	0.71	7.092	0.3827	105	75-125	0			
Calcium	18030	35	709.2	16500	216	75-125	0			SO
Chromium	15.7	0.35	7.092	8.13	107	75-125	0			
Cobalt	11.36	0.35	7.092	3.835	106	75-125	0			
Copper	18.85	0.71	7.092	13.43	76.4	75-125	0			
Iron	8443	5.7	709.2	7353	154	75-125	0			SO
Lead	29.56	0.35	7.092	27.62	27.4	75-125	0			S
Magnesium	8180	14	709.2	6993	167	75-125	0			SO
Manganese	312.8	0.35	7.092	333.4	-290	75-125	0			SO
Nickel	16.14	0.35	7.092	8.716	105	75-125	0			
Potassium	1458	14	709.2	593.2	122	75-125	0			
Selenium	6.555	0.71	7.092	-0.08976	93.7	75-125	0			
Silver	7.361	0.35	7.092	0.8888	91.3	75-125	0			
Sodium	771.2	14	709.2	68.97	99	75-125	0			
Thallium	6.999	0.71	7.092	0.216	95.6	75-125	0			
Vanadium	22.1	0.35	7.092	11.06	156	75-125	0			S
Zinc	74.08	0.71	7.092	89.13	-212	75-125	0			SO

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94781** Instrument ID **ICP2** Method: **SW846 6010C**

MSD Sample ID: **16111186-03BMSD** Units: **mg/Kg** Analysis Date: **11/18/2016 04:26 PM**

Client ID: **BA-SB02(1-4)111516** Run ID: **ICP2_161118A** SeqNo: **4162920** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	4291	0.71	7.082	2880	19900	75-125	4450	3.64	20	SO
Antimony	17.05	0.35	7.082	8.074	127	75-125	17.86	4.66	20	S
Arsenic	12.49	0.35	7.082	6.616	82.9	75-125	13.77	9.8	20	
Barium	64.02	0.35	7.082	75.94	-168	75-125	72.21	12	20	SO
Beryllium	6.632	0.14	7.082	0.06926	92.7	75-125	6.686	0.819	20	
Cadmium	7.643	0.71	7.082	0.3827	103	75-125	7.826	2.37	20	
Calcium	17250	35	708.2	16500	107	75-125	18030	4.4	20	O
Chromium	15.21	0.35	7.082	8.13	100	75-125	15.7	3.13	20	
Cobalt	11.13	0.35	7.082	3.835	103	75-125	11.36	2.07	20	
Copper	15.13	0.71	7.082	13.43	24	75-125	18.85	21.9	20	SR
Iron	8134	5.7	708.2	7353	110	75-125	8443	3.73	20	O
Lead	23.5	0.35	7.082	27.62	-58.3	75-125	29.56	22.9	20	SR
Magnesium	7857	14	708.2	6993	122	75-125	8180	4.02	20	O
Manganese	290.1	0.35	7.082	333.4	-612	75-125	312.8	7.55	20	SO
Nickel	15.81	0.35	7.082	8.716	100	75-125	16.14	2.05	20	
Potassium	1422	14	708.2	593.2	117	75-125	1458	2.51	20	
Selenium	7.058	0.71	7.082	-0.08976	101	75-125	6.555	7.39	20	
Silver	7.074	0.35	7.082	0.8888	87.3	75-125	7.361	3.98	20	
Sodium	778.5	14	708.2	68.97	100	75-125	771.2	0.945	20	
Thallium	6.96	0.71	7.082	0.216	95.2	75-125	6.999	0.568	20	
Vanadium	21.67	0.35	7.082	11.06	150	75-125	22.1	1.98	20	S
Zinc	59.42	0.71	7.082	89.13	-419	75-125	74.08	22	20	SRO

The following samples were analyzed in this batch:

16111186-02B	16111186-03B	16111186-04B
16111186-05B	16111186-06B	16111186-07B
16111186-08B		

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94913** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-94913-94913** Units: **µg/Kg** Analysis Date: **11/22/2016 05:19 PM**

Client ID: Run ID: **SVMS5_161122A** SeqNo: **4169828** Prep Date: **11/22/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	U	33								
1,2-Dichlorobenzene	U	33								
1,3-Dichlorobenzene	U	33								
1,4-Dichlorobenzene	U	33								
2,2`-Oxybis(1-chloropropane)	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								
Anthracene	U	6.7								
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-ethylhexyl)phthalate	U	33								
Butyl benzyl phthalate	U	33								
Carbazole	U	33								
Chrysene	U	6.7								

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

QC BATCH REPORT

Batch ID: **94913** Instrument ID **SVMS5** Method: **SW846 8270D**

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					
Surr: 2,4,6-Tribromophenol	*2383*	0	*3333*	0	*71.5*	*34-140*	0
Surr: 2-Fluorobiphenyl	*3087*	0	*3333*	0	*92.6*	*12-100*	0
Surr: 2-Fluorophenol	*2656*	0	*3333*	0	*79.7*	*33-117*	0
Surr: 4-Terphenyl-d14	*3614*	0	*3333*	0	*108*	*25-137*	0
Surr: Nitrobenzene-d5	*2217*	0	*3333*	0	*66.5*	*37-107*	0
Surr: Phenol-d6	*2409*	0	*3333*	0	*72.3*	*40-106*	0

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94913** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-94913-94913** Units: **µg/Kg** Analysis Date: **11/22/2016 05:42 PM**

Client ID: Run ID: **SVMS5_161122A** SeqNo: **4169829** Prep Date: **11/22/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	874	33	1333	0	65.6	45-110	0			
1,2-Dichlorobenzene	856.7	33	1333	0	64.3	45-95	0			
1,3-Dichlorobenzene	856	33	1333	0	64.2	40-100	0			
1,4-Dichlorobenzene	866	33	1333	0	65	35-105	0			
2,4,5-Trichlorophenol	1211	33	1333	0	90.8	50-110	0			
2,4,6-Trichlorophenol	1150	33	1333	0	86.3	45-110	0			
2,4-Dichlorophenol	951.3	33	1333	0	71.4	45-110	0			
2,4-Dimethylphenol	840.7	33	1333	0	63.1	30-105	0			
2,4-Dinitrophenol	894.7	33	1333	0	67.1	15-130	0			
2,4-Dinitrotoluene	1130	33	1333	0	84.8	50-115	0			
2,6-Dinitrotoluene	1130	33	1333	0	84.8	50-110	0			
2-Chloronaphthalene	1101	6.7	1333	0	82.6	45-105	0			
2-Chlorophenol	910.7	33	1333	0	68.3	45-105	0			
2-Methylnaphthalene	927.3	6.7	1333	0	69.6	45-105	0			
2-Methylphenol	922	33	1333	0	69.2	40-105	0			
2-Nitroaniline	1081	33	1333	0	81.1	45-120	0			
2-Nitrophenol	948	33	1333	0	71.1	40-110	0			
3&4-Methylphenol	910.7	33	1333	0	68.3	40-105	0			
3,3´-Dichlorobenzidine	785.3	170	1333	0	58.9	30-120	0			
3-Nitroaniline	625.3	33	1333	0	46.9	25-150	0			
4,6-Dinitro-2-methylphenol	1035	33	1333	0	77.6	40-130	0			
4-Bromophenyl phenyl ether	1117	33	1333	0	83.8	45-115	0			
4-Chloro-3-methylphenol	972	33	1333	0	72.9	45-115	0			
4-Chloroaniline	807.3	67	1333	0	60.6	15-110	0			
4-Chlorophenyl phenyl ether	1165	33	1333	0	87.4	45-110	0			
4-Nitroaniline	740	170	1333	0	55.5	35-150	0			
4-Nitrophenol	1019	33	1333	0	76.5	15-140	0			
Acenaphthene	1074	6.7	1333	0	80.6	45-110	0			
Acenaphthylene	1133	6.7	1333	0	85	45-105	0			
Anthracene	1175	6.7	1333	0	88.2	55-105	0			
Benzo(a)anthracene	1189	6.7	1333	0	89.2	50-110	0			
Benzo(a)pyrene	1139	6.7	1333	0	85.4	50-110	0			
Benzo(b)fluoranthene	1173	6.7	1333	0	88	45-115	0			
Benzo(g,h,i)perylene	1170	6.7	1333	0	87.8	40-125	0			
Benzo(k)fluoranthene	1219	6.7	1333	0	91.4	45-115	0			
Bis(2-chloroethoxy)methane	891.3	33	1333	0	66.9	45-110	0			
Bis(2-chloroethyl)ether	870	33	1333	0	65.3	40-105	0			
Bis(2-ethylhexyl)phthalate	1179	33	1333	0	88.5	45-125	0			
Butyl benzyl phthalate	1145	33	1333	0	85.9	50-125	0			
Carbazole	1135	33	1333	0	85.1	50-150	0			
Chrysene	1229	6.7	1333	0	92.2	55-110	0			
Dibenzo(a,h)anthracene	1156	6.7	1333	0	86.7	40-125	0			

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

QC BATCH REPORT

Batch ID: **94913** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	1140	33	1333	0	85.5	50-105	0
Diethyl phthalate	1261	33	1333	0	94.6	50-115	0
Dimethyl phthalate	1157	33	1333	0	86.8	50-110	0
Di-n-butyl phthalate	1111	33	1333	0	83.4	55-110	0
Di-n-octyl phthalate	1153	33	1333	0	86.5	40-130	0
Fluoranthene	1129	6.7	1333	0	84.7	55-115	0
Fluorene	1177	6.7	1333	0	88.3	50-110	0
Hexachlorobenzene	1092	33	1333	0	81.9	45-120	0
Hexachlorobutadiene	880.7	33	1333	0	66.1	40-115	0
Hexachlorocyclopentadiene	1084	33	1333	0	81.3	40-115	0
Hexachloroethane	898	33	1333	0	67.4	35-110	0
Indeno(1,2,3-cd)pyrene	1073	6.7	1333	0	80.5	40-120	0
Isophorone	866	170	1333	0	65	45-110	0
Naphthalene	876.7	6.7	1333	0	65.8	40-105	0
Nitrobenzene	904	170	1333	0	67.8	40-115	0
N-Nitrosodi-n-propylamine	895.3	33	1333	0	67.2	40-115	0
N-Nitrosodiphenylamine	1154	33	1333	0	86.6	50-115	0
Pentachlorophenol	1043	33	1333	0	78.3	25-120	0
Phenanthrene	1242	6.7	1333	0	93.2	50-110	0
Phenol	881.3	33	1333	0	66.1	40-100	0
Pyrene	1394	6.7	1333	0	105	45-125	0
Surr: 2,4,6-Tribromophenol	*2747*	0	*3333*	0	*82.4*	*34-140*	0
Surr: 2-Fluorobiphenyl	*2869*	0	*3333*	0	*86.1*	*12-100*	0
Surr: 2-Fluorophenol	*2427*	0	*3333*	0	*72.8*	*33-117*	0
Surr: 4-Terphenyl-d14	*3472*	0	*3333*	0	*104*	*25-137*	0
Surr: Nitrobenzene-d5	*2121*	0	*3333*	0	*63.6*	*37-107*	0
Surr: Phenol-d6	*2275*	0	*3333*	0	*68.2*	*40-106*	0

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94913** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **16111186-03B MS** Units: **µg/Kg** Analysis Date: **11/22/2016 08:36 PM**

Client ID: **BA-SB02(1-4)111516** Run ID: **SVMS5_161122A** SeqNo: **4169843** Prep Date: **11/22/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	651.2	33	1330	0	49	45-110	0			
1,2-Dichlorobenzene	612	33	1330	0	46	45-95	0			
1,3-Dichlorobenzene	593.4	33	1330	0	44.6	40-100	0			
1,4-Dichlorobenzene	600.7	33	1330	0	45.2	35-105	0			
2,4,5-Trichlorophenol	1205	33	1330	0	90.6	50-110	0			
2,4,6-Trichlorophenol	1145	33	1330	0	86.1	45-110	0			
2,4-Dichlorophenol	950.6	33	1330	0	71.5	45-110	0			
2,4-Dimethylphenol	803.6	33	1330	0	60.4	30-105	0			
2,4-Dinitrophenol	858.1	33	1330	0	64.5	15-130	0			
2,4-Dinitrotoluene	1066	33	1330	0	80.2	50-115	0			
2,6-Dinitrotoluene	1066	33	1330	0	80.2	50-110	0			
2-Chloronaphthalene	1006	6.7	1330	0	75.7	45-105	0			
2-Chlorophenol	690.5	33	1330	0	51.9	45-105	0			
2-Methylnaphthalene	796.9	6.7	1330	3.786	59.6	45-105	0			
2-Methylphenol	773.6	33	1330	0	58.2	40-105	0			
2-Nitroaniline	1048	33	1330	0	78.8	45-120	0			
2-Nitrophenol	697.1	33	1330	0	52.4	40-110	0			
3&4-Methylphenol	835.5	33	1330	0	62.8	40-105	0			
3,3´-Dichlorobenzidine	582.7	170	1330	0	43.8	30-120	0			
3-Nitroaniline	831.5	33	1330	0	62.5	25-150	0			
4,6-Dinitro-2-methylphenol	986.5	33	1330	0	74.2	40-130	0			
4-Bromophenyl phenyl ether	1119	33	1330	0	84.1	45-115	0			
4-Chloro-3-methylphenol	980.5	33	1330	0	73.7	45-115	0			
4-Chloroaniline	614.6	67	1330	0	46.2	15-110	0			
4-Chlorophenyl phenyl ether	1082	33	1330	0	81.4	45-110	0			
4-Nitroaniline	951.9	170	1330	0	71.6	35-150	0			
4-Nitrophenol	998.5	33	1330	0	75.1	15-140	0			
Acenaphthene	1046	6.7	1330	0	78.6	45-110	0			
Acenaphthylene	1113	6.7	1330	0	83.7	45-105	0			
Anthracene	1125	6.7	1330	15.15	83.4	55-105	0			
Benzo(a)anthracene	1309	6.7	1330	79.52	92.4	50-110	0			
Benzo(a)pyrene	1304	6.7	1330	131.3	88.2	50-110	0			
Benzo(b)fluoranthene	1330	6.7	1330	186.2	86	45-115	0			
Benzo(g,h,i)perylene	1373	6.7	1330	98.45	95.8	40-125	0			
Benzo(k)fluoranthene	1195	6.7	1330	63.11	85.1	45-115	0			
Bis(2-chloroethoxy)methane	689.8	33	1330	0	51.9	45-110	0			
Bis(2-chloroethyl)ether	654.6	33	1330	0	49.2	40-105	0			
Bis(2-ethylhexyl)phthalate	1170	33	1330	69.42	82.8	45-125	0			
Butyl benzyl phthalate	1147	33	1330	0	86.2	50-125	0			
Carbazole	1124	33	1330	13.88	83.5	50-150	0			
Chrysene	1381	6.7	1330	123.7	94.5	55-110	0			
Dibenzo(a,h)anthracene	1235	6.7	1330	37.23	90.1	40-125	0			

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

QC BATCH REPORT

Batch ID: **94913** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	1118	33	1330	5.68	83.6	50-105	0	
Diethyl phthalate	1181	33	1330	0	88.8	50-115	0	
Dimethyl phthalate	1061	33	1330	0	79.8	50-110	0	
Di-n-butyl phthalate	1091	33	1330	8.835	81.4	55-110	0	
Di-n-octyl phthalate	1108	33	1330	88.35	76.6	40-130	0	
Fluoranthene	1516	6.7	1330	199.4	99	55-115	0	
Fluorene	1138	6.7	1330	5.68	85.1	50-110	0	
Hexachlorobenzene	1066	33	1330	0	80.1	45-120	0	
Hexachlorobutadiene	623.3	33	1330	0	46.9	40-115	0	
Hexachlorocyclopentadiene	771	33	1330	0	58	40-115	0	
Hexachloroethane	630.6	33	1330	0	47.4	35-110	0	
Indeno(1,2,3-cd)pyrene	1369	6.7	1330	146.4	91.9	40-120	0	
Isophorone	688.5	170	1330	0	51.8	45-110	0	
Naphthalene	674.5	6.7	1330	0	50.7	40-105	0	
Nitrobenzene	668.5	170	1330	0	50.3	40-115	0	
N-Nitrosodi-n-propylamine	662.5	33	1330	0	49.8	40-115	0	
N-Nitrosodiphenylamine	1121	33	1330	0	84.3	50-115	0	
Pentachlorophenol	1032	33	1330	0	77.6	25-120	0	
Phenanthrene	1646	6.7	1330	126.2	114	50-110	0	S
Phenol	723.7	33	1330	0	54.4	40-100	0	
Pyrene	1817	6.7	1330	212	121	45-125	0	
Surr: 2,4,6-Tribromophenol	*2649*	0	*3326*	0	*79.6*	*34-140*	0	
Surr: 2-Fluorobiphenyl	*2566*	0	*3326*	0	*77.2*	*12-100*	0	
Surr: 2-Fluorophenol	*1767*	0	*3326*	0	*53.1*	*33-117*	0	
Surr: 4-Terphenyl-d14	*3232*	0	*3326*	0	*97.2*	*25-137*	0	
Surr: Nitrobenzene-d5	*1577*	0	*3326*	0	*47.4*	*37-107*	0	
Surr: Phenol-d6	*1859*	0	*3326*	0	*55.9*	*40-106*	0	

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94913** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **16111186-03B MSD** Units: **µg/Kg** Analysis Date: **11/22/2016 08:59 PM**

Client ID: **BA-SB02(1-4)111516** Run ID: **SVMS5_161122A** SeqNo: **4169844** Prep Date: **11/22/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	883.8	33	1323	0	66.8	45-110	651.2	30.3	30	R
1,2-Dichlorobenzene	834.9	33	1323	0	63.1	45-95	612	30.8	30	R
1,3-Dichlorobenzene	811.1	33	1323	0	61.3	40-100	593.4	31	30	R
1,4-Dichlorobenzene	836.2	33	1323	0	63.2	35-105	600.7	32.8	30	R
2,4,5-Trichlorophenol	1326	33	1323	0	100	50-110	1205	9.56	30	
2,4,6-Trichlorophenol	1283	33	1323	0	97	45-110	1145	11.4	30	
2,4-Dichlorophenol	1066	33	1323	0	80.6	45-110	950.6	11.4	30	
2,4-Dimethylphenol	720.4	33	1323	0	54.5	30-105	803.6	10.9	30	
2,4-Dinitrophenol	864	33	1323	0	65.3	15-130	858.1	0.682	30	
2,4-Dinitrotoluene	1188	33	1323	0	89.8	50-115	1066	10.8	30	
2,6-Dinitrotoluene	1188	33	1323	0	89.8	50-110	1066	10.8	30	
2-Chloronaphthalene	1146	6.6	1323	0	86.6	45-105	1006	12.9	30	
2-Chlorophenol	923.5	33	1323	0	69.8	45-105	690.5	28.9	30	
2-Methylnaphthalene	955.3	6.6	1323	3.786	71.9	45-105	796.9	18.1	30	
2-Methylphenol	927.5	33	1323	0	70.1	40-105	773.6	18.1	30	
2-Nitroaniline	1152	33	1323	0	87.1	45-120	1048	9.52	30	
2-Nitrophenol	942.7	33	1323	0	71.3	40-110	697.1	30	30	
3&4-Methylphenol	981.7	33	1323	0	74.2	40-105	835.5	16.1	30	
3,3´-Dichlorobenzidine	703.2	170	1323	0	53.2	30-120	582.7	18.7	30	
3-Nitroaniline	907	33	1323	0	68.6	25-110	831.5	8.68	30	
4,6-Dinitro-2-methylphenol	1033	33	1323	0	78.1	40-130	986.5	4.64	30	
4-Bromophenyl phenyl ether	1166	33	1323	0	88.2	45-115	1119	4.15	30	
4-Chloro-3-methylphenol	1074	33	1323	0	81.2	45-115	980.5	9.07	30	
4-Chloroaniline	699.9	66	1323	0	52.9	15-110	614.6	13	30	
4-Chlorophenyl phenyl ether	1217	33	1323	0	92	45-110	1082	11.7	30	
4-Nitroaniline	1010	170	1323	0	76.3	35-150	951.9	5.88	30	
4-Nitrophenol	1078	33	1323	0	81.5	15-140	998.5	7.63	30	
Acenaphthene	1139	6.6	1323	0	86.1	45-110	1046	8.5	30	
Acenaphthylene	1228	6.6	1323	0	92.8	45-105	1113	9.82	30	
Anthracene	1223	6.6	1323	15.15	91.3	55-105	1125	8.38	30	
Benzo(a)anthracene	1318	6.6	1323	79.52	93.7	50-110	1309	0.712	30	
Benzo(a)pyrene	1255	6.6	1323	131.3	85	50-110	1304	3.82	30	
Benzo(b)fluoranthene	1295	6.6	1323	186.2	83.9	45-115	1330	2.67	30	
Benzo(g,h,i)perylene	1336	6.6	1323	98.45	93.6	40-125	1373	2.71	30	
Benzo(k)fluoranthene	1181	6.6	1323	63.11	84.5	45-115	1195	1.22	30	
Bis(2-chloroethoxy)methane	909.6	33	1323	0	68.8	45-110	689.8	27.5	30	
Bis(2-chloroethyl)ether	1002	33	1323	0	75.8	40-105	654.6	42	30	R
Bis(2-ethylhexyl)phthalate	1246	33	1323	69.42	89	45-125	1170	6.31	30	
Butyl benzyl phthalate	1195	33	1323	0	90.4	50-125	1147	4.15	30	
Carbazole	1154	33	1323	13.88	86.2	50-150	1124	2.65	30	
Chrysene	1330	6.6	1323	123.7	91.2	55-110	1381	3.78	30	
Dibenzo(a,h)anthracene	1252	6.6	1323	37.23	91.8	40-125	1235	1.32	30	

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94913** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	1220	33	1323	5.68	91.8	50-105	1118	8.7	30	
Diethyl phthalate	1243	33	1323	0	94	50-115	1181	5.09	30	
Dimethyl phthalate	1166	33	1323	0	88.1	50-110	1061	9.4	30	
Di-n-butyl phthalate	1133	33	1323	8.835	85	55-110	1091	3.8	30	
Di-n-octyl phthalate	1180	33	1323	88.35	82.5	40-130	1108	6.29	30	
Fluoranthene	1332	6.6	1323	199.4	85.6	55-115	1516	12.9	30	
Fluorene	1238	6.6	1323	5.68	93.1	50-110	1138	8.38	30	
Hexachlorobenzene	1168	33	1323	0	88.3	45-120	1066	9.13	30	
Hexachlorobutadiene	880.5	33	1323	0	66.6	40-115	623.3	34.2	30	R
Hexachlorocyclopentadiene	993	33	1323	0	75.1	40-115	771	25.2	30	
Hexachloroethane	862	33	1323	0	65.2	35-110	630.6	31	30	R
Indeno(1,2,3-cd)pyrene	1348	6.6	1323	146.4	90.8	40-120	1369	1.58	30	
Isophorone	901.7	170	1323	0	68.2	45-110	688.5	26.8	30	
Naphthalene	878.5	6.6	1323	0	66.4	40-105	674.5	26.3	30	
Nitrobenzene	926.2	170	1323	0	70	40-115	668.5	32.3	30	R
N-Nitrosodi-n-propylamine	890.4	33	1323	0	67.3	40-115	662.5	29.4	30	
N-Nitrosodiphenylamine	1174	33	1323	0	88.7	50-115	1121	4.6	30	
Pentachlorophenol	1064	33	1323	0	80.4	25-120	1032	3.06	30	
Phenanthrene	1416	6.6	1323	126.2	97.5	50-110	1646	15.1	30	
Phenol	914.3	33	1323	0	69.1	40-100	723.7	23.3	30	
Pyrene	1610	6.6	1323	212	106	45-125	1817	12	30	
Surr: 2,4,6-Tribromophenol	*2806*	0	*3307*	0	*84.8*	*34-140*	2649	*5.77*	*40*	
Surr: 2-Fluorobiphenyl	*2962*	0	*3307*	0	*89.6*	*12-100*	2566	*14.3*	*40*	
Surr: 2-Fluorophenol	*2417*	0	*3307*	0	*73.1*	*33-117*	1767	*31*	*40*	
Surr: 4-Terphenyl-d14	*3361*	0	*3307*	0	*102*	*25-137*	3232	*3.94*	*40*	
Surr: Nitrobenzene-d5	*2129*	0	*3307*	0	*64.4*	*37-107*	1577	*29.8*	*40*	
Surr: Phenol-d6	*2343*	0	*3307*	0	*70.8*	*40-106*	1859	*23*	*40*	

The following samples were analyzed in this batch:

16111186-02B	16111186-03B	16111186-04B
16111186-05B		

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94915** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-94915-94915** Units: **µg/Kg** Analysis Date: **11/22/2016 06:05 PM**

Client ID: Run ID: **SVMS5_161122A** SeqNo: **4169837** Prep Date: **11/22/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	U	33								
1,2-Dichlorobenzene	U	33								
1,3-Dichlorobenzene	U	33								
1,4-Dichlorobenzene	U	33								
2,2`-Oxybis(1-chloropropane)	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								
Anthracene	U	6.7								
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-ethylhexyl)phthalate	U	33								
Butyl benzyl phthalate	U	33								
Carbazole	U	33								
Chrysene	U	6.7								

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

Batch ID: **94915** Instrument ID **SVMS5** Method: **SW846 8270D**

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					
Surr: 2,4,6-Tribromophenol	*2265*	0	*3333*	0	*67.9*	*34-140*	0
Surr: 2-Fluorobiphenyl	*3088*	0	*3333*	0	*92.6*	*12-100*	0
Surr: 2-Fluorophenol	*2578*	0	*3333*	0	*77.3*	*33-117*	0
Surr: 4-Terphenyl-d14	*3251*	0	*3333*	0	*97.5*	*25-137*	0
Surr: Nitrobenzene-d5	*2293*	0	*3333*	0	*68.8*	*37-107*	0
Surr: Phenol-d6	*2427*	0	*3333*	0	*72.8*	*40-106*	0

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94915** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-94915-94915** Units: **µg/Kg** Analysis Date: **11/22/2016 06:28 PM**

Client ID: Run ID: **SVMS5_161122A** SeqNo: **4169839** Prep Date: **11/22/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	975.3	33	1333	0	73.2	45-110	0			
1,2-Dichlorobenzene	966	33	1333	0	72.5	45-95	0			
1,3-Dichlorobenzene	972.7	33	1333	0	73	40-100	0			
1,4-Dichlorobenzene	976.7	33	1333	0	73.3	35-105	0			
2,4,5-Trichlorophenol	1172	33	1333	0	87.9	50-110	0			
2,4,6-Trichlorophenol	1163	33	1333	0	87.3	45-110	0			
2,4-Dichlorophenol	1005	33	1333	0	75.4	45-110	0			
2,4-Dimethylphenol	947.3	33	1333	0	71.1	30-105	0			
2,4-Dinitrophenol	380	33	1333	0	28.5	15-130	0			
2,4-Dinitrotoluene	1178	33	1333	0	88.4	50-115	0			
2,6-Dinitrotoluene	1178	33	1333	0	88.4	50-110	0			
2-Chloronaphthalene	1195	6.7	1333	0	89.6	45-105	0			
2-Chlorophenol	978.7	33	1333	0	73.4	45-105	0			
2-Methylnaphthalene	1022	6.7	1333	0	76.7	45-105	0			
2-Methylphenol	1000	33	1333	0	75	40-105	0			
2-Nitroaniline	1115	33	1333	0	83.7	45-120	0			
2-Nitrophenol	1035	33	1333	0	77.6	40-110	0			
3&4-Methylphenol	998	33	1333	0	74.9	40-105	0			
3,3´-Dichlorobenzidine	934	170	1333	0	70.1	30-120	0			
3-Nitroaniline	530.7	33	1333	0	39.8	25-150	0			
4,6-Dinitro-2-methylphenol	811.3	33	1333	0	60.9	40-130	0			
4-Bromophenyl phenyl ether	1117	33	1333	0	83.8	45-115	0			
4-Chloro-3-methylphenol	1015	33	1333	0	76.1	45-115	0			
4-Chloroaniline	996.7	67	1333	0	74.8	15-110	0			
4-Chlorophenyl phenyl ether	1205	33	1333	0	90.4	45-110	0			
4-Nitroaniline	724.7	170	1333	0	54.4	35-150	0			
4-Nitrophenol	1044	33	1333	0	78.3	15-140	0			
Acenaphthene	1095	6.7	1333	0	82.1	45-110	0			
Acenaphthylene	1219	6.7	1333	0	91.5	45-105	0			
Anthracene	1189	6.7	1333	0	89.2	55-105	0			
Benzo(a)anthracene	1226	6.7	1333	0	92	50-110	0			
Benzo(a)pyrene	1113	6.7	1333	0	83.5	50-110	0			
Benzo(b)fluoranthene	1114	6.7	1333	0	83.6	45-115	0			
Benzo(g,h,i)perylene	1176	6.7	1333	0	88.2	40-125	0			
Benzo(k)fluoranthene	1157	6.7	1333	0	86.8	45-115	0			
Bis(2-chloroethoxy)methane	993.3	33	1333	0	74.5	45-110	0			
Bis(2-chloroethyl)ether	945.3	33	1333	0	70.9	40-105	0			
Bis(2-ethylhexyl)phthalate	1157	33	1333	0	86.8	45-125	0			
Butyl benzyl phthalate	1111	33	1333	0	83.4	50-125	0			
Carbazole	1176	33	1333	0	88.2	50-150	0			
Chrysene	1242	6.7	1333	0	93.2	55-110	0			
Dibenzo(a,h)anthracene	1170	6.7	1333	0	87.8	40-125	0			

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

QC BATCH REPORT

Batch ID: **94915** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	1194	33	1333	0	89.6	50-105	0
Diethyl phthalate	1277	33	1333	0	95.8	50-115	0
Dimethyl phthalate	1165	33	1333	0	87.4	50-110	0
Di-n-butyl phthalate	1171	33	1333	0	87.8	55-110	0
Di-n-octyl phthalate	1060	33	1333	0	79.5	40-130	0
Fluoranthene	1215	6.7	1333	0	91.1	55-115	0
Fluorene	1220	6.7	1333	0	91.5	50-110	0
Hexachlorobenzene	1098	33	1333	0	82.4	45-120	0
Hexachlorobutadiene	974	33	1333	0	73.1	40-115	0
Hexachlorocyclopentadiene	1117	33	1333	0	83.8	40-115	0
Hexachloroethane	1007	33	1333	0	75.5	35-110	0
Indeno(1,2,3-cd)pyrene	1108	6.7	1333	0	83.1	40-120	0
Isophorone	985.3	170	1333	0	73.9	45-110	0
Naphthalene	987.3	6.7	1333	0	74.1	40-105	0
Nitrobenzene	1019	170	1333	0	76.4	40-115	0
N-Nitrosodi-n-propylamine	1007	33	1333	0	75.6	40-115	0
N-Nitrosodiphenylamine	1129	33	1333	0	84.7	50-115	0
Pentachlorophenol	832	33	1333	0	62.4	25-120	0
Phenanthrene	1241	6.7	1333	0	93.1	50-110	0
Phenol	957.3	33	1333	0	71.8	40-100	0
Pyrene	1278	6.7	1333	0	95.9	45-125	0
Surr: 2,4,6-Tribromophenol	*2673*	0	*3333*	0	*80.2*	*34-140*	0
Surr: 2-Fluorobiphenyl	*3169*	0	*3333*	0	*95.1*	*12-100*	0
Surr: 2-Fluorophenol	*2592*	0	*3333*	0	*77.8*	*33-117*	0
Surr: 4-Terphenyl-d14	*3232*	0	*3333*	0	*97*	*25-137*	0
Surr: Nitrobenzene-d5	*2441*	0	*3333*	0	*73.2*	*37-107*	0
Surr: Phenol-d6	*2534*	0	*3333*	0	*76*	*40-106*	0

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94915** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **16111399-10B MS** Units: **µg/Kg** Analysis Date: **11/22/2016 07:26 PM**

Client ID: Run ID: **SVMS5_161122A** SeqNo: **4169840** Prep Date: **11/22/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	893	32	1275	0	70	45-110	0			
1,2-Dichlorobenzene	870.1	32	1275	0	68.2	45-95	0			
1,3-Dichlorobenzene	863.7	32	1275	0	67.7	40-100	0			
1,4-Dichlorobenzene	867.5	32	1275	0	68	35-105	0			
2,4,5-Trichlorophenol	1019	32	1275	0	79.9	50-110	0			
2,4,6-Trichlorophenol	984.9	32	1275	0	77.2	45-110	0			
2,4-Dichlorophenol	915.4	32	1275	0	71.8	45-110	0			
2,4-Dimethylphenol	883.5	32	1275	0	69.3	30-105	0			
2,4-Dinitrophenol	282.6	32	1275	0	22.2	15-130	0			
2,4-Dinitrotoluene	1061	32	1275	0	83.2	50-115	0			
2,6-Dinitrotoluene	1061	32	1275	0	83.2	50-110	0			
2-Chloronaphthalene	1063	6.4	1275	0	83.4	45-105	0			
2-Chlorophenol	887.9	32	1275	0	69.6	45-105	0			
2-Methylnaphthalene	932.6	6.4	1275	3.145	72.9	45-105	0			
2-Methylphenol	905.8	32	1275	0	71	40-105	0			
2-Nitroaniline	1031	32	1275	0	80.9	45-120	0			
2-Nitrophenol	986.8	32	1275	0	77.4	40-110	0			
3&4-Methylphenol	908.3	32	1275	0	71.2	40-105	0			
3,3´-Dichlorobenzidine	850.9	160	1275	0	66.7	30-120	0			
3-Nitroaniline	552.4	32	1275	0	43.3	25-150	0			
4,6-Dinitro-2-methylphenol	578.6	32	1275	0	45.4	40-130	0			
4-Bromophenyl phenyl ether	1023	32	1275	0	80.2	45-115	0			
4-Chloro-3-methylphenol	930	32	1275	0	72.9	45-115	0			
4-Chloroaniline	760.3	64	1275	0	59.6	15-110	0			
4-Chlorophenyl phenyl ether	1080	32	1275	0	84.7	45-110	0			
4-Nitroaniline	786.5	160	1275	0	61.7	35-150	0			
4-Nitrophenol	808.2	32	1275	0	63.4	15-140	0			
Acenaphthene	983	6.4	1275	0	77.1	45-110	0			
Acenaphthylene	1108	6.4	1275	0	86.9	45-105	0			
Anthracene	1058	6.4	1275	0	83	55-105	0			
Benzo(a)anthracene	1093	6.4	1275	0	85.7	50-110	0			
Benzo(a)pyrene	993.2	6.4	1275	0	77.9	50-110	0			
Benzo(b)fluoranthene	994.5	6.4	1275	0	78	45-115	0			
Benzo(g,h,i)perylene	1016	6.4	1275	0	79.6	40-125	0			
Benzo(k)fluoranthene	1027	6.4	1275	0	80.5	45-115	0			
Bis(2-chloroethoxy)methane	897.5	32	1275	0	70.4	45-110	0			
Bis(2-chloroethyl)ether	1194	32	1275	0	93.6	40-105	0			
Bis(2-ethylhexyl)phthalate	1082	32	1275	0	84.9	45-125	0			
Butyl benzyl phthalate	1070	32	1275	0	83.9	50-125	0			
Carbazole	1072	32	1275	0	84.1	50-150	0			
Chrysene	1095	6.4	1275	0	85.9	55-110	0			
Dibenzo(a,h)anthracene	1028	6.4	1275	0	80.6	40-125	0			

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

Batch ID: **94915** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	1077	32	1275	0	84.5	50-105	0
Diethyl phthalate	1169	32	1275	0	91.7	50-115	0
Dimethyl phthalate	1075	32	1275	0	84.3	50-110	0
Di-n-butyl phthalate	1074	32	1275	0	84.2	55-110	0
Di-n-octyl phthalate	1025	32	1275	0	80.4	40-130	0
Fluoranthene	1111	6.4	1275	0	87.1	55-115	0
Fluorene	1109	6.4	1275	0	87	50-110	0
Hexachlorobenzene	979.8	32	1275	0	76.8	45-120	0
Hexachlorobutadiene	887.9	32	1275	0	69.6	40-115	0
Hexachlorocyclopentadiene	713.8	32	1275	0	56	40-115	0
Hexachloroethane	878.4	32	1275	0	68.9	35-110	0
Indeno(1,2,3-cd)pyrene	1005	6.4	1275	0	78.8	40-120	0
Isophorone	923.6	160	1275	0	72.4	45-110	0
Naphthalene	886	6.4	1275	0	69.5	40-105	0
Nitrobenzene	943.4	160	1275	0	74	40-115	0
N-Nitrosodi-n-propylamine	933.2	32	1275	0	73.2	40-115	0
N-Nitrosodiphenylamine	1045	32	1275	0	82	50-115	0
Pentachlorophenol	424.2	32	1275	0	33.3	25-120	0
Phenanthrene	1131	6.4	1275	5.661	88.2	50-110	0
Phenol	862.4	32	1275	0	67.6	40-100	0
Pyrene	1165	6.4	1275	4.403	91	45-125	0
Surr: 2,4,6-Tribromophenol	*2339*	0	*3189*	0	*73.3*	*34-140*	0
Surr: 2-Fluorobiphenyl	*2793*	0	*3189*	0	*87.6*	*12-100*	0
Surr: 2-Fluorophenol	*2331*	0	*3189*	0	*73.1*	*33-117*	0
Surr: 4-Terphenyl-d14	*2842*	0	*3189*	0	*89.1*	*25-137*	0
Surr: Nitrobenzene-d5	*2203*	0	*3189*	0	*69.1*	*37-107*	0
Surr: Phenol-d6	*2247*	0	*3189*	0	*70.4*	*40-106*	0

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94915** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **16111399-10B MSD** Units: **µg/Kg** Analysis Date: **11/22/2016 07:49 PM**

Client ID: Run ID: **SVMS5_161122A** SeqNo: **4169841** Prep Date: **11/22/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	912.4	32	1300	0	70.2	45-110	893	2.15	30	
1,2-Dichlorobenzene	905.2	32	1300	0	69.6	45-95	870.1	3.96	30	
1,3-Dichlorobenzene	918.3	32	1300	0	70.6	40-100	863.7	6.12	30	
1,4-Dichlorobenzene	927.4	32	1300	0	71.3	35-105	867.5	6.67	30	
2,4,5-Trichlorophenol	1107	32	1300	0	85.1	50-110	1019	8.23	30	
2,4,6-Trichlorophenol	1079	32	1300	0	83	45-110	984.9	9.11	30	
2,4-Dichlorophenol	962.5	32	1300	0	74	45-110	915.4	5.02	30	
2,4-Dimethylphenol	918.3	32	1300	0	70.6	30-105	883.5	3.86	30	
2,4-Dinitrophenol	375.9	32	1300	0	28.9	15-130	282.6	28.3	30	
2,4-Dinitrotoluene	1097	32	1300	0	84.4	50-115	1061	3.36	30	
2,6-Dinitrotoluene	1097	32	1300	0	84.4	50-110	1061	3.36	30	
2-Chloronaphthalene	1101	6.5	1300	0	84.7	45-105	1063	3.48	30	
2-Chlorophenol	949.5	32	1300	0	73	45-105	887.9	6.7	30	
2-Methylnaphthalene	961.8	6.5	1300	3.145	73.7	45-105	932.6	3.09	30	
2-Methylphenol	950.8	32	1300	0	73.1	40-105	905.8	4.85	30	
2-Nitroaniline	1073	32	1300	0	82.5	45-120	1031	3.95	30	
2-Nitrophenol	1033	32	1300	0	79.4	40-110	986.8	4.55	30	
3&4-Methylphenol	943.6	32	1300	0	72.6	40-105	908.3	3.81	30	
3,3´-Dichlorobenzidine	859.7	160	1300	0	66.1	30-120	850.9	1.03	30	
3-Nitroaniline	583.3	32	1300	0	44.9	25-110	552.4	5.45	30	
4,6-Dinitro-2-methylphenol	709.5	32	1300	0	54.6	40-130	578.6	20.3	30	
4-Bromophenyl phenyl ether	1033	32	1300	0	79.5	45-115	1023	1.05	30	
4-Chloro-3-methylphenol	963.1	32	1300	0	74.1	45-115	930	3.5	30	
4-Chloroaniline	877.3	65	1300	0	67.5	15-110	760.3	14.3	30	
4-Chlorophenyl phenyl ether	1096	32	1300	0	84.3	45-110	1080	1.52	30	
4-Nitroaniline	715.4	160	1300	0	55	35-150	786.5	9.47	30	
4-Nitrophenol	927.4	32	1300	0	71.3	15-140	808.2	13.7	30	
Acenaphthene	1015	6.5	1300	0	78.1	45-110	983	3.22	30	
Acenaphthylene	1125	6.5	1300	0	86.5	45-105	1108	1.53	30	
Anthracene	1064	6.5	1300	0	81.8	55-105	1058	0.536	30	
Benzo(a)anthracene	1121	6.5	1300	0	86.2	50-110	1093	2.57	30	
Benzo(a)pyrene	1013	6.5	1300	0	77.9	50-110	993.2	2	30	
Benzo(b)fluoranthene	998.9	6.5	1300	0	76.8	45-115	994.5	0.446	30	
Benzo(g,h,i)perylene	1026	6.5	1300	0	78.9	40-125	1016	1.05	30	
Benzo(k)fluoranthene	1037	6.5	1300	0	79.8	45-115	1027	0.996	30	
Bis(2-chloroethoxy)methane	930	32	1300	0	71.5	45-110	897.5	3.55	30	
Bis(2-chloroethyl)ether	928.7	32	1300	0	71.4	40-105	1194	25	30	
Bis(2-ethylhexyl)phthalate	1109	32	1300	0	85.3	45-125	1082	2.4	30	
Butyl benzyl phthalate	1083	32	1300	0	83.3	50-125	1070	1.21	30	
Carbazole	1068	32	1300	0	82.1	50-150	1072	0.415	30	
Chrysene	1123	6.5	1300	0	86.4	55-110	1095	2.51	30	
Dibenzo(a,h)anthracene	1023	6.5	1300	0	78.7	40-125	1028	0.455	30	

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94915** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	1121	32	1300	0	86.2	50-105	1077	3.92	30	
Diethyl phthalate	1210	32	1300	0	93.1	50-115	1169	3.45	30	
Dimethyl phthalate	1119	32	1300	0	86	50-110	1075	3.99	30	
Di-n-butyl phthalate	1077	32	1300	0	82.8	55-110	1074	0.255	30	
Di-n-octyl phthalate	1044	32	1300	0	80.3	40-130	1025	1.81	30	
Fluoranthene	1111	6.5	1300	0	85.5	55-115	1111	0.0196	30	
Fluorene	1132	6.5	1300	0	87	50-110	1109	1.99	30	
Hexachlorobenzene	993.7	32	1300	0	76.4	45-120	979.8	1.41	30	
Hexachlorobutadiene	926.7	32	1300	0	71.3	40-115	887.9	4.27	30	
Hexachlorocyclopentadiene	816.8	32	1300	0	62.8	40-115	713.8	13.5	30	
Hexachloroethane	939.7	32	1300	0	72.3	35-110	878.4	6.75	30	
Indeno(1,2,3-cd)pyrene	1031	6.5	1300	0	79.3	40-120	1005	2.5	30	
Isophorone	933.9	160	1300	0	71.8	45-110	923.6	1.1	30	
Naphthalene	898.7	6.5	1300	0	69.1	40-105	886	1.43	30	
Nitrobenzene	969	160	1300	0	74.5	40-115	943.4	2.67	30	
N-Nitrosodi-n-propylamine	962.5	32	1300	0	74	40-115	933.2	3.09	30	
N-Nitrosodiphenylamine	1041	32	1300	0	80	50-115	1045	0.476	30	
Pentachlorophenol	592.4	32	1300	0	45.6	25-120	424.2	33.1	30	R
Phenanthrene	1131	6.5	1300	5.661	86.5	50-110	1131	0.0041	30	
Phenol	896.1	32	1300	0	68.9	40-100	862.4	3.84	30	
Pyrene	1197	6.5	1300	4.403	91.7	45-125	1165	2.7	30	
Surr: 2,4,6-Tribromophenol	*2343*	0	*3251*	0	*72.1*	*34-140*	2339	*0.171*	*40*	
Surr: 2-Fluorobiphenyl	*2895*	0	*3251*	0	*89*	*12-100*	2793	*3.59*	*40*	
Surr: 2-Fluorophenol	*2426*	0	*3251*	0	*74.6*	*33-117*	2331	*3.96*	*40*	
Surr: 4-Terphenyl-d14	*2911*	0	*3251*	0	*89.5*	*25-137*	2842	*2.4*	*40*	
Surr: Nitrobenzene-d5	*2315*	0	*3251*	0	*71.2*	*37-107*	2203	*4.98*	*40*	
Surr: Phenol-d6	*2374*	0	*3251*	0	*73*	*40-106*	2247	*5.5*	*40*	

The following samples were analyzed in this batch:

16111186-06B	16111186-07B	16111186-08B

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94783** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: **MBLK-94783-94783** Units: **µg/Kg-dry** Analysis Date: **11/18/2016 02:31 PM**

Client ID: Run ID: **VMS5_161118A** SeqNo: **4162335** Prep Date: **11/18/2016** 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								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2-Dichloroethane	U	30								
1,2-Dichloropropane	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	U	100								
Benzene	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	75								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Dibromochloromethane	U	30								
Ethylbenzene	U	30								
Methyl tert-butyl ether	U	30								
Methylene chloride	U	30								
Styrene	U	30								
Tetrachloroethene	U	30								
Toluene	U	30								
trans-1,2-Dichloroethene	U	30								
trans-1,3-Dichloropropene	U	30								
Trichloroethene	U	30								
Vinyl chloride	U	30								
Xylenes, Total	U	90								
Surr: 1,2-Dichloroethane-d4	*963.5*	0	*1000*	0	*96.4*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*931*	0	*1000*	0	*93.1*	*70-130*	0			
Surr: Dibromofluoromethane	*994*	0	*1000*	0	*99.4*	*70-130*	0			
Surr: Toluene-d8	*984.5*	0	*1000*	0	*98.4*	*70-130*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94783** Instrument ID **VMS5** Method: **SW8260B**

LCS Sample ID: **LCS-94783-94783** Units: **µg/Kg-dry** Analysis Date: **11/18/2016 12:46 PM**

Client ID: Run ID: **VMS5_161118A** SeqNo: **4162334** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	941.5	30	1000	0	94.2	70-135	0			
1,1,2,2-Tetrachloroethane	967	30	1000	0	96.7	55-130	0			
1,1,2-Trichloroethane	964.5	30	1000	0	96.4	60-125	0			
1,1-Dichloroethane	901.5	30	1000	0	90.2	75-125	0			
1,1-Dichloroethene	943	30	1000	0	94.3	65-135	0			
1,2-Dichloroethane	868	30	1000	0	86.8	70-135	0			
1,2-Dichloropropane	855.5	30	1000	0	85.6	70-120	0			
2-Butanone	719	200	1000	0	71.9	30-160	0			
2-Hexanone	768.5	30	1000	0	76.8	45-145	0			
4-Methyl-2-pentanone	1122	30	1000	0	112	74-176	0			
Acetone	747.5	100	1000	0	74.8	20-160	0			
Benzene	976	30	1000	0	97.6	75-125	0			
Bromodichloromethane	896.5	30	1000	0	89.6	70-130	0			
Bromoform	923	30	1000	0	92.3	55-135	0			
Bromomethane	1162	75	1000	0	116	50-170	0			
Carbon disulfide	954	30	1000	0	95.4	45-160	0			
Carbon tetrachloride	803.5	30	1000	0	80.4	65-135	0			
Chlorobenzene	968	30	1000	0	96.8	75-125	0			
Chloroethane	757	100	1000	0	75.7	40-155	0			
Chloroform	864	30	1000	0	86.4	70-125	0			
Chloromethane	840	100	1000	0	84	50-144	0			
cis-1,2-Dichloroethene	870.5	30	1000	0	87	65-125	0			
cis-1,3-Dichloropropene	952.5	30	1000	0	95.2	70-125	0			
Dibromochloromethane	899	30	1000	0	89.9	65-135	0			
Ethylbenzene	984	30	1000	0	98.4	75-125	0			
Methyl tert-butyl ether	781.5	30	1000	0	78.2	75-125	0			
Methylene chloride	916.5	30	1000	0	91.6	55-145	0			
Styrene	1026	30	1000	0	103	80-138	0			
Tetrachloroethene	1022	30	1000	0	102	67-167	0			
Toluene	985	30	1000	0	98.5	70-125	0			
trans-1,2-Dichloroethene	902	30	1000	0	90.2	65-135	0			
trans-1,3-Dichloropropene	949.5	30	1000	0	95	59-129	0			
Trichloroethene	975.5	30	1000	0	97.6	75-125	0			
Vinyl chloride	840	30	1000	0	84	60-125	0			
Xylenes, Total	2904	90	3000	0	96.8	75-125	0			
Surr: 1,2-Dichloroethane-d4	*918.5*	0	*1000*	0	*91.8*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*960*	0	*1000*	0	*96*	*70-130*	0			
Surr: Dibromofluoromethane	*966.5*	0	*1000*	0	*96.6*	*70-130*	0			
Surr: Toluene-d8	*999.5*	0	*1000*	0	*100*	*70-130*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94783** Instrument ID **VMS5** Method: **SW8260B**

MS Sample ID: **16111186-03A MS** Units: **µg/Kg-dry** Analysis Date: **11/20/2016 01:34 A**

Client ID: **BA-SB02(1-4)111516** Run ID: **VMS5_161119A** SeqNo: **4162769** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1365	38	1273	0	107	70-135	0			
1,1,2,2-Tetrachloroethane	1206	38	1273	0	94.8	55-130	0			
1,1,2-Trichloroethane	1280	38	1273	0	101	60-125	0			
1,1-Dichloroethane	1273	38	1273	0	100	75-125	0			
1,1-Dichloroethene	1377	38	1273	0	108	65-135	0			
1,2-Dichloroethane	1191	38	1273	0	93.6	70-135	0			
1,2-Dichloropropane	1219	38	1273	0	95.8	70-120	0			
2-Butanone	1119	250	1273	0	88	30-160	0			
2-Hexanone	1055	38	1273	0	82.9	45-145	0			
4-Methyl-2-pentanone	1439	38	1273	0	113	74-176	0			
Acetone	1125	130	1273	0	88.4	20-160	0			
Benzene	1378	38	1273	0	108	75-125	0			
Bromodichloromethane	1252	38	1273	0	98.4	70-130	0			
Bromoform	1150	38	1273	0	90.4	55-135	0			
Bromomethane	1328	95	1273	0	104	50-170	0			
Carbon disulfide	1504	38	1273	0	118	45-160	0			
Carbon tetrachloride	1207	38	1273	0	94.8	65-135	0			
Chlorobenzene	1355	38	1273	0	106	75-125	0			
Chloroethane	1069	130	1273	0	84	40-155	0			
Chloroform	1174	38	1273	0	92.2	70-125	0			
Chloromethane	1112	130	1273	0	87.4	50-144	0			
cis-1,2-Dichloroethene	1209	38	1273	0	95	65-125	0			
cis-1,3-Dichloropropene	1300	38	1273	0	102	70-125	0			
Dibromochloromethane	1204	38	1273	0	94.6	65-135	0			
Ethylbenzene	1380	38	1273	0	108	75-125	0			
Methyl tert-butyl ether	1089	38	1273	0	85.6	75-125	0			
Methylene chloride	1327	38	1273	0	104	55-145	0			
Styrene	1474	38	1273	0	116	80-138	0			
Tetrachloroethene	2319	38	1273	0	182	67-167	0			S
Toluene	1371	38	1273	0	108	70-125	0			
trans-1,2-Dichloroethene	1292	38	1273	0	102	65-135	0			
trans-1,3-Dichloropropene	1229	38	1273	0	96.6	59-129	0			
Trichloroethene	1406	38	1273	0	110	75-125	0			
Vinyl chloride	1230	38	1273	0	96.6	60-125	0			
Xylenes, Total	4145	110	3818	0	109	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1216*	0	*1273*	0	*95.6*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1238*	0	*1273*	0	*97.3*	*70-130*	0			
Surr: Dibromofluoromethane	*1277*	0	*1273*	0	*100*	*70-130*	0			
Surr: Toluene-d8	*1260*	0	*1273*	0	*99*	*70-130*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94783** Instrument ID **VMS5** Method: **SW8260B**

MSD Sample ID: **16111186-03A MSD** Units: **µg/Kg-dry** Analysis Date: **11/20/2016 02:01 A**

Client ID: **BA-SB02(1-4)111516** Run ID: **VMS5_161119A** SeqNo: **4162770** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1314	38	1273	0	103	70-135	1365	3.8	30	
1,1,2,2-Tetrachloroethane	1170	38	1273	0	91.9	55-130	1206	3.05	30	
1,1,2-Trichloroethane	1250	38	1273	0	98.2	60-125	1280	2.31	30	
1,1-Dichloroethane	1233	38	1273	0	96.8	75-125	1273	3.2	30	
1,1-Dichloroethene	1360	38	1273	0	107	65-135	1377	1.26	30	
1,2-Dichloroethane	1179	38	1273	0	92.6	70-135	1191	0.967	30	
1,2-Dichloropropane	1210	38	1273	0	95	70-120	1219	0.734	30	
2-Butanone	1034	250	1273	0	81.2	30-160	1119	7.92	30	
2-Hexanone	1022	38	1273	0	80.3	45-145	1055	3.19	30	
4-Methyl-2-pentanone	1386	38	1273	0	109	74-176	1439	3.78	30	
Acetone	1061	130	1273	0	83.4	20-160	1125	5.82	30	
Benzene	1336	38	1273	0	105	75-125	1378	3.05	30	
Bromodichloromethane	1215	38	1273	0	95.5	70-130	1252	2.99	30	
Bromoform	1118	38	1273	0	87.8	55-135	1150	2.81	30	
Bromomethane	1277	95	1273	0	100	50-170	1328	3.91	30	
Carbon disulfide	1388	38	1273	0	109	45-160	1504	8.01	30	
Carbon tetrachloride	1161	38	1273	0	91.2	65-135	1207	3.87	30	
Chlorobenzene	1332	38	1273	0	105	75-125	1355	1.71	30	
Chloroethane	1021	130	1273	0	80.2	40-155	1069	4.57	30	
Chloroform	1139	38	1273	0	89.5	70-125	1174	3.03	30	
Chloromethane	1147	130	1273	0	90.2	50-144	1112	3.15	30	
cis-1,2-Dichloroethene	1194	38	1273	0	93.8	65-125	1209	1.27	30	
cis-1,3-Dichloropropene	1280	38	1273	0	101	70-125	1300	1.58	30	
Dibromochloromethane	1173	38	1273	0	92.2	65-135	1204	2.62	30	
Ethylbenzene	1373	38	1273	0	108	75-125	1380	0.508	30	
Methyl tert-butyl ether	1063	38	1273	0	83.5	75-125	1089	2.43	30	
Methylene chloride	1259	38	1273	0	98.9	55-145	1327	5.31	30	
Styrene	1455	38	1273	0	114	80-138	1474	1.3	30	
Tetrachloroethene	2341	38	1273	0	184	67-167	2319	0.956	30	S
Toluene	1355	38	1273	0	106	70-125	1371	1.17	30	
trans-1,2-Dichloroethene	1267	38	1273	0	99.6	65-135	1292	1.99	30	
trans-1,3-Dichloropropene	1216	38	1273	0	95.6	59-129	1229	1.09	30	
Trichloroethene	1403	38	1273	0	110	75-125	1406	0.181	30	
Vinyl chloride	1213	38	1273	0	95.3	60-125	1230	1.41	30	
Xylenes, Total	4054	110	3818	0	106	75-125	4145	2.2	30	
Surr: 1,2-Dichloroethane-d4	*1166*	0	*1273*	0	*91.6*	*70-130*	1216	*4.17*	*30*	
Surr: 4-Bromofluorobenzene	*1217*	0	*1273*	0	*95.6*	*70-130*	1238	*1.76*	*30*	
Surr: Dibromofluoromethane	*1296*	0	*1273*	0	*102*	*70-130*	1277	*1.48*	*30*	
Surr: Toluene-d8	*1257*	0	*1273*	0	*98.8*	*70-130*	1260	*0.253*	*30*	

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94783** Instrument ID **VMS5** Method: **SW8260B**

The following samples were analyzed in this batch:

16111186-01A	16111186-02A	16111186-03A
16111186-04A	16111186-05A	16111186-06A
16111186-07A	16111186-08A	

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201144** Instrument ID **VMS8** Method: **SW8260B**

MBLK Sample ID: **VBLKS1-161122-R201144** Units: **µg/Kg** Analysis Date: **11/22/2016 01:02 PM**

Client ID: Run ID: **VMS8_161122A** SeqNo: **4167710** 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-Dichloroethane	U	5.0								
1,1-Dichloroethene	U	5.0								
1,2-Dichloroethane	U	5.0								
1,2-Dichloropropane	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	U	5.0								
Chloromethane	U	10								
cis-1,2-Dichloroethene	U	5.0								
cis-1,3-Dichloropropene	U	5.0								
Dibromochloromethane	U	5.0								
Ethylbenzene	U	5.0								
Methyl tert-butyl ether	U	5.0								
Methylene chloride	2.84	5.0								J
Styrene	U	5.0								
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								
Vinyl chloride	U	5.0								
Xylenes, Total	U	5.0								
Surr: 1,2-Dichloroethane-d4	*19.72*	0	*20*	0	*98.6*	*70-120*	0			
Surr: 4-Bromofluorobenzene	*18.48*	0	*20*	0	*92.4*	*75-120*	0			
Surr: Dibromofluoromethane	*19.81*	0	*20*	0	*99*	*85-115*	0			
Surr: Toluene-d8	*19.37*	0	*20*	0	*96.8*	*85-120*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201144** Instrument ID **VMS8** Method: **SW8260B**

LCS Sample ID: **VLCSS1-161122-R201144** Units: **µg/Kg** Analysis Date: **11/22/2016 12:01 PM**

Client ID: Run ID: **VMS8_161122A** SeqNo: **4167708** 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	21.96	5.0	20	0	110	70-135	0			
1,1,2,2-Tetrachloroethane	18.15	5.0	20	0	90.8	55-130	0			
1,1,2-Trichloroethane	19.92	5.0	20	0	99.6	60-125	0			
1,1-Dichloroethane	19.54	5.0	20	0	97.7	75-125	0			
1,1-Dichloroethene	22.91	5.0	20	0	115	65-135	0			
1,2-Dichloroethane	19.34	5.0	20	0	96.7	70-135	0			
1,2-Dichloropropane	21.36	5.0	20	0	107	70-120	0			
2-Butanone	22.35	10	20	0	112	30-160	0			
2-Hexanone	18.64	5.0	20	0	93.2	45-145	0			
4-Methyl-2-pentanone	22.47	5.0	20	0	112	74-173	0			
Acetone	16.69	10	20	0	83.4	20-160	0			
Benzene	21.31	5.0	20	0	107	75-125	0			
Bromodichloromethane	20.53	5.0	20	0	103	70-130	0			
Bromoform	16.91	5.0	20	0	84.6	55-135	0			
Bromomethane	23.45	10	20	0	117	30-160	0			
Carbon disulfide	23.84	5.0	20	0	119	45-160	0			
Carbon tetrachloride	21.99	5.0	20	0	110	65-135	0			
Chlorobenzene	21.12	5.0	20	0	106	75-125	0			
Chloroethane	23.14	5.0	20	0	116	40-155	0			
Chloroform	20.77	5.0	20	0	104	70-125	0			
Chloromethane	16.62	10	20	0	83.1	50-130	0			
cis-1,2-Dichloroethene	21.43	5.0	20	0	107	65-125	0			
cis-1,3-Dichloropropene	21.56	5.0	20	0	108	70-125	0			
Dibromochloromethane	16.02	5.0	20	0	80.1	65-135	0			
Ethylbenzene	22.89	5.0	20	0	114	75-125	0			
Methyl tert-butyl ether	20.43	5.0	20	0	102	75-125	0			
Methylene chloride	22.93	5.0	20	0	115	55-140	0			
Styrene	21.28	5.0	20	0	106	74-134	0			
Tetrachloroethene	29.87	5.0	20	0	149	81-171	0			
Toluene	21.68	5.0	20	0	108	70-125	0			
trans-1,2-Dichloroethene	21.88	5.0	20	0	109	65-135	0			
trans-1,3-Dichloropropene	18.88	5.0	20	0	94.4	65-125	0			
Trichloroethene	23.35	5.0	20	0	117	75-125	0			
Vinyl chloride	19.44	5.0	20	0	97.2	60-125	0			
Xylenes, Total	68.54	5.0	60	0	114	75-125	0			
Surr: 1,2-Dichloroethane-d4	*18.94*	0	*20*	0	*94.7*	*70-120*	0			
Surr: 4-Bromofluorobenzene	*20.25*	0	*20*	0	*101*	*75-120*	0			
Surr: Dibromofluoromethane	*20.29*	0	*20*	0	*101*	*85-115*	0			
Surr: Toluene-d8	*20.39*	0	*20*	0	*102*	*85-120*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201144** Instrument ID **VMS8** Method: **SW8260B**

MS Sample ID: **16111382-01A MS** Units: **µg/Kg** Analysis Date: **11/22/2016 05:56 PM**

Client ID: Run ID: **VMS8_161122A** SeqNo: **4169814** 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	22.34	5.0	20	0	112	70-135	0			
1,1,2,2-Tetrachloroethane	16.36	5.0	20	0	81.8	55-130	0			
1,1,2-Trichloroethane	21.69	5.0	20	0	108	60-125	0			
1,1-Dichloroethane	20.46	5.0	20	0	102	75-125	0			
1,1-Dichloroethene	23.22	5.0	20	0	116	65-135	0			
1,2-Dichloroethane	21.42	5.0	20	0	107	70-135	0			
1,2-Dichloropropane	21.2	5.0	20	0	106	70-120	0			
2-Butanone	42.01	10	20	0	210	30-160	0			S
2-Hexanone	28.87	5.0	20	0	144	45-145	0			
4-Methyl-2-pentanone	25.78	5.0	20	0	129	74-173	0			
Acetone	58.01	10	20	0	290	20-160	0			S
Benzene	21.28	5.0	20	0	106	75-125	0			
Bromodichloromethane	22.67	5.0	20	0	113	70-130	0			
Bromoform	18.32	5.0	20	0	91.6	55-135	0			
Bromomethane	23.57	10	20	0	118	30-160	0			
Carbon disulfide	23.9	5.0	20	0	120	45-160	0			
Carbon tetrachloride	22.54	5.0	20	0	113	65-135	0			
Chlorobenzene	21.53	5.0	20	0	108	75-125	0			
Chloroethane	21.43	5.0	20	0	107	40-155	0			
Chloroform	21.23	5.0	20	0	106	70-125	0			
Chloromethane	16.74	10	20	0	83.7	50-130	0			
cis-1,2-Dichloroethene	20.85	5.0	20	0	104	65-125	0			
cis-1,3-Dichloropropene	21.56	5.0	20	0	108	70-125	0			
Dibromochloromethane	17.57	5.0	20	0	87.8	65-135	0			
Ethylbenzene	22.73	5.0	20	0	114	75-125	0			
Methyl tert-butyl ether	20.28	5.0	20	0	101	75-125	0			
Methylene chloride	18.5	5.0	20	3.553	74.7	55-140	0			
Styrene	22.06	5.0	20	0	110	74-134	0			
Tetrachloroethene	37.62	5.0	20	0	188	81-171	0			S
Toluene	21.44	5.0	20	0	107	70-125	0			
trans-1,2-Dichloroethene	22.55	5.0	20	0	113	65-135	0			
trans-1,3-Dichloropropene	19.06	5.0	20	0	95.3	65-125	0			
Trichloroethene	26.15	5.0	20	0	131	75-125	0			S
Vinyl chloride	19.85	5.0	20	0	99.2	60-125	0			
Xylenes, Total	69.19	5.0	60	0	115	75-125	0			
Surr: 1,2-Dichloroethane-d4	*20.63*	0	*20*	0	*103*	*70-120*	0			
Surr: 4-Bromofluorobenzene	*21.63*	0	*20*	0	*108*	*75-120*	0			
Surr: Dibromofluoromethane	*20.78*	0	*20*	0	*104*	*85-115*	0			
Surr: Toluene-d8	*20.24*	0	*20*	0	*101*	*85-120*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201144** Instrument ID **VMS8** Method: **SW8260B**

MSD Sample ID: **16111382-01A MSD** Units: **µg/Kg** Analysis Date: **11/22/2016 06:19 PM**

Client ID: Run ID: **VMS8_161122A** SeqNo: **4169815** 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	25.27	5.0	20	0	126	70-135	22.34	12.3	30	
1,1,2,2-Tetrachloroethane	16.05	5.0	20	0	80.2	55-130	16.36	1.91	30	
1,1,2-Trichloroethane	23.58	5.0	20	0	118	60-125	21.69	8.35	30	
1,1-Dichloroethane	22.96	5.0	20	0	115	75-125	20.46	11.5	30	
1,1-Dichloroethene	26.45	5.0	20	0	132	65-135	23.22	13	30	
1,2-Dichloroethane	23.79	5.0	20	0	119	70-135	21.42	10.5	30	
1,2-Dichloropropane	24	5.0	20	0	120	70-120	21.2	12.4	30	
2-Butanone	42.14	10	20	0	211	30-160	42.01	0.309	30	S
2-Hexanone	33.25	5.0	20	0	166	45-145	28.87	14.1	30	S
4-Methyl-2-pentanone	27.34	5.0	20	0	137	74-173	25.78	5.87	30	
Acetone	66.04	10	20	0	330	20-160	58.01	12.9	30	S
Benzene	24.94	5.0	20	0	125	75-125	21.28	15.8	30	
Bromodichloromethane	24.56	5.0	20	0	123	70-130	22.67	8	30	
Bromoform	18.56	5.0	20	0	92.8	55-135	18.32	1.3	30	
Bromomethane	7.76	10	20	0	38.8	30-160	23.57	0	30	J
Carbon disulfide	23.51	5.0	20	0	118	45-160	23.9	1.65	30	
Carbon tetrachloride	24.79	5.0	20	0	124	65-135	22.54	9.51	30	
Chlorobenzene	25.03	5.0	20	0	125	75-125	21.53	15	30	S
Chloroethane	11.65	5.0	20	0	58.2	40-155	21.43	59.1	30	R
Chloroform	24.17	5.0	20	0	121	70-125	21.23	13	30	
Chloromethane	17.81	10	20	0	89	50-130	16.74	6.19	30	
cis-1,2-Dichloroethene	24.68	5.0	20	0	123	65-125	20.85	16.8	30	
cis-1,3-Dichloropropene	23.95	5.0	20	0	120	70-125	21.56	10.5	30	
Dibromochloromethane	18.94	5.0	20	0	94.7	65-135	17.57	7.5	30	
Ethylbenzene	26.44	5.0	20	0	132	75-125	22.73	15.1	30	S
Methyl tert-butyl ether	22.79	5.0	20	0	114	75-125	20.28	11.7	30	
Methylene chloride	21.92	5.0	20	3.553	91.8	55-140	18.5	16.9	30	
Styrene	25.68	5.0	20	0	128	74-134	22.06	15.2	30	
Tetrachloroethene	47.03	5.0	20	0	235	81-171	37.62	22.2	30	S
Toluene	25.28	5.0	20	0	126	70-125	21.44	16.4	30	S
trans-1,2-Dichloroethene	25.29	5.0	20	0	126	65-135	22.55	11.5	30	
trans-1,3-Dichloropropene	20.48	5.0	20	0	102	65-125	19.06	7.18	30	
Trichloroethene	31.08	5.0	20	0	155	75-125	26.15	17.2	30	S
Vinyl chloride	20.98	5.0	20	0	105	60-125	19.85	5.54	30	
Xylenes, Total	81.42	5.0	60	0	136	75-125	69.19	16.2	30	S
Surr: 1,2-Dichloroethane-d4	*19.7*	0	*20*	0	*98.5*	*70-120*	20.63	*4.61*	*30*	
Surr: 4-Bromofluorobenzene	*20.22*	0	*20*	0	*101*	*75-120*	21.63	*6.74*	*30*	
Surr: Dibromofluoromethane	*19.12*	0	*20*	0	*95.6*	*85-115*	20.78	*8.32*	*30*	
Surr: Toluene-d8	*19.97*	0	*20*	0	*99.8*	*85-120*	20.24	*1.34*	*30*	

The following samples were analyzed in this batch: 16111186-01A

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **95091** Instrument ID **LACHAT** Method: **SW9012B**

MBLK Sample ID: **MBLK-95091-95091** Units: **mg/Kg** Analysis Date: **11/28/2016 03:11 PM**
Client ID: Run ID: **LACHAT_161128E** SeqNo: **4174151** Prep Date: **11/28/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	U	0.50								

LCS Sample ID: **LCS-95091-95091** Units: **mg/Kg** Analysis Date: **11/28/2016 03:11 PM**
Client ID: Run ID: **LACHAT_161128E** SeqNo: **4174152** Prep Date: **11/28/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.552	0.50	2.5	0	102	85-119	0			

MS Sample ID: **16111186-03BMS** Units: **mg/Kg** Analysis Date: **11/28/2016 03:11 PM**
Client ID: **BA-SB02(1-4)111516** Run ID: **LACHAT_161128E** SeqNo: **4174155** Prep Date: **11/28/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.378	0.49	2.461	0.02866	95.5	70-130	0			

MS Sample ID: **16111556-01AMS** Units: **mg/Kg** Analysis Date: **11/28/2016 03:11 PM**
Client ID: Run ID: **LACHAT_161128E** SeqNo: **4174178** Prep Date: **11/28/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.468	0.49	2.47	0.1885	92.3	70-130	0			

MSD Sample ID: **16111186-03BMSD** Units: **mg/Kg** Analysis Date: **11/28/2016 03:11 PM**
Client ID: **BA-SB02(1-4)111516** Run ID: **LACHAT_161128E** SeqNo: **4174156** Prep Date: **11/28/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.433	0.51	2.53	0.02866	95	70-130	2.378	2.3	30	

MSD Sample ID: **16111556-01AMSD** Units: **mg/Kg** Analysis Date: **11/28/2016 03:11 PM**
Client ID: Run ID: **LACHAT_161128E** SeqNo: **4174179** Prep Date: **11/28/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.483	0.49	2.47	0.1885	92.9	70-130	2.468	0.599	30	

The following samples were analyzed in this batch:

16111186-02B	16111186-03B	16111186-04B
16111186-05B	16111186-06B	16111186-07B
16111186-08B		

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201024** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R201024** Units: **% of sample** Analysis Date: **11/18/2016 01:34 PM**
Client ID: Run ID: **MOIST_161118A** SeqNo: **4163656** 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-R201024** Units: **% of sample** Analysis Date: **11/18/2016 01:34 PM**
Client ID: Run ID: **MOIST_161118A** SeqNo: **4163655** 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: **16111187-04B DUP** Units: **% of sample** Analysis Date: **11/18/2016 01:34 PM**
Client ID: Run ID: **MOIST_161118A** SeqNo: **4163644** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	15.35	0.050	0	0	0		15.47	0.779	20	

DUP Sample ID: **16111187-08B DUP** Units: **% of sample** Analysis Date: **11/18/2016 01:34 PM**
Client ID: Run ID: **MOIST_161118A** SeqNo: **4163649** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	13.42	0.050	0	0	0		12.76	5.04	20	

The following samples were analyzed in this batch:

16111186-02C	16111186-03C	16111186-04C
16111186-05C	16111186-06C	16111186-07C

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

Client: Tetra Tech EM Inc.
Work Order: 16111186
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201026** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R201026** Units: **% of sample** Analysis Date: **11/18/2016 03:13 PM**
Client ID: Run ID: **MOIST_161118B** SeqNo: **4163704** 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-R201026** Units: **% of sample** Analysis Date: **11/18/2016 03:13 PM**
Client ID: Run ID: **MOIST_161118B** SeqNo: **4163703** 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: **16111284-03B DUP** Units: **% of sample** Analysis Date: **11/18/2016 03:13 PM**
Client ID: Run ID: **MOIST_161118B** SeqNo: **4163691** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	21.94	0.050	0	0	0		21.39	2.54	20	

DUP Sample ID: **16111284-06B DUP** Units: **% of sample** Analysis Date: **11/18/2016 03:13 PM**
Client ID: Run ID: **MOIST_161118B** SeqNo: **4163695** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	14.53	0.050	0	0	0		14.47	0.414	20	

The following samples were analyzed in this batch: 16111186-08C

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

ALS Environmental

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Chain of Custody Form

Page 1 of ____

COC ID: 39625

Houston, TX +1 281 530 5656 | Spring City, PA +1 610 948 4903 | South Charleston, WV +1 304 356 3168 | Middletown, PA +1 717 944 5541 | Salt Lake City, UT +1 801 266 7700 | York, PA +1 717 505 5280

ALS Project Manager: | ALS Work Order #: 1611186

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Bluff Avenue Site	A	VOCs
Work Order		Project Number		B	SVOCs
Company Name	Tetra Tech EM Inc.	Bill To Company	Tetra Tech EM Inc.	C	PCBs/Pesticides
Send Report To	Carol Nissen	Invoice Attn	Carol Nissen	D	TAL Metals
Address	1 South Wacker Dr Suite 3700	Address	1 South Wacker Dr Suite 3700	E	Cyanide
				F	Moisture
City/State/Zip	Chicago, IL 60606	City/State/Zip	Chicago, IL 60606	G	
Phone	(312) 201-7411	Phone	(312) 201-7411	H	
Fax	(312) 938-0118	Fax	(312) 938-0118	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SOIL TRIP BLANK	11.15.16	0800	TRIP	6,7	4	X										
2	BA-SB01(1-3)111516		1000	SOIL	6,7	5	X	X	X	X	X	X					
3	BA-SB02(1-4)111516		1130			5	X	X	X	X	X	X					
4	BA-SB02(1-4)111516D		1130			5	X	X	X	X	X	X					
3 5	BA-SB02(1-4)111516MSMSD		1130			5	X	X	X	X	X	X					
3 6	BA-SB03(2-4)111516		1230			5	X	X	X	X	X	X					
7	BA-SB04(1-3)111516		1330			5	X	X	X	X	X	X					
7 8	BA-SB05(1-3)111516		1400			5	X	X	X	X	X	X					
7 9	BA-SB06(2-4)111516		1500			4	X	X	X	X	X	X					
10																	

Sampler(s) Please Print & Sign: Elise Steger Elise Steger

Shipment Method: Fed Ex

Turnaround Time in Business Days (BD): ☐ Other ____ ☒ 10 BD ☐ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
Elise Steger	11/16/16	1600		
Relinquished by:	Date:	Time:	Received by (Laboratory):	
	11/17/16	930	MBrandt	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	
MB	11/17/16	1446		

Cooler ID	Cooler Temp
	4.2

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other ____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

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

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ALS Group, USA

Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **17-Nov-16 09:30**

Work Order: **16111186** Received by: **MBB**

Checklist completed by Meghan Broadbent (eSignature) 17-Nov-16 (Date) Reviewed by: Joseph Ribar (eSignature) 21-Nov-16 (Date)

Matrices: soil
Carrier name: FedEx

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

Temperature(s)/Thermometer(s): 4.2/4.2 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 11/17/2016 3:04:37 PM

	Yes	No		
Water - VOA vials have zero headspace?	☐	☐	No VOA vials submitted	☑
Water - pH acceptable upon receipt?	☐	☐	N/A	☑
pH adjusted?	☐	☐	N/A	☑

pH adjusted by: -

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

30-Nov-2016

Carol Nissen
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Bluff Avenue Site** Work Order: **16111189**

Dear Carol,

ALS Environmental received 3 samples on 17-Nov-2016 09:30 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 ZZ.

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

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: MN: 998501

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

Date: 30-Nov-16

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Work Order: **16111189**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
16111189-01	Trip Blank	Water		11/16/2016 08:00	11/17/2016 09:30	☐
16111189-02	BA-TMW1-111616	Water		11/16/2016 09:55	11/17/2016 09:30	☐
16111189-03	BA-TMW1-111616D	Water		11/16/2016 10:00	11/17/2016 09:30	☐

ALS Group, USA

Date: 30-Nov-16

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Work Order: 16111189

Case Narrative

Samples for the above noted Work Order were received on 11/17/2016. 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:
No other deviations or anomalies were noted.

Extractable Organics:
No other deviations or anomalies were noted.

Metals:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: Trip Blank
Collection Date: 11/16/2016 08:00 AM

Work Order: 16111189
Lab ID: 16111189-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260B**					Analyst: **LSY**
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	11/24/2016 04:38
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	11/24/2016 04:38
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	11/24/2016 04:38
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	11/24/2016 04:38
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 04:38
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	11/24/2016 04:38
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	11/24/2016 04:38
2-Butanone	U		0.58	5.0	µg/L	1	11/24/2016 04:38
2-Hexanone	U		0.13	5.0	µg/L	1	11/24/2016 04:38
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	11/24/2016 04:38
Acetone	U		0.92	10	µg/L	1	11/24/2016 04:38
Benzene	U		0.30	1.0	µg/L	1	11/24/2016 04:38
Bromodichloromethane	U		0.23	1.0	µg/L	1	11/24/2016 04:38
Bromoform	U		0.77	1.0	µg/L	1	11/24/2016 04:38
Bromomethane	U		0.38	1.0	µg/L	1	11/24/2016 04:38
Carbon disulfide	U		0.23	1.0	µg/L	1	11/24/2016 04:38
Carbon tetrachloride	U		0.31	1.0	µg/L	1	11/24/2016 04:38
Chlorobenzene	U		0.27	1.0	µg/L	1	11/24/2016 04:38
Chloroethane	U		0.29	1.0	µg/L	1	11/24/2016 04:38
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	11/24/2016 04:38
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	11/24/2016 04:38
Ethylbenzene	U		0.40	1.0	µg/L	1	11/24/2016 04:38
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	11/24/2016 04:38
Methylene chloride	**0.95**	J	**0.56**	**5.0**	**µg/L**	1	11/24/2016 04:38
Styrene	U		0.24	1.0	µg/L	1	11/24/2016 04:38
Tetrachloroethene	U		0.27	1.0	µg/L	1	11/24/2016 04:38
Toluene	U		0.37	1.0	µg/L	1	11/24/2016 04:38
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 04:38
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	11/24/2016 04:38
Trichloroethene	U		0.30	1.0	µg/L	1	11/24/2016 04:38
Vinyl chloride	U		0.20	1.0	µg/L	1	11/24/2016 04:38
Xylenes, Total	U		1.3	3.0	µg/L	1	11/24/2016 04:38
Surr: 1,2-Dichloroethane-d4	*97.4*			*75-120*	*%REC*	1	11/24/2016 04:38
Surr: 4-Bromofluorobenzene	*97.9*			*80-110*	*%REC*	1	11/24/2016 04:38
Surr: Dibromofluoromethane	*91.0*			*85-115*	*%REC*	1	11/24/2016 04:38
Surr: Toluene-d8	*95.9*			*85-110*	*%REC*	1	11/24/2016 04:38

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616
Collection Date: 11/16/2016 09:55 AM

Work Order: 16111189
Lab ID: 16111189-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method: **SW8082**			Prep: SW3510 / 11/18/16		Analyst: **EB**
Aroclor 1016	U		0.069	0.21	µg/L	1	11/18/2016 22:21
Aroclor 1221	U		0.069	0.21	µg/L	1	11/18/2016 22:21
Aroclor 1232	U		0.069	0.21	µg/L	1	11/18/2016 22:21
Aroclor 1242	U		0.069	0.21	µg/L	1	11/18/2016 22:21
Aroclor 1248	U		0.069	0.21	µg/L	1	11/18/2016 22:21
Aroclor 1254	U		0.027	0.21	µg/L	1	11/18/2016 22:21
Aroclor 1260	U		0.027	0.21	µg/L	1	11/18/2016 22:21
Surr: Decachlorobiphenyl	*44.0*			*40-110*	*%REC*	1	11/18/2016 22:21
Surr: Tetrachloro-m-xylene	*52.0*			*40-110*	*%REC*	1	11/18/2016 22:21
PESTICIDES		Method: **SW8081**			Prep: SW3510 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.0012	0.020	µg/L	1	11/28/2016 22:35
4,4´-DDE	U		0.0012	0.020	µg/L	1	11/28/2016 22:35
4,4´-DDT	U		0.0017	0.020	µg/L	1	11/28/2016 22:35
Aldrin	U		0.0015	0.010	µg/L	1	11/28/2016 22:35
alpha-BHC	U		0.0025	0.010	µg/L	1	11/28/2016 22:35
alpha-Chlordane	U		0.0017	0.020	µg/L	1	11/28/2016 22:35
beta-BHC	U		0.0044	0.010	µg/L	1	11/28/2016 22:35
Chlordane, Technical	U		0.034	0.50	µg/L	1	11/28/2016 22:35
delta-BHC	U		0.0015	0.010	µg/L	1	11/28/2016 22:35
Dieldrin	U		0.0017	0.020	µg/L	1	11/28/2016 22:35
Endosulfan I	U		0.0017	0.020	µg/L	1	11/28/2016 22:35
Endosulfan II	U		0.0012	0.020	µg/L	1	11/28/2016 22:35
Endosulfan sulfate	U		0.0012	0.020	µg/L	1	11/28/2016 22:35
Endrin	U		0.0012	0.020	µg/L	1	11/28/2016 22:35
Endrin aldehyde	U		0.0030	0.020	µg/L	1	11/28/2016 22:35
Endrin ketone	U		0.0012	0.020	µg/L	1	11/28/2016 22:35
gamma-BHC (Lindane)	U		0.0012	0.010	µg/L	1	11/28/2016 22:35
gamma-Chlordane	U		0.0012	0.020	µg/L	1	11/28/2016 22:35
Heptachlor	U		0.0017	0.010	µg/L	1	11/28/2016 22:35
Heptachlor epoxide	U		0.0017	0.010	µg/L	1	11/28/2016 22:35
Methoxychlor	U		0.0015	0.040	µg/L	1	11/28/2016 22:35
Toxaphene	U		0.11	2.0	µg/L	1	11/28/2016 22:35
Surr: Decachlorobiphenyl	*51.0*			*42-119*	*%REC*	1	11/28/2016 22:35
Surr: Tetrachloro-m-xylene	*61.0*			*32-104*	*%REC*	1	11/28/2016 22:35
MERCURY BY CVAA (DISSOLVED)		Method: **SW7470A**			Prep: SW7470 / 11/20/16		Analyst: **LR**
Mercury	U		0.000019	0.00020	mg/L	1	11/21/2016 17:23
METALS BY ICP-MS (DISSOLVED)		Method: **SW6020A**					Analyst: **RH**

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616
Collection Date: 11/16/2016 09:55 AM

Work Order: 16111189
Lab ID: 16111189-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**0.015**		**0.0042**	**0.010**	**mg/L**	1	11/28/2016 13:53
Antimony	**0.00020**	J	**0.00017**	**0.0050**	**mg/L**	1	11/28/2016 13:53
Arsenic	**0.0011**	J	**0.00087**	**0.0050**	**mg/L**	1	11/28/2016 13:53
Barium	**0.49**		**0.0022**	**0.0050**	**mg/L**	1	11/28/2016 13:53
Beryllium	U		0.00012	0.0020	mg/L	1	11/28/2016 13:53
Cadmium	U		0.000050	0.0020	mg/L	1	11/28/2016 13:53
Calcium	**120**		**0.086**	**0.50**	**mg/L**	1	11/28/2016 13:53
Chromium	U		0.00065	0.0050	mg/L	1	11/28/2016 13:53
Cobalt	**0.0036**	J	**0.00014**	**0.0050**	**mg/L**	1	11/28/2016 13:53
Copper	**0.0013**	J	**0.00028**	**0.0050**	**mg/L**	1	11/28/2016 13:53
Iron	**0.029**	J	**0.0046**	**0.080**	**mg/L**	1	11/28/2016 13:53
Lead	U		0.00033	0.0050	mg/L	1	11/28/2016 13:53
Magnesium	**29**		**0.0068**	**0.20**	**mg/L**	1	11/28/2016 13:53
Manganese	**4.3**		**0.0051**	**0.050**	**mg/L**	10	11/29/2016 15:01
Nickel	**0.0082**		**0.00041**	**0.0050**	**mg/L**	1	11/28/2016 13:53
Potassium	**0.50**		**0.017**	**0.20**	**mg/L**	1	11/28/2016 13:53
Selenium	U		0.00090	0.0050	mg/L	1	11/28/2016 13:53
Silver	U		0.000050	0.0050	mg/L	1	11/28/2016 13:53
Sodium	**35**		**0.034**	**0.20**	**mg/L**	1	11/28/2016 13:53
Tin	U		0.00011	0.0020	mg/L	1	11/28/2016 13:53
Zinc	**0.065**		**0.0014**	**0.010**	**mg/L**	1	11/28/2016 13:53
SEMI-VOLATILE ORGANIC COMPOUNDS		Method:	**SW846 8270D**		Prep: SW3510 / 11/18/16		Analyst: **RS**
1,2,4-Trichlorobenzene	U		0.41	1.0	µg/L	1	11/19/2016 01:31
1,2-Dichlorobenzene	U		0.39	1.0	µg/L	1	11/19/2016 01:31
1,3-Dichlorobenzene	U		0.65	1.0	µg/L	1	11/19/2016 01:31
1,4-Dichlorobenzene	U		0.32	1.0	µg/L	1	11/19/2016 01:31
2,2`-Oxybis(1-chloropropane)	U		0.23	1.0	µg/L	1	11/19/2016 01:31
2,4,5-Trichlorophenol	U		0.17	1.0	µg/L	1	11/19/2016 01:31
2,4,6-Trichlorophenol	U		0.25	1.0	µg/L	1	11/19/2016 01:31
2,4-Dichlorophenol	U		0.35	1.0	µg/L	1	11/19/2016 01:31
2,4-Dimethylphenol	U		0.36	1.0	µg/L	1	11/19/2016 01:31
2,4-Dinitrophenol	U		0.40	5.0	µg/L	1	11/19/2016 01:31
2,4-Dinitrotoluene	U		0.42	1.0	µg/L	1	11/19/2016 01:31
2,6-Dinitrotoluene	U		0.33	1.0	µg/L	1	11/19/2016 01:31
2-Chloronaphthalene	U		0.075	0.10	µg/L	1	11/19/2016 01:31
2-Chlorophenol	U		0.23	1.0	µg/L	1	11/19/2016 01:31
2-Methylnaphthalene	U		0.065	0.10	µg/L	1	11/19/2016 01:31
2-Methylphenol	U		0.25	1.0	µg/L	1	11/19/2016 01:31
2-Nitroaniline	U		0.21	1.0	µg/L	1	11/19/2016 01:31

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616
Collection Date: 11/16/2016 09:55 AM

Work Order: 16111189
Lab ID: 16111189-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	U		0.34	1.0	µg/L	1	11/19/2016 01:31
3&4-Methylphenol	U		0.21	1.0	µg/L	1	11/19/2016 01:31
3,3´-Dichlorobenzidine	U		1.6	5.0	µg/L	1	11/19/2016 01:31
3-Nitroaniline	U		0.64	1.0	µg/L	1	11/19/2016 01:31
4,6-Dinitro-2-methylphenol	U		0.27	1.0	µg/L	1	11/19/2016 01:31
4-Bromophenyl phenyl ether	U		0.33	1.0	µg/L	1	11/19/2016 01:31
4-Chloro-3-methylphenol	U		0.26	1.0	µg/L	1	11/19/2016 01:31
4-Chloroaniline	U		0.34	1.0	µg/L	1	11/19/2016 01:31
4-Chlorophenyl phenyl ether	U		0.31	1.0	µg/L	1	11/19/2016 01:31
4-Nitroaniline	U		0.57	1.0	µg/L	1	11/19/2016 01:31
4-Nitrophenol	U		0.24	5.0	µg/L	1	11/19/2016 01:31
Acenaphthene	U		0.081	0.10	µg/L	1	11/19/2016 01:31
Acenaphthylene	U		0.075	0.10	µg/L	1	11/19/2016 01:31
Anthracene	U		0.028	0.10	µg/L	1	11/19/2016 01:31
Benzo(a)anthracene	U		0.022	0.10	µg/L	1	11/19/2016 01:31
Benzo(a)pyrene	U		0.044	0.10	µg/L	1	11/19/2016 01:31
Benzo(b)fluoranthene	U		0.051	0.10	µg/L	1	11/19/2016 01:31
Benzo(g,h,i)perylene	U		0.030	0.10	µg/L	1	11/19/2016 01:31
Benzo(k)fluoranthene	U		0.048	0.10	µg/L	1	11/19/2016 01:31
Bis(2-chloroethoxy)methane	U		0.29	1.0	µg/L	1	11/19/2016 01:31
Bis(2-chloroethyl)ether	U		0.37	1.0	µg/L	1	11/19/2016 01:31
Bis(2-ethylhexyl)phthalate	U		0.40	1.0	µg/L	1	11/19/2016 01:31
Butyl benzyl phthalate	U		0.30	1.0	µg/L	1	11/19/2016 01:31
Carbazole	U		0.10	1.0	µg/L	1	11/19/2016 01:31
Chrysene	U		0.048	0.10	µg/L	1	11/19/2016 01:31
Dibenzo(a,h)anthracene	U		0.030	0.10	µg/L	1	11/19/2016 01:31
Dibenzofuran	U		0.23	1.0	µg/L	1	11/19/2016 01:31
Diethyl phthalate	U		0.17	1.0	µg/L	1	11/19/2016 01:31
Dimethyl phthalate	U		0.18	1.0	µg/L	1	11/19/2016 01:31
Di-n-butyl phthalate	U		0.21	1.0	µg/L	1	11/19/2016 01:31
Di-n-octyl phthalate	U		0.15	1.0	µg/L	1	11/19/2016 01:31
Fluoranthene	U		0.038	0.10	µg/L	1	11/19/2016 01:31
Fluorene	U		0.051	0.10	µg/L	1	11/19/2016 01:31
Hexachlorobenzene	U		0.44	1.0	µg/L	1	11/19/2016 01:31
Hexachlorobutadiene	U		0.28	1.0	µg/L	1	11/19/2016 01:31
Hexachlorocyclopentadiene	U		1.1	5.0	µg/L	1	11/19/2016 01:31
Hexachloroethane	U		0.21	1.0	µg/L	1	11/19/2016 01:31
Indeno(1,2,3-cd)pyrene	U		0.067	0.10	µg/L	1	11/19/2016 01:31
Isophorone	U		0.34	5.0	µg/L	1	11/19/2016 01:31
Naphthalene	U		0.067	0.10	µg/L	1	11/19/2016 01:31

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616
Collection Date: 11/16/2016 09:55 AM

Work Order: 16111189
Lab ID: 16111189-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Nitrobenzene	U		0.26	1.0	µg/L	1	11/19/2016 01:31
N-Nitrosodi-n-propylamine	U		0.35	1.0	µg/L	1	11/19/2016 01:31
N-Nitrosodiphenylamine	U		0.23	1.0	µg/L	1	11/19/2016 01:31
Pentachlorophenol	U		0.97	5.0	µg/L	1	11/19/2016 01:31
Phenanthrene	U		0.030	0.10	µg/L	1	11/19/2016 01:31
Phenol	U		0.21	1.0	µg/L	1	11/19/2016 01:31
Pyrene	U		0.036	0.10	µg/L	1	11/19/2016 01:31
Surr: 2,4,6-Tribromophenol	*58.5*			*38-115*	*%REC*	1	11/19/2016 01:31
Surr: 2-Fluorobiphenyl	*65.8*			*32-100*	*%REC*	1	11/19/2016 01:31
Surr: 2-Fluorophenol	*35.0*			*22-59*	*%REC*	1	11/19/2016 01:31
Surr: 4-Terphenyl-d14	*76.1*			*23-112*	*%REC*	1	11/19/2016 01:31
Surr: Nitrobenzene-d5	*50.7*			*31-93*	*%REC*	1	11/19/2016 01:31
Surr: Phenol-d6	*21.1*			*13-36*	*%REC*	1	11/19/2016 01:31
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**				Analyst: **LSY**
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	11/24/2016 11:25
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	11/24/2016 11:25
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	11/24/2016 11:25
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	11/24/2016 11:25
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 11:25
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	11/24/2016 11:25
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	11/24/2016 11:25
2-Butanone	U		0.58	5.0	µg/L	1	11/24/2016 11:25
2-Hexanone	U		0.13	5.0	µg/L	1	11/24/2016 11:25
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	11/24/2016 11:25
Acetone	U		0.92	10	µg/L	1	11/24/2016 11:25
Benzene	U		0.30	1.0	µg/L	1	11/24/2016 11:25
Bromodichloromethane	U		0.23	1.0	µg/L	1	11/24/2016 11:25
Bromoform	U		0.77	1.0	µg/L	1	11/24/2016 11:25
Bromomethane	U		0.38	1.0	µg/L	1	11/24/2016 11:25
Carbon disulfide	U		0.23	1.0	µg/L	1	11/24/2016 11:25
Carbon tetrachloride	U		0.31	1.0	µg/L	1	11/24/2016 11:25
Chlorobenzene	U		0.27	1.0	µg/L	1	11/24/2016 11:25
Chloroethane	U		0.29	1.0	µg/L	1	11/24/2016 11:25
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	11/24/2016 11:25
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	11/24/2016 11:25
Ethylbenzene	U		0.40	1.0	µg/L	1	11/24/2016 11:25
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	11/24/2016 11:25
Methylene chloride	U		0.56	5.0	µg/L	1	11/24/2016 11:25
Styrene	U		0.24	1.0	µg/L	1	11/24/2016 11:25

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616
Collection Date: 11/16/2016 09:55 AM

Work Order: 16111189
Lab ID: 16111189-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	U		0.27	1.0	µg/L	1	11/24/2016 11:25
Toluene	U		0.37	1.0	µg/L	1	11/24/2016 11:25
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 11:25
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	11/24/2016 11:25
Trichloroethene	U		0.30	1.0	µg/L	1	11/24/2016 11:25
Vinyl chloride	U		0.20	1.0	µg/L	1	11/24/2016 11:25
Xylenes, Total	U		1.3	3.0	µg/L	1	11/24/2016 11:25
Surr: 1,2-Dichloroethane-d4	*108*			*75-120*	*%REC*	1	11/24/2016 11:25
Surr: 4-Bromofluorobenzene	*98.6*			*80-110*	*%REC*	1	11/24/2016 11:25
Surr: Dibromofluoromethane	*98.4*			*85-115*	*%REC*	1	11/24/2016 11:25
Surr: Toluene-d8	*93.0*			*85-110*	*%REC*	1	11/24/2016 11:25

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616D
Collection Date: 11/16/2016 10:00 AM

Work Order: 16111189
Lab ID: 16111189-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**		Prep: SW3510 / 11/18/16		Analyst: **EB**
Aroclor 1016	U		0.065	0.20	µg/L	1	11/19/2016 00:59
Aroclor 1221	U		0.065	0.20	µg/L	1	11/19/2016 00:59
Aroclor 1232	U		0.065	0.20	µg/L	1	11/19/2016 00:59
Aroclor 1242	U		0.065	0.20	µg/L	1	11/19/2016 00:59
Aroclor 1248	U		0.065	0.20	µg/L	1	11/19/2016 00:59
Aroclor 1254	U		0.025	0.20	µg/L	1	11/19/2016 00:59
Aroclor 1260	U		0.025	0.20	µg/L	1	11/19/2016 00:59
Surr: Decachlorobiphenyl	*40.0*			*40-110*	*%REC*	1	11/19/2016 00:59
Surr: Tetrachloro-m-xylene	*46.0*			*40-110*	*%REC*	1	11/19/2016 00:59
PESTICIDES		Method:	**SW8081**		Prep: SW3510 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.0012	0.020	µg/L	1	11/28/2016 23:22
4,4´-DDE	U		0.0012	0.020	µg/L	1	11/28/2016 23:22
4,4´-DDT	U		0.0017	0.020	µg/L	1	11/28/2016 23:22
Aldrin	U		0.0015	0.010	µg/L	1	11/28/2016 23:22
alpha-BHC	U		0.0025	0.010	µg/L	1	11/28/2016 23:22
alpha-Chlordane	U		0.0017	0.020	µg/L	1	11/28/2016 23:22
beta-BHC	U		0.0044	0.010	µg/L	1	11/28/2016 23:22
Chlordane, Technical	U		0.034	0.50	µg/L	1	11/28/2016 23:22
delta-BHC	U		0.0015	0.010	µg/L	1	11/28/2016 23:22
Dieldrin	U		0.0017	0.020	µg/L	1	11/28/2016 23:22
Endosulfan I	U		0.0017	0.020	µg/L	1	11/28/2016 23:22
Endosulfan II	U		0.0012	0.020	µg/L	1	11/28/2016 23:22
Endosulfan sulfate	U		0.0012	0.020	µg/L	1	11/28/2016 23:22
Endrin	U		0.0012	0.020	µg/L	1	11/28/2016 23:22
Endrin aldehyde	U		0.0030	0.020	µg/L	1	11/28/2016 23:22
Endrin ketone	U		0.0012	0.020	µg/L	1	11/28/2016 23:22
gamma-BHC (Lindane)	U		0.0012	0.010	µg/L	1	11/28/2016 23:22
gamma-Chlordane	U		0.0012	0.020	µg/L	1	11/28/2016 23:22
Heptachlor	U		0.0017	0.010	µg/L	1	11/28/2016 23:22
Heptachlor epoxide	U		0.0017	0.010	µg/L	1	11/28/2016 23:22
Methoxychlor	U		0.0015	0.040	µg/L	1	11/28/2016 23:22
Toxaphene	U		0.11	2.0	µg/L	1	11/28/2016 23:22
Surr: Decachlorobiphenyl	*45.0*			*42-119*	*%REC*	1	11/28/2016 23:22
Surr: Tetrachloro-m-xylene	*51.0*			*32-104*	*%REC*	1	11/28/2016 23:22
MERCURY BY CVAA (DISSOLVED)		Method:	**SW7470A**		Prep: SW7470 / 11/20/16		Analyst: **LR**
Mercury	U		0.000019	0.00020	mg/L	1	11/21/2016 17:39
METALS BY ICP-MS (DISSOLVED)		Method:	**SW6020A**				Analyst: **RH**

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616D
Collection Date: 11/16/2016 10:00 AM

Work Order: 16111189
Lab ID: 16111189-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**0.015**		**0.0042**	**0.010**	**mg/L**	1	11/28/2016 14:09
Antimony	**0.0025**	J	**0.00017**	**0.0050**	**mg/L**	1	11/28/2016 14:09
Arsenic	**0.0013**	J	**0.00087**	**0.0050**	**mg/L**	1	11/28/2016 14:09
Barium	**0.86**		**0.0022**	**0.0050**	**mg/L**	1	11/28/2016 14:09
Beryllium	U		0.00012	0.0020	mg/L	1	11/28/2016 14:09
Cadmium	**0.000065**	J	**0.000050**	**0.0020**	**mg/L**	1	11/28/2016 14:09
Calcium	**120**		**0.086**	**0.50**	**mg/L**	1	11/28/2016 14:09
Chromium	U		0.00065	0.0050	mg/L	1	11/28/2016 14:09
Cobalt	**0.0036**	J	**0.00014**	**0.0050**	**mg/L**	1	11/28/2016 14:09
Copper	**0.0016**	J	**0.00028**	**0.0050**	**mg/L**	1	11/28/2016 14:09
Iron	**0.024**	J	**0.0046**	**0.080**	**mg/L**	1	11/28/2016 14:09
Lead	U		0.00033	0.0050	mg/L	1	11/28/2016 14:09
Magnesium	**29**		**0.0068**	**0.20**	**mg/L**	1	11/28/2016 14:09
Manganese	**4.6**		**0.0051**	**0.050**	**mg/L**	10	11/29/2016 15:16
Nickel	**0.0086**		**0.00041**	**0.0050**	**mg/L**	1	11/28/2016 14:09
Potassium	**0.71**		**0.017**	**0.20**	**mg/L**	1	11/28/2016 14:09
Selenium	U		0.00090	0.0050	mg/L	1	11/28/2016 14:09
Silver	**0.000073**	J	**0.000050**	**0.0050**	**mg/L**	1	11/28/2016 14:09
Sodium	**38**		**0.034**	**0.20**	**mg/L**	1	11/28/2016 14:09
Tin	U		0.00011	0.0020	mg/L	1	11/28/2016 14:09
Zinc	**0.23**		**0.0014**	**0.010**	**mg/L**	1	11/28/2016 14:09
SEMI-VOLATILE ORGANIC COMPOUNDS		Method:	**SW846 8270D**		Prep: SW3510 / 11/18/16		Analyst: **JF**
1,2,4-Trichlorobenzene	U		0.41	1.0	µg/L	1	11/20/2016 16:26
1,2-Dichlorobenzene	U		0.39	1.0	µg/L	1	11/20/2016 16:26
1,3-Dichlorobenzene	U		0.65	1.0	µg/L	1	11/20/2016 16:26
1,4-Dichlorobenzene	U		0.32	1.0	µg/L	1	11/20/2016 16:26
2,2`-Oxybis(1-chloropropane)	U		0.23	1.0	µg/L	1	11/20/2016 16:26
2,4,5-Trichlorophenol	U		0.17	1.0	µg/L	1	11/20/2016 16:26
2,4,6-Trichlorophenol	U		0.25	1.0	µg/L	1	11/20/2016 16:26
2,4-Dichlorophenol	U		0.35	1.0	µg/L	1	11/20/2016 16:26
2,4-Dimethylphenol	U		0.36	1.0	µg/L	1	11/20/2016 16:26
2,4-Dinitrophenol	U		0.40	5.0	µg/L	1	11/20/2016 16:26
2,4-Dinitrotoluene	U		0.42	1.0	µg/L	1	11/20/2016 16:26
2,6-Dinitrotoluene	U		0.33	1.0	µg/L	1	11/20/2016 16:26
2-Chloronaphthalene	U		0.075	0.10	µg/L	1	11/20/2016 16:26
2-Chlorophenol	U		0.23	1.0	µg/L	1	11/20/2016 16:26
2-Methylnaphthalene	U		0.065	0.10	µg/L	1	11/20/2016 16:26
2-Methylphenol	U		0.25	1.0	µg/L	1	11/20/2016 16:26
2-Nitroaniline	U		0.21	1.0	µg/L	1	11/20/2016 16:26

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616D
Collection Date: 11/16/2016 10:00 AM

Work Order: 16111189
Lab ID: 16111189-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	U		0.34	1.0	µg/L	1	11/20/2016 16:26
3&4-Methylphenol	U		0.21	1.0	µg/L	1	11/20/2016 16:26
3,3´-Dichlorobenzidine	U		1.6	5.0	µg/L	1	11/20/2016 16:26
3-Nitroaniline	U		0.64	1.0	µg/L	1	11/20/2016 16:26
4,6-Dinitro-2-methylphenol	U		0.27	1.0	µg/L	1	11/20/2016 16:26
4-Bromophenyl phenyl ether	U		0.33	1.0	µg/L	1	11/20/2016 16:26
4-Chloro-3-methylphenol	U		0.26	1.0	µg/L	1	11/20/2016 16:26
4-Chloroaniline	U		0.34	1.0	µg/L	1	11/20/2016 16:26
4-Chlorophenyl phenyl ether	U		0.31	1.0	µg/L	1	11/20/2016 16:26
4-Nitroaniline	U		0.57	1.0	µg/L	1	11/20/2016 16:26
4-Nitrophenol	U		0.24	5.0	µg/L	1	11/20/2016 16:26
Acenaphthene	U		0.081	0.10	µg/L	1	11/20/2016 16:26
Acenaphthylene	U		0.075	0.10	µg/L	1	11/20/2016 16:26
Anthracene	U		0.028	0.10	µg/L	1	11/20/2016 16:26
Benzo(a)anthracene	U		0.022	0.10	µg/L	1	11/20/2016 16:26
Benzo(a)pyrene	U		0.044	0.10	µg/L	1	11/20/2016 16:26
Benzo(b)fluoranthene	U		0.051	0.10	µg/L	1	11/20/2016 16:26
Benzo(g,h,i)perylene	U		0.030	0.10	µg/L	1	11/20/2016 16:26
Benzo(k)fluoranthene	U		0.048	0.10	µg/L	1	11/20/2016 16:26
Bis(2-chloroethoxy)methane	U		0.29	1.0	µg/L	1	11/20/2016 16:26
Bis(2-chloroethyl)ether	U		0.37	1.0	µg/L	1	11/20/2016 16:26
Bis(2-ethylhexyl)phthalate	U		0.40	1.0	µg/L	1	11/20/2016 16:26
Butyl benzyl phthalate	U		0.30	1.0	µg/L	1	11/20/2016 16:26
Carbazole	U		0.10	1.0	µg/L	1	11/20/2016 16:26
Chrysene	U		0.048	0.10	µg/L	1	11/20/2016 16:26
Dibenzo(a,h)anthracene	U		0.030	0.10	µg/L	1	11/20/2016 16:26
Dibenzofuran	U		0.23	1.0	µg/L	1	11/20/2016 16:26
Diethyl phthalate	U		0.17	1.0	µg/L	1	11/20/2016 16:26
Dimethyl phthalate	U		0.18	1.0	µg/L	1	11/20/2016 16:26
Di-n-butyl phthalate	U		0.21	1.0	µg/L	1	11/20/2016 16:26
Di-n-octyl phthalate	U		0.15	1.0	µg/L	1	11/20/2016 16:26
Fluoranthene	U		0.038	0.10	µg/L	1	11/20/2016 16:26
Fluorene	U		0.051	0.10	µg/L	1	11/20/2016 16:26
Hexachlorobenzene	U		0.44	1.0	µg/L	1	11/20/2016 16:26
Hexachlorobutadiene	U		0.28	1.0	µg/L	1	11/20/2016 16:26
Hexachlorocyclopentadiene	U		1.1	5.0	µg/L	1	11/20/2016 16:26
Hexachloroethane	U		0.21	1.0	µg/L	1	11/20/2016 16:26
Indeno(1,2,3-cd)pyrene	U		0.067	0.10	µg/L	1	11/20/2016 16:26
Isophorone	U		0.34	5.0	µg/L	1	11/20/2016 16:26
Naphthalene	U		0.067	0.10	µg/L	1	11/20/2016 16:26

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616D
Collection Date: 11/16/2016 10:00 AM

Work Order: 16111189
Lab ID: 16111189-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Nitrobenzene	U		0.26	1.0	µg/L	1	11/20/2016 16:26
N-Nitrosodi-n-propylamine	U		0.35	1.0	µg/L	1	11/20/2016 16:26
N-Nitrosodiphenylamine	U		0.23	1.0	µg/L	1	11/20/2016 16:26
Pentachlorophenol	U		0.97	5.0	µg/L	1	11/20/2016 16:26
Phenanthrene	U		0.030	0.10	µg/L	1	11/20/2016 16:26
Phenol	U		0.21	1.0	µg/L	1	11/20/2016 16:26
Pyrene	U		0.036	0.10	µg/L	1	11/20/2016 16:26
Surr: 2,4,6-Tribromophenol	*52.1*			*38-115*	*%REC*	1	11/20/2016 16:26
Surr: 2-Fluorobiphenyl	*61.0*			*32-100*	*%REC*	1	11/20/2016 16:26
Surr: 2-Fluorophenol	*30.5*			*22-59*	*%REC*	1	11/20/2016 16:26
Surr: 4-Terphenyl-d14	*73.9*			*23-112*	*%REC*	1	11/20/2016 16:26
Surr: Nitrobenzene-d5	*44.2*			*31-93*	*%REC*	1	11/20/2016 16:26
Surr: Phenol-d6	*17.1*			*13-36*	*%REC*	1	11/20/2016 16:26
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**				Analyst: **LSY**
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	11/24/2016 11:49
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	11/24/2016 11:49
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	11/24/2016 11:49
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	11/24/2016 11:49
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 11:49
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	11/24/2016 11:49
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	11/24/2016 11:49
2-Butanone	U		0.58	5.0	µg/L	1	11/24/2016 11:49
2-Hexanone	U		0.13	5.0	µg/L	1	11/24/2016 11:49
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	11/24/2016 11:49
Acetone	U		0.92	10	µg/L	1	11/24/2016 11:49
Benzene	U		0.30	1.0	µg/L	1	11/24/2016 11:49
Bromodichloromethane	U		0.23	1.0	µg/L	1	11/24/2016 11:49
Bromoform	U		0.77	1.0	µg/L	1	11/24/2016 11:49
Bromomethane	U		0.38	1.0	µg/L	1	11/24/2016 11:49
Carbon disulfide	U		0.23	1.0	µg/L	1	11/24/2016 11:49
Carbon tetrachloride	U		0.31	1.0	µg/L	1	11/24/2016 11:49
Chlorobenzene	U		0.27	1.0	µg/L	1	11/24/2016 11:49
Chloroethane	U		0.29	1.0	µg/L	1	11/24/2016 11:49
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	11/24/2016 11:49
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	11/24/2016 11:49
Ethylbenzene	U		0.40	1.0	µg/L	1	11/24/2016 11:49
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	11/24/2016 11:49
Methylene chloride	U		0.56	5.0	µg/L	1	11/24/2016 11:49
Styrene	U		0.24	1.0	µg/L	1	11/24/2016 11:49

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW1-111616D
Collection Date: 11/16/2016 10:00 AM

Work Order: 16111189
Lab ID: 16111189-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	U		0.27	1.0	µg/L	1	11/24/2016 11:49
Toluene	U		0.37	1.0	µg/L	1	11/24/2016 11:49
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 11:49
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	11/24/2016 11:49
Trichloroethene	U		0.30	1.0	µg/L	1	11/24/2016 11:49
Vinyl chloride	U		0.20	1.0	µg/L	1	11/24/2016 11:49
Xylenes, Total	U		1.3	3.0	µg/L	1	11/24/2016 11:49
Surr: 1,2-Dichloroethane-d4	*107*			*75-120*	*%REC*	1	11/24/2016 11:49
Surr: 4-Bromofluorobenzene	*96.2*			*80-110*	*%REC*	1	11/24/2016 11:49
Surr: Dibromofluoromethane	*102*			*85-115*	*%REC*	1	11/24/2016 11:49
Surr: Toluene-d8	*96.0*			*85-110*	*%REC*	1	11/24/2016 11:49

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

ALS Group, USA

Date: 30-Nov-16

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
WorkOrder: **16111189**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	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.

Acronym	Description
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

Units Reported	Description
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group, USA

Date: 30-Nov-16

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94763** Instrument ID **GC14** Method: **SW8082**

MBLK Sample ID: **PBLKW1-94763-94763** Units: **µg/L** Analysis Date: **11/18/2016 09:46 PM**

Client ID: Run ID: **GC14_161118A** SeqNo: **4164004** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	U	0.20								
Aroclor 1221	U	0.20								
Aroclor 1232	U	0.20								
Aroclor 1242	U	0.20								
Aroclor 1248	U	0.20								
Aroclor 1254	U	0.20								
Aroclor 1260	U	0.20								
Surr: Decachlorobiphenyl	*0.077*	0	*0.1*	0	*77*	*40-110*	0			
Surr: Tetrachloro-m-xylene	*0.071*	0	*0.1*	0	*71*	*40-110*	0			

LCS Sample ID: **PLCSW1-94763-94763** Units: **µg/L** Analysis Date: **11/18/2016 10:03 PM**

Client ID: Run ID: **GC14_161118A** SeqNo: **4164005** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	1.822	0.20	2.5	0	72.9	50-130	0			
Aroclor 1260	1.975	0.20	2.5	0	79	50-130	0			
Surr: Decachlorobiphenyl	*0.072*	0	*0.1*	0	*72*	*40-110*	0			
Surr: Tetrachloro-m-xylene	*0.061*	0	*0.1*	0	*61*	*40-110*	0			

MS Sample ID: **16111189-02B MS** Units: **µg/L** Analysis Date: **11/18/2016 10:39 PM**

Client ID: **BA-TMW1-111616** Run ID: **GC14_161118A** SeqNo: **4164007** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	1.959	0.21	2.632	0	74.4	40-140	0			
Aroclor 1260	1.765	0.21	2.632	0	67.1	40-140	0			
Surr: Decachlorobiphenyl	*0.04316*	0	*0.1053*	0	*41*	*40-110*	0			
Surr: Tetrachloro-m-xylene	*0.06526*	0	*0.1053*	0	*62*	*40-110*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94763** Instrument ID **GC14** Method: **SW8082**

DUP Sample ID: **16111184-01B DUP** Units: **µg/L** Analysis Date: **11/18/2016 11:49 PM**

Client ID: Run ID: **GC14_161118A** SeqNo: **4164009** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1221	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1232	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1242	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1248	U	0.20	0	0	0	0-0	0.034	0	50	
Aroclor 1254	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1260	U	0.20	0	0	0	0-0	0	0	50	
Surr: Decachlorobiphenyl	*0.049*	0	*0.1*	0	*49*	*40-110*	0.055	*11.5*	*50*	
Surr: Tetrachloro-m-xylene	*0.046*	0	*0.1*	0	*46*	*40-110*	0.048	*4.26*	*50*	

The following samples were analyzed in this batch: 16111189-02B 16111189-03B

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94764** Instrument ID **GC12** Method: **SW8081**

MBLK Sample ID: **PBLKW1-94764-94764** Units: **µg/L** Analysis Date: **11/28/2016 11:33 PM**

Client ID: Run ID: **GC12_161128A** SeqNo: **4174984** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	U	0.020								
4,4´-DDE	U	0.020								
4,4´-DDT	U	0.020								
Aldrin	U	0.010								
alpha-BHC	U	0.010								
alpha-Chlordane	U	0.020								
beta-BHC	U	0.010								
Chlordane, Technical	U	0.50								
delta-BHC	U	0.010								
Dieldrin	U	0.020								
Endosulfan I	U	0.020								
Endosulfan II	U	0.020								
Endosulfan sulfate	U	0.020								
Endrin	U	0.020								
Endrin aldehyde	U	0.020								
Endrin ketone	U	0.020								
gamma-BHC (Lindane)	U	0.010								
gamma-Chlordane	U	0.020								
Heptachlor	U	0.010								
Heptachlor epoxide	U	0.010								
Methoxychlor	U	0.040								
Toxaphene	U	2.0								
Surr: Decachlorobiphenyl	*0.079*	0	*0.1*	0	*79*	*42-119*	0			
Surr: Tetrachloro-m-xylene	*0.076*	0	*0.1*	0	*76*	*32-104*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94764** Instrument ID **GC12** Method: **SW8081**

LCS Sample ID: **PLCSW1-94764-94764** Units: **µg/L** Analysis Date: **11/28/2016 11:45 PM**

Client ID: Run ID: **GC12_161128A** SeqNo: **4174985** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	0.077	0.020	0.1	0	77	33-126	0			
4,4´-DDE	0.068	0.020	0.1	0	68	34-112	0			
4,4´-DDT	0.07	0.020	0.1	0	70	41-122	0			
Aldrin	0.055	0.010	0.1	0	55	18-110	0			
alpha-BHC	0.063	0.010	0.1	0	63	31-109	0			
alpha-Chlordane	0.063	0.020	0.1	0	63	34-108	0			
beta-BHC	0.07	0.010	0.1	0	70	38-108	0			
delta-BHC	0.071	0.010	0.1	0	71	36-114	0			
Dieldrin	0.067	0.020	0.1	0	67	35-114	0			
Endosulfan I	0.066	0.020	0.1	0	66	32-114	0			
Endosulfan II	0.069	0.020	0.1	0	69	40-119	0			
Endosulfan sulfate	0.079	0.020	0.1	0	79	42-120	0			
Endrin	0.073	0.020	0.1	0	73	39-123	0			
Endrin aldehyde	0.063	0.020	0.1	0	63	29-116	0			
Endrin ketone	0.07	0.020	0.1	0	70	36-117	0			
gamma-BHC (Lindane)	0.065	0.010	0.1	0	65	32-114	0			
gamma-Chlordane	0.065	0.020	0.1	0	65	32-109	0			
Heptachlor	0.055	0.010	0.1	0	55	34-112	0			
Heptachlor epoxide	0.065	0.010	0.1	0	65	36-109	0			
Methoxychlor	0.074	0.040	0.1	0	74	44-133	0			
Surr: Decachlorobiphenyl	*0.065*	0	*0.1*	0	*65*	*42-119*	0			
Surr: Tetrachloro-m-xylene	*0.059*	0	*0.1*	0	*59*	*32-104*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94764** Instrument ID **GC12** Method: **SW8081**

MS Sample ID: **16111189-02B MS** Units: **µg/L** Analysis Date: **11/28/2016 10:47 PM**

Client ID: **BA-TMW1-111616** Run ID: **GC12_161128A** SeqNo: **4174977** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	0.075	0.020	0.1	0	75	33-126	0			
4,4´-DDE	0.058	0.020	0.1	0	58	34-112	0			
4,4´-DDT	0.06	0.020	0.1	0	60	41-122	0			
Aldrin	0.048	0.010	0.1	0	48	18-110	0			
alpha-BHC	0.061	0.010	0.1	0	61	31-109	0			
alpha-Chlordane	0.058	0.020	0.1	0	58	34-108	0			
beta-BHC	0.065	0.010	0.1	0	65	38-108	0			
delta-BHC	0.07	0.010	0.1	0	70	36-114	0			
Dieldrin	0.063	0.020	0.1	0	63	35-114	0			
Endosulfan I	0.061	0.020	0.1	0	61	32-114	0			
Endosulfan II	0.066	0.020	0.1	0	66	40-119	0			
Endosulfan sulfate	0.081	0.020	0.1	0	81	42-120	0			
Endrin	0.071	0.020	0.1	0	71	39-123	0			
Endrin aldehyde	0.065	0.020	0.1	0	65	29-116	0			
Endrin ketone	0.071	0.020	0.1	0	71	36-117	0			
gamma-BHC (Lindane)	0.062	0.010	0.1	0	62	32-114	0			
gamma-Chlordane	0.061	0.020	0.1	0	61	32-109	0			
Heptachlor	0.052	0.010	0.1	0	52	34-112	0			
Heptachlor epoxide	0.061	0.010	0.1	0	61	36-109	0			
Methoxychlor	0.081	0.040	0.1	0	81	44-133	0			
Surr: Decachlorobiphenyl	*0.046*	0	*0.1*	0	*46*	*42-119*	0			
Surr: Tetrachloro-m-xylene	*0.058*	0	*0.1*	0	*58*	*32-104*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94764** Instrument ID **GC12** Method: **SW8081**

DUP Sample ID: **16111216-02B DUP** Units: **µg/L** Analysis Date: **11/28/2016 11:10 PM**

Client ID: Run ID: **GC12_161128A** SeqNo: **4174982** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	U	0.020	0	0	0	0-0	0	0	50	
4,4´-DDE	U	0.020	0	0	0	0-0	0	0	50	
4,4´-DDT	U	0.020	0	0	0	0-0	0	0	50	
Aldrin	U	0.010	0	0	0	0-0	0	0	50	
alpha-BHC	U	0.010	0	0	0	0-0	0	0	50	
alpha-Chlordane	U	0.020	0	0	0		0	0	50	
beta-BHC	U	0.010	0	0	0	0-0	0	0	50	
Chlordane, Technical	U	0.50	0	0	0	0-0	0	0	50	
delta-BHC	U	0.010	0	0	0	0-0	0	0	50	
Dieldrin	U	0.020	0	0	0	0-0	0	0	50	
Endosulfan I	U	0.020	0	0	0	0-0	0	0	50	
Endosulfan II	U	0.020	0	0	0	0-0	0	0	50	
Endosulfan sulfate	U	0.020	0	0	0	0-0	0	0	50	
Endrin	U	0.020	0	0	0	0-0	0	0	50	
Endrin aldehyde	U	0.020	0	0	0	0-0	0	0	50	
Endrin ketone	U	0.020	0	0	0		0.002	0	50	
gamma-BHC (Lindane)	U	0.010	0	0	0	0-0	0	0	50	
gamma-Chlordane	U	0.020	0	0	0		0	0	50	
Heptachlor	U	0.010	0	0	0	0-0	0	0	50	
Heptachlor epoxide	U	0.010	0	0	0	0-0	0	0	50	
Methoxychlor	U	0.040	0	0	0	0-0	0	0	50	
Toxaphene	U	2.0	0	0	0	0-0	0	0	50	
Surr: Decachlorobiphenyl	*0.047*	0	*0.1*	0	*47*	*42-119*	0.049	*4.17*	*50*	
Surr: Tetrachloro-m-xylene	*0.046*	0	*0.1*	0	*46*	*32-104*	0.046	*0*	*50*	

The following samples were analyzed in this batch:

16111189-02B	16111189-03B

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94834** Instrument ID **HG1** Method: **SW7470A**

MBLK Sample ID: **MBLK-94834-94834** Units: **mg/L** Analysis Date: **11/21/2016 05:11 PM**
Client ID: Run ID: **HG1_161121A** SeqNo: **4165541** Prep Date: **11/20/2016** 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-94834-94834** Units: **mg/L** Analysis Date: **11/21/2016 05:13 PM**
Client ID: Run ID: **HG1_161121A** SeqNo: **4165542** Prep Date: **11/20/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0018	0.00020	0.002	0	90	80-120	0			

MS Sample ID: **16111189-02CMS** Units: **mg/L** Analysis Date: **11/21/2016 05:26 PM**
Client ID: **BA-TMW1-111616** Run ID: **HG1_161121A** SeqNo: **4165547** Prep Date: **11/20/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00178	0.00020	0.002	-0.000015	89.8	75-125	0			

MSD Sample ID: **16111189-02CMSD** Units: **mg/L** Analysis Date: **11/21/2016 05:29 PM**
Client ID: **BA-TMW1-111616** Run ID: **HG1_161121A** SeqNo: **4165548** Prep Date: **11/20/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0018	0.00020	0.002	-0.000015	90.8	75-125	0.00178	1.12	20	

The following samples were analyzed in this batch:

16111189-02C	16111189-03C

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201400A** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK Sample ID: **MBLK-R201400A-R201400A** Units: **mg/L** Analysis Date: **11/28/2016 01:17 PM**

Client ID: Run ID: **ICPMS2_161128A** SeqNo: **4174659** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Beryllium	U	0.0020								
Cadmium	U	0.0020								
Calcium	U	0.50								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Magnesium	U	0.20								
Manganese	U	0.0050								
Nickel	U	0.0050								
Potassium	U	0.20								
Selenium	U	0.0050								
Silver	U	0.0050								
Sodium	U	0.20								
Zinc	U	0.010								

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201400A** Instrument ID **ICPMS2** Method: **SW6020A**

LCS Sample ID: **LCS-R201400A-R201400A** Units: **mg/L** Analysis Date: **11/28/2016 01:12 PM**

Client ID: Run ID: **ICPMS2_161128A** SeqNo: **4174658** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1186	0.010	0.1	0	119	80-120	0			
Antimony	0.1006	0.0050	0.1	0	101	80-120	0			
Arsenic	0.1001	0.0050	0.1	0	100	80-120	0			
Barium	0.1016	0.0050	0.1	0	102	80-120	0			
Beryllium	0.09924	0.0020	0.1	0	99.2	80-120	0			
Cadmium	0.1002	0.0020	0.1	0	100	80-120	0			
Calcium	9.908	0.50	10	0	99.1	80-120	0			
Chromium	0.09973	0.0050	0.1	0	99.7	80-120	0			
Cobalt	0.1012	0.0050	0.1	0	101	80-120	0			
Copper	0.1007	0.0050	0.1	0	101	80-120	0			
Iron	10.07	0.080	10	0	101	80-120	0			
Lead	0.09979	0.0050	0.1	0	99.8	80-120	0			
Magnesium	9.943	0.20	10	0	99.4	80-120	0			
Manganese	0.1016	0.0050	0.1	0	102	80-120	0			
Nickel	0.1001	0.0050	0.1	0	100	80-120	0			
Potassium	9.894	0.20	10	0	98.9	80-120	0			
Selenium	0.09957	0.0050	0.1	0	99.6	80-120	0			
Silver	0.09857	0.0050	0.1	0	98.6	80-120	0			
Sodium	9.834	0.20	10	0	98.3	80-120	0			
Zinc	0.1001	0.010	0.1	0	100	80-120	0			

MS Sample ID: **16111189-02CMS** Units: **mg/L** Analysis Date: **11/28/2016 01:58 PM**

Client ID: **BA-TMW1-111616** Run ID: **ICPMS2_161128A** SeqNo: **4174661** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09826	0.0050	0.1	0.0002023	98.1	75-125	0			
Arsenic	0.1078	0.0050	0.1	0.001102	107	75-125	0			
Barium	0.5761	0.0050	0.1	0.4869	89.2	75-125	0			O
Beryllium	0.09034	0.0020	0.1	-8.477E-06	90.3	75-125	0			
Cadmium	0.09384	0.0020	0.1	0.00004077	93.8	75-125	0			
Calcium	128.2	0.50	10	123.3	49	75-125	0			SO
Chromium	0.09499	0.0050	0.1	-6.421E-05	95.1	75-125	0			
Cobalt	0.09572	0.0050	0.1	0.003569	92.2	75-125	0			
Copper	0.09233	0.0050	0.1	0.001251	91.1	75-125	0			
Iron	9.664	0.080	10	0.02924	96.3	75-125	0			
Magnesium	36.75	0.20	10	28.63	81.2	75-125	0			
Nickel	0.09797	0.0050	0.1	0.008212	89.8	75-125	0			
Potassium	9.66	0.20	10	0.5011	91.6	75-125	0			
Selenium	0.1108	0.0050	0.1	0.00003161	111	75-125	0			
Sodium	42.38	0.20	10	34.52	78.6	75-125	0			
Tin	0.0979	0.0020	0.1	0.00004621	97.9	75-125	0			
Zinc	0.1531	0.010	0.1	0.06524	87.9	75-125	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201400A** Instrument ID **ICPMS2** Method: **SW6020A**

MS Sample ID: **16111189-02CMS** Units: **mg/L** Analysis Date: **11/29/2016 03:06 PM**
Client ID: **BA-TMW1-111616** Run ID: **ICPMS2_161129A** SeqNo: **4176184** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	4.645	0.050	1	4.265	38	75-125	0			SO
Silver	0.9686	0.050	1	0.0001064	96.8	75-125	0			

MSD Sample ID: **16111189-02CMSD** Units: **mg/L** Analysis Date: **11/28/2016 02:03 PM**
Client ID: **BA-TMW1-111616** Run ID: **ICPMS2_161128A** SeqNo: **4174662** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.1015	0.0050	0.1	0.0002023	101	75-125	0.09826	3.24	20	
Arsenic	0.1111	0.0050	0.1	0.001102	110	75-125	0.1078	3.02	20	
Barium	0.5768	0.0050	0.1	0.4869	89.9	75-125	0.5761	0.121	20	O
Beryllium	0.094	0.0020	0.1	-8.477E-06	94	75-125	0.09034	3.97	20	
Cadmium	0.09736	0.0020	0.1	0.00004077	97.3	75-125	0.09384	3.68	20	
Calcium	127.6	0.50	10	123.3	43	75-125	128.2	0.469	20	SO
Chromium	0.09777	0.0050	0.1	-6.421E-05	97.8	75-125	0.09499	2.88	20	
Cobalt	0.09834	0.0050	0.1	0.003569	94.8	75-125	0.09572	2.7	20	
Copper	0.09528	0.0050	0.1	0.001251	94	75-125	0.09233	3.14	20	
Iron	9.904	0.080	10	0.02924	98.7	75-125	9.664	2.45	20	
Magnesium	36.66	0.20	10	28.63	80.3	75-125	36.75	0.245	20	
Nickel	0.1011	0.0050	0.1	0.008212	92.9	75-125	0.09797	3.14	20	
Potassium	9.913	0.20	10	0.5011	94.1	75-125	9.66	2.59	20	
Selenium	0.1124	0.0050	0.1	0.00003161	112	75-125	0.1108	1.43	20	
Sodium	42.05	0.20	10	34.52	75.3	75-125	42.38	0.782	20	
Tin	0.1018	0.0020	0.1	0.00004621	102	75-125	0.0979	3.91	20	
Zinc	0.1551	0.010	0.1	0.06524	89.9	75-125	0.1531	1.3	20	

MSD Sample ID: **16111189-02CMSD** Units: **mg/L** Analysis Date: **11/29/2016 03:11 PM**
Client ID: **BA-TMW1-111616** Run ID: **ICPMS2_161129A** SeqNo: **4176185** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	4.085	0.050	1	4.265	-18	75-125	4.645	12.8	20	SO
Silver	0.9679	0.050	1	0.0001064	96.8	75-125	0.9686	0.0723	20	

The following samples were analyzed in this batch:

16111189-02C	16111189-03C

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKW1-94759-94759** Units: **µg/L** Analysis Date: **11/18/2016 11:23 PM**

Client ID: Run ID: **SVMS5_161118A** SeqNo: **4162657** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	U	5.0								
1,2-Dichlorobenzene	U	5.0								
1,3-Dichlorobenzene	U	5.0								
1,4-Dichlorobenzene	U	5.0								
2,2`-Oxybis(1-chloropropane)	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								
Anthracene	U	5.0								
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-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Carbazole	U	5.0								
Chrysene	U	5.0								

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

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

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					
Surr: 2,4,6-Tribromophenol	*32.27*	0	*50*	0	*64.5*	*38-115*	0
Surr: 2-Fluorobiphenyl	*41.39*	0	*50*	0	*82.8*	*32-100*	0
Surr: 2-Fluorophenol	*20.17*	0	*50*	0	*40.3*	*22-59*	0
Surr: 4-Terphenyl-d14	*43.61*	0	*50*	0	*87.2*	*23-112*	0
Surr: Nitrobenzene-d5	*31.24*	0	*50*	0	*62.5*	*31-93*	0
Surr: Phenol-d6	*12.08*	0	*50*	0	*24.2*	*13-36*	0

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSW1-94759-94759** Units: **µg/L** Analysis Date: **11/18/2016 11:46 PM**

Client ID: Run ID: **SVMS5_161118A** SeqNo: **4162658** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	11.07	5.0	20	0	55.4	35-105	0			
1,2-Dichlorobenzene	10.95	5.0	20	0	54.8	35-100	0			
1,3-Dichlorobenzene	10.68	5.0	20	0	53.4	30-100	0			
1,4-Dichlorobenzene	10.82	5.0	20	0	54.1	30-100	0			
2,4,5-Trichlorophenol	15.61	5.0	20	0	78	50-110	0			
2,4,6-Trichlorophenol	16.18	5.0	20	0	80.9	50-115	0			
2,4-Dichlorophenol	13.66	5.0	20	0	68.3	50-105	0			
2,4-Dimethylphenol	10.68	5.0	20	0	53.4	30-110	0			
2,4-Dinitrophenol	12.5	5.0	20	0	62.5	15-140	0			
2,4-Dinitrotoluene	16.65	5.0	20	0	83.2	50-120	0			
2,6-Dinitrotoluene	16.65	5.0	20	0	83.2	50-115	0			
2-Chloronaphthalene	14.99	5.0	20	0	75	50-105	0			
2-Chlorophenol	12.43	5.0	20	0	62.2	35-105	0			
2-Methylnaphthalene	12.68	5.0	20	0	63.4	45-105	0			
2-Methylphenol	11.13	5.0	20	0	55.6	40-110	0			
2-Nitroaniline	16.42	5.0	20	0	82.1	50-115	0			
2-Nitrophenol	13.25	5.0	20	0	66.2	40-115	0			
3&4-Methylphenol	10.53	5.0	20	0	52.6	30-110	0			
3,3´-Dichlorobenzidine	13.5	5.0	20	0	67.5	30-120	0			
3-Nitroaniline	16.08	5.0	20	0	80.4	20-125	0			
4,6-Dinitro-2-methylphenol	15.6	5.0	20	0	78	40-130	0			
4-Bromophenyl phenyl ether	14.96	5.0	20	0	74.8	50-115	0			
4-Chloro-3-methylphenol	13.5	5.0	20	0	67.5	45-110	0			
4-Chloroaniline	13.76	5.0	20	0	68.8	15-110	0			
4-Chlorophenyl phenyl ether	15.78	5.0	20	0	78.9	50-110	0			
4-Nitroaniline	16.41	5.0	20	0	82	35-150	0			
4-Nitrophenol	5.87	5.0	20	0	29.4	10-58	0			
Acenaphthene	14.64	5.0	20	0	73.2	45-110	0			
Acenaphthylene	15.97	5.0	20	0	79.8	50-105	0			
Anthracene	15.89	5.0	20	0	79.4	55-110	0			
Benzo(a)anthracene	16.71	5.0	20	0	83.6	55-110	0			
Benzo(a)pyrene	14.95	5.0	20	0	74.8	55-110	0			
Benzo(b)fluoranthene	15.14	5.0	20	0	75.7	45-120	0			
Benzo(g,h,i)perylene	16.05	5.0	20	0	80.2	40-125	0			
Benzo(k)fluoranthene	15.91	5.0	20	0	79.6	45-125	0			
Bis(2-chloroethoxy)methane	13.73	5.0	20	0	68.6	45-105	0			
Bis(2-chloroethyl)ether	14.37	5.0	20	0	71.8	35-110	0			
Bis(2-ethylhexyl)phthalate	16.23	5.0	20	0	81.2	40-125	0			
Butyl benzyl phthalate	15.68	5.0	20	0	78.4	45-115	0			
Carbazole	16.46	5.0	20	0	82.3	50-150	0			
Chrysene	16.74	5.0	20	0	83.7	55-110	0			
Dibenzo(a,h)anthracene	15.71	5.0	20	0	78.6	40-125	0			

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

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	15.82	5.0	20	0	79.1	55-105	0
Diethyl phthalate	19.03	5.0	20	0	95.2	40-120	0
Dimethyl phthalate	17.7	5.0	20	0	88.5	25-125	0
Di-n-butyl phthalate	16.68	5.0	20	0	83.4	55-115	0
Di-n-octyl phthalate	14.52	5.0	20	0	72.6	35-135	0
Fluoranthene	16.6	5.0	20	0	83	55-115	0
Fluorene	16.36	5.0	20	0	81.8	50-110	0
Hexachlorobenzene	14.83	5.0	20	0	74.2	50-110	0
Hexachlorobutadiene	10.63	5.0	20	0	53.2	25-105	0
Hexachlorocyclopentadiene	11.31	5.0	20	0	56.6	25-105	0
Hexachloroethane	11	5.0	20	0	55	30-95	0
Indeno(1,2,3-cd)pyrene	14.57	5.0	20	0	72.8	45-125	0
Isophorone	14.19	5.0	20	0	71	50-110	0
Naphthalene	11.72	5.0	20	0	58.6	40-100	0
Nitrobenzene	12.97	5.0	20	0	64.8	45-110	0
N-Nitrosodi-n-propylamine	14.36	5.0	20	0	71.8	35-130	0
N-Nitrosodiphenylamine	15.1	5.0	20	0	75.5	50-110	0
Pentachlorophenol	13.68	5.0	20	0	68.4	40-115	0
Phenanthrene	16.93	5.0	20	0	84.6	50-115	0
Phenol	5.06	5.0	20	0	25.3	12-43	0
Pyrene	17.34	5.0	20	0	86.7	50-130	0
Surr: 2,4,6-Tribromophenol	*35.89*	0	*50*	0	*71.8*	*38-115*	0
Surr: 2-Fluorobiphenyl	*39.41*	0	*50*	0	*78.8*	*32-100*	0
Surr: 2-Fluorophenol	*19.81*	0	*50*	0	*39.6*	*22-59*	0
Surr: 4-Terphenyl-d14	*43.39*	0	*50*	0	*86.8*	*23-112*	0
Surr: Nitrobenzene-d5	*30.88*	0	*50*	0	*61.8*	*31-93*	0
Surr: Phenol-d6	*12.59*	0	*50*	0	*25.2*	*13-36*	0

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **16111189-02B MS** Units: **µg/L** Analysis Date: **11/19/2016 12:44 PM**

Client ID: **BA-TMW1-111616** Run ID: **SVMS5_161118A** SeqNo: **4162661** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	9.4	5.0	20	0	47	35-105	0			
1,2-Dichlorobenzene	9.67	5.0	20	0	48.4	35-100	0			
1,3-Dichlorobenzene	9.35	5.0	20	0	46.8	30-100	0			
1,4-Dichlorobenzene	9.68	5.0	20	0	48.4	30-100	0			
2,4,5-Trichlorophenol	13.67	5.0	20	0	68.4	50-110	0			
2,4,6-Trichlorophenol	13.69	5.0	20	0	68.4	50-115	0			
2,4-Dichlorophenol	10.67	5.0	20	0	53.4	50-105	0			
2,4-Dimethylphenol	9.28	5.0	20	0	46.4	30-110	0			
2,4-Dinitrophenol	14.37	5.0	20	0	71.8	15-140	0			
2,4-Dinitrotoluene	14.95	5.0	20	0	74.8	50-120	0			
2,6-Dinitrotoluene	14.95	5.0	20	0	74.8	50-115	0			
2-Chloronaphthalene	12	5.0	20	0	60	50-105	0			
2-Chlorophenol	9.58	5.0	20	0	47.9	35-105	0			
2-Methylnaphthalene	10.46	5.0	20	0	52.3	45-105	0			
2-Methylphenol	9.04	5.0	20	0	45.2	40-110	0			
2-Nitroaniline	14.77	5.0	20	0	73.8	50-115	0			
2-Nitrophenol	10.44	5.0	20	0	52.2	40-115	0			
3&4-Methylphenol	8.51	5.0	20	0	42.6	30-110	0			
3,3´-Dichlorobenzidine	11.08	5.0	20	0	55.4	30-120	0			
3-Nitroaniline	15.2	5.0	20	0	76	20-125	0			
4,6-Dinitro-2-methylphenol	14.34	5.0	20	0	71.7	40-130	0			
4-Bromophenyl phenyl ether	12.95	5.0	20	0	64.8	50-115	0			
4-Chloro-3-methylphenol	12.07	5.0	20	0	60.4	45-110	0			
4-Chloroaniline	11.79	5.0	20	0	59	15-110	0			
4-Chlorophenyl phenyl ether	13.94	5.0	20	0	69.7	50-110	0			
4-Nitroaniline	15.28	5.0	20	0	76.4	35-150	0			
4-Nitrophenol	6	5.0	20	0	30	1-58	0			
Acenaphthene	12.76	5.0	20	0	63.8	45-110	0			
Acenaphthylene	13.28	5.0	20	0	66.4	50-105	0			
Anthracene	14.15	5.0	20	0	70.8	55-110	0			
Benzo(a)anthracene	14.89	5.0	20	0	74.4	55-110	0			
Benzo(a)pyrene	13.42	5.0	20	0	67.1	55-110	0			
Benzo(b)fluoranthene	13.61	5.0	20	0	68	45-120	0			
Benzo(g,h,i)perylene	14.3	5.0	20	0	71.5	40-125	0			
Benzo(k)fluoranthene	14.37	5.0	20	0	71.8	45-125	0			
Bis(2-chloroethoxy)methane	11.4	5.0	20	0	57	45-105	0			
Bis(2-chloroethyl)ether	11.63	5.0	20	0	58.2	35-110	0			
Bis(2-ethylhexyl)phthalate	15.98	5.0	20	0	79.9	40-125	0			
Butyl benzyl phthalate	14.16	5.0	20	0	70.8	45-115	0			
Carbazole	15.02	5.0	20	0	75.1	50-150	0			
Chrysene	14.99	5.0	20	0	75	55-110	0			
Dibenzo(a,h)anthracene	13.64	5.0	20	0	68.2	40-125	0			

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

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	13.64	5.0	20	0	68.2	55-105	0	
Diethyl phthalate	17.49	5.0	20	0	87.4	40-120	0	
Dimethyl phthalate	16.01	5.0	20	0	80	25-125	0	
Di-n-butyl phthalate	15.17	5.0	20	0	75.8	55-115	0	
Di-n-octyl phthalate	13.19	5.0	20	0	66	35-135	0	
Fluoranthene	14.96	5.0	20	0	74.8	55-115	0	
Fluorene	14.46	5.0	20	0	72.3	50-110	0	
Hexachlorobenzene	13.03	5.0	20	0	65.2	50-110	0	
Hexachlorobutadiene	9.5	5.0	20	0	47.5	25-105	0	
Hexachlorocyclopentadiene	9.52	5.0	20	0	47.6	25-105	0	
Hexachloroethane	9.8	5.0	20	0	49	30-95	0	
Indeno(1,2,3-cd)pyrene	13.3	5.0	20	0	66.5	45-125	0	
Isophorone	11.82	5.0	20	0	59.1	50-110	0	
Naphthalene	9.89	5.0	20	0	49.4	40-100	0	
Nitrobenzene	10.3	5.0	20	0	51.5	45-110	0	
N-Nitrosodi-n-propylamine	11.67	5.0	20	0	58.4	35-130	0	
N-Nitrosodiphenylamine	13.28	5.0	20	0	66.4	50-110	0	
Pentachlorophenol	13.56	5.0	20	0	67.8	40-115	0	
Phenanthrene	15.1	5.0	20	0	75.5	50-115	0	
Phenol	3.93	5.0	20	0	19.6	12-43	0	J
Pyrene	15.48	5.0	20	0	77.4	50-130	0	
Surr: 2,4,6-Tribromophenol	*32.51*	0	*50*	0	*65*	*38-115*	0	
Surr: 2-Fluorobiphenyl	*32.01*	0	*50*	0	*64*	*32-100*	0	
Surr: 2-Fluorophenol	*14.76*	0	*50*	0	*29.5*	*22-59*	0	
Surr: 4-Terphenyl-d14	*37.56*	0	*50*	0	*75.1*	*23-112*	0	
Surr: Nitrobenzene-d5	*24.8*	0	*50*	0	*49.6*	*31-93*	0	
Surr: Phenol-d6	*9.51*	0	*50*	0	*19*	*13-36*	0	

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **16111189-02B MSD** Units: **µg/L** Analysis Date: **11/19/2016 01:08 A**

Client ID: **BA-TMW1-111616** Run ID: **SVMS5_161118A** SeqNo: **4162659** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	12.16	5.0	20	0	60.8	35-105	9.4	25.6	30	
1,2-Dichlorobenzene	12.27	5.0	20	0	61.4	35-100	9.67	23.7	30	
1,3-Dichlorobenzene	12.25	5.0	20	0	61.2	30-100	9.35	26.9	30	
1,4-Dichlorobenzene	12.31	5.0	20	0	61.6	30-100	9.68	23.9	30	
2,4,5-Trichlorophenol	15.8	5.0	20	0	79	50-110	13.67	14.5	30	
2,4,6-Trichlorophenol	16.26	5.0	20	0	81.3	50-115	13.69	17.2	30	
2,4-Dichlorophenol	13.51	5.0	20	0	67.6	50-105	10.67	23.5	30	
2,4-Dimethylphenol	10.01	5.0	20	0	50	30-110	9.28	7.57	30	
2,4-Dinitrophenol	15.83	5.0	20	0	79.2	15-140	14.37	9.67	30	
2,4-Dinitrotoluene	16.39	5.0	20	0	82	50-120	14.95	9.19	30	
2,6-Dinitrotoluene	16.39	5.0	20	0	82	50-115	14.95	9.19	30	
2-Chloronaphthalene	15.04	5.0	20	0	75.2	50-105	12	22.5	30	
2-Chlorophenol	12.25	5.0	20	0	61.2	35-105	9.58	24.5	30	
2-Methylnaphthalene	13.23	5.0	20	0	66.2	45-105	10.46	23.4	30	
2-Methylphenol	10.66	5.0	20	0	53.3	40-110	9.04	16.4	30	
2-Nitroaniline	16.73	5.0	20	0	83.6	50-115	14.77	12.4	30	
2-Nitrophenol	13.31	5.0	20	0	66.6	40-115	10.44	24.2	30	
3&4-Methylphenol	9.81	5.0	20	0	49	30-110	8.51	14.2	30	
3,3´-Dichlorobenzidine	12.36	5.0	20	0	61.8	30-120	11.08	10.9	30	
3-Nitroaniline	16.12	5.0	20	0	80.6	20-125	15.2	5.87	30	
4,6-Dinitro-2-methylphenol	15.6	5.0	20	0	78	40-130	14.34	8.42	30	
4-Bromophenyl phenyl ether	15.02	5.0	20	0	75.1	50-115	12.95	14.8	30	
4-Chloro-3-methylphenol	13.47	5.0	20	0	67.4	45-110	12.07	11	30	
4-Chloroaniline	12.72	5.0	20	0	63.6	15-110	11.79	7.59	30	
4-Chlorophenyl phenyl ether	16.17	5.0	20	0	80.8	50-110	13.94	14.8	30	
4-Nitroaniline	16.84	5.0	20	0	84.2	35-150	15.28	9.71	30	
4-Nitrophenol	6.02	5.0	20	0	30.1	1-58	6	0.333	30	
Acenaphthene	15.14	5.0	20	0	75.7	45-110	12.76	17.1	30	
Acenaphthylene	15.8	5.0	20	0	79	50-105	13.28	17.3	30	
Anthracene	15.97	5.0	20	0	79.8	55-110	14.15	12.1	30	
Benzo(a)anthracene	16.48	5.0	20	0	82.4	55-110	14.89	10.1	30	
Benzo(a)pyrene	14.93	5.0	20	0	74.6	55-110	13.42	10.7	30	
Benzo(b)fluoranthene	15.08	5.0	20	0	75.4	45-120	13.61	10.2	30	
Benzo(g,h,i)perylene	15.77	5.0	20	0	78.8	40-125	14.3	9.78	30	
Benzo(k)fluoranthene	15.77	5.0	20	0	78.8	45-125	14.37	9.29	30	
Bis(2-chloroethoxy)methane	13.78	5.0	20	0	68.9	45-105	11.4	18.9	30	
Bis(2-chloroethyl)ether	14.73	5.0	20	0	73.6	35-110	11.63	23.5	30	
Bis(2-ethylhexyl)phthalate	16.28	5.0	20	0	81.4	40-125	15.98	1.86	30	
Butyl benzyl phthalate	15.61	5.0	20	0	78	45-115	14.16	9.74	30	
Carbazole	16.72	5.0	20	0	83.6	50-150	15.02	10.7	30	
Chrysene	16.66	5.0	20	0	83.3	55-110	14.99	10.6	30	
Dibenzo(a,h)anthracene	15.09	5.0	20	0	75.4	40-125	13.64	10.1	30	

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	15.85	5.0	20	0	79.2	55-105	13.64	15	30	
Diethyl phthalate	19.33	5.0	20	0	96.6	40-120	17.49	9.99	30	
Dimethyl phthalate	17.39	5.0	20	0	87	25-125	16.01	8.26	30	
Di-n-butyl phthalate	16.72	5.0	20	0	83.6	55-115	15.17	9.72	30	
Di-n-octyl phthalate	14.45	5.0	20	0	72.2	35-135	13.19	9.12	30	
Fluoranthene	16.67	5.0	20	0	83.4	55-115	14.96	10.8	30	
Fluorene	16.54	5.0	20	0	82.7	50-110	14.46	13.4	30	
Hexachlorobenzene	14.9	5.0	20	0	74.5	50-110	13.03	13.4	30	
Hexachlorobutadiene	12	5.0	20	0	60	25-105	9.5	23.3	30	
Hexachlorocyclopentadiene	12	5.0	20	0	60	25-105	9.52	23	30	
Hexachloroethane	12.81	5.0	20	0	64	30-95	9.8	26.6	30	
Indeno(1,2,3-cd)pyrene	14.32	5.0	20	0	71.6	45-125	13.3	7.39	30	
Isophorone	14.02	5.0	20	0	70.1	50-110	11.82	17	30	
Naphthalene	12.28	5.0	20	0	61.4	40-100	9.89	21.6	30	
Nitrobenzene	13.35	5.0	20	0	66.8	45-110	10.3	25.8	30	
N-Nitrosodi-n-propylamine	14.52	5.0	20	0	72.6	35-130	11.67	21.8	30	
N-Nitrosodiphenylamine	14.99	5.0	20	0	75	50-110	13.28	12.1	30	
Pentachlorophenol	14.77	5.0	20	0	73.8	40-115	13.56	8.54	30	
Phenanthrene	17.08	5.0	20	0	85.4	50-115	15.1	12.3	30	
Phenol	4.63	5.0	20	0	23.2	12-43	3.93	0	30	J
Pyrene	17.18	5.0	20	0	85.9	50-130	15.48	10.4	30	
Surr: 2,4,6-Tribromophenol	*36.73*	0	*50*	0	*73.5*	*38-115*	32.51	*12.2*	*40*	
Surr: 2-Fluorobiphenyl	*38.94*	0	*50*	0	*77.9*	*32-100*	32.01	*19.5*	*40*	
Surr: 2-Fluorophenol	*17.93*	0	*50*	0	*35.9*	*22-59*	14.76	*19.4*	*40*	
Surr: 4-Terphenyl-d14	*38.22*	0	*50*	0	*76.4*	*23-112*	37.56	*1.74*	*40*	
Surr: Nitrobenzene-d5	*32.2*	0	*50*	0	*64.4*	*31-93*	24.8	*26*	*40*	
Surr: Phenol-d6	*11.39*	0	*50*	0	*22.8*	*13-36*	9.51	*18*	*40*	

The following samples were analyzed in this batch:

16111189-02B	16111189-03B

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94761** Instrument ID **SVMS5** Method: **SW8270D**

MBLK Sample ID: **SBLKW1-94761-94761** Units: **µg/L** Analysis Date: **11/18/2016 11:23 PM**

Client ID: Run ID: **SVMS5_161118A** SeqNo: **4162673** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
Hexachlorobenzene	U	5.0								
Hexachloroethane	U	5.0								
Nitrobenzene	U	5.0								
Pentachlorophenol	U	5.0								
Surr: 2,4,6-Tribromophenol	*32.27*	0	*50*	0	*64.5*	*38-115*	0			
Surr: 2-Fluorobiphenyl	*41.39*	0	*50*	0	*82.8*	*32-100*	0			
Surr: 2-Fluorophenol	*20.17*	0	*50*	0	*40.3*	*22-59*	0			
Surr: 4-Terphenyl-d14	*43.61*	0	*50*	0	*87.2*	*23-112*	0			
Surr: Nitrobenzene-d5	*31.24*	0	*50*	0	*62.5*	*31-93*	0			
Surr: Phenol-d6	*12.08*	0	*50*	0	*24.2*	*13-36*	0			

LCS Sample ID: **SLCSW1-94761-94761** Units: **µg/L** Analysis Date: **11/18/2016 11:46 PM**

Client ID: Run ID: **SVMS5_161118A** SeqNo: **4162674** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	10.82	5.0	20	0	54.1	30-110	0			
2,4,5-Trichlorophenol	15.61	5.0	20	0	78	50-110	0			
2,4,6-Trichlorophenol	16.18	5.0	20	0	80.9	50-115	0			
2,4-Dinitrotoluene	16.65	5.0	20	0	83.2	50-120	0			
Hexachlorobenzene	14.83	5.0	20	0	74.2	50-110	0			
Hexachloroethane	11	5.0	20	0	55	30-95	0			
Nitrobenzene	12.97	5.0	20	0	64.8	45-110	0			
Pentachlorophenol	13.68	5.0	20	0	68.4	40-115	0			
Surr: 2,4,6-Tribromophenol	*35.89*	0	*50*	0	*71.8*	*38-115*	0			
Surr: 2-Fluorobiphenyl	*39.41*	0	*50*	0	*78.8*	*32-100*	0			
Surr: 2-Fluorophenol	*19.81*	0	*50*	0	*39.6*	*22-59*	0			
Surr: 4-Terphenyl-d14	*43.39*	0	*50*	0	*86.8*	*23-112*	0			
Surr: Nitrobenzene-d5	*30.88*	0	*50*	0	*61.8*	*31-93*	0			
Surr: Phenol-d6	*12.59*	0	*50*	0	*25.2*	*13-36*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94761** Instrument ID **SVMS5** Method: **SW8270D**

MS Sample ID: **16111189-02B MS** Units: **µg/L** Analysis Date: **11/19/2016 12:44 PM**

Client ID: **BA-TMW1-111616** Run ID: **SVMS5_161118A** SeqNo: **4162677** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	9.68	5.0	20	0	48.4	30-110	0			
2,4,5-Trichlorophenol	13.67	5.0	20	0	68.4	50-110	0			
2,4,6-Trichlorophenol	13.69	5.0	20	0	68.4	50-115	0			
2,4-Dinitrotoluene	14.95	5.0	20	0	74.8	50-120	0			
Hexachlorobenzene	13.03	5.0	20	0	65.2	50-110	0			
Hexachloroethane	9.8	5.0	20	0	49	30-95	0			
Nitrobenzene	10.3	5.0	20	0	51.5	45-110	0			
Pentachlorophenol	13.56	5.0	20	0	67.8	40-115	0			
Surr: 2,4,6-Tribromophenol	*32.51*	0	*50*	0	*65*	*38-115*	0			
Surr: 2-Fluorobiphenyl	*32.01*	0	*50*	0	*64*	*32-100*	0			
Surr: 2-Fluorophenol	*14.76*	0	*50*	0	*29.5*	*22-59*	0			
Surr: 4-Terphenyl-d14	*37.56*	0	*50*	0	*75.1*	*23-112*	0			
Surr: Nitrobenzene-d5	*24.8*	0	*50*	0	*49.6*	*31-93*	0			
Surr: Phenol-d6	*9.51*	0	*50*	0	*19*	*13-36*	0			

MSD Sample ID: **16111189-02B MSD** Units: **µg/L** Analysis Date: **11/19/2016 01:08 A**

Client ID: **BA-TMW1-111616** Run ID: **SVMS5_161118A** SeqNo: **4162675** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	12.31	5.0	20	0	61.6	30-110	9.68	23.9	30	
2,4,5-Trichlorophenol	15.8	5.0	20	0	79	50-110	13.67	14.5	30	
2,4,6-Trichlorophenol	16.26	5.0	20	0	81.3	50-115	13.69	17.2	30	
2,4-Dinitrotoluene	16.39	5.0	20	0	82	50-120	14.95	9.19	30	
Hexachlorobenzene	14.9	5.0	20	0	74.5	50-110	13.03	13.4	30	
Hexachloroethane	12.81	5.0	20	0	64	30-95	9.8	26.6	30	
Nitrobenzene	13.35	5.0	20	0	66.8	45-110	10.3	25.8	30	
Pentachlorophenol	14.77	5.0	20	0	73.8	40-115	13.56	8.54	30	
Surr: 2,4,6-Tribromophenol	*36.73*	0	*50*	0	*73.5*	*38-115*	32.51	*12.2*	*0*	
Surr: 2-Fluorobiphenyl	*38.94*	0	*50*	0	*77.9*	*32-100*	32.01	*19.5*	*0*	
Surr: 2-Fluorophenol	*17.93*	0	*50*	0	*35.9*	*22-59*	14.76	*19.4*	*0*	
Surr: 4-Terphenyl-d14	*38.22*	0	*50*	0	*76.4*	*23-112*	37.56	*1.74*	*0*	
Surr: Nitrobenzene-d5	*32.2*	0	*50*	0	*64.4*	*31-93*	24.8	*26*	*0*	
Surr: Phenol-d6	*11.39*	0	*50*	0	*22.8*	*13-36*	9.51	*18*	*0*	

The following samples were analyzed in this batch: 16111189-02B

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201328A** Instrument ID **VMS10** Method: **SW8260B**

MBLK Sample ID: **VBLKW2-161123-R201328A** Units: **µg/L** Analysis Date: **11/24/2016 03:51 A**

Client ID: Run ID: **VMS10_161123B** SeqNo: **4171456** 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-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	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								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Ethylbenzene	U	1.0								
Methyl tert-butyl ether	U	1.0								
Methylene chloride	U	5.0								
Styrene	U	1.0								
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								
Vinyl chloride	U	1.0								
Xylenes, Total	U	3.0								
Surr: 1,2-Dichloroethane-d4	*19.35*	0	*20*	0	*96.8*	*75-120*	0			
Surr: 4-Bromofluorobenzene	*18.84*	0	*20*	0	*94.2*	*80-110*	0			
Surr: Dibromofluoromethane	*19.14*	0	*20*	0	*95.7*	*85-115*	0			
Surr: Toluene-d8	*19.2*	0	*20*	0	*96*	*85-110*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201328A** Instrument ID **VMS10** Method: **SW8260B**

LCS Sample ID: **VLCSW2-161123-R201328A** Units: **µg/L** Analysis Date: **11/24/2016 03:03 A**

Client ID: Run ID: **VMS10_161123B** SeqNo: **4171454** 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	18.78	1.0	20	0	93.9	75-130	0			
1,1,2,2-Tetrachloroethane	19.09	1.0	20	0	95.4	75-130	0			
1,1,2-Trichloroethane	20.23	1.0	20	0	101	75-125	0			
1,1-Dichloroethane	19.55	1.0	20	0	97.8	75-133	0			
1,1-Dichloroethene	21.12	1.0	20	0	106	70-145	0			
1,2-Dichloroethane	18.81	1.0	20	0	94	78-125	0			
1,2-Dichloropropane	18.11	1.0	20	0	90.6	75-125	0			
2-Butanone	20.29	5.0	20	0	101	55-150	0			
2-Hexanone	18.91	5.0	20	0	94.6	60-135	0			
4-Methyl-2-pentanone	19.82	1.0	20	0	99.1	77-178	0			
Acetone	22.07	10	20	0	110	60-160	0			
Benzene	19.23	1.0	20	0	96.2	85-125	0			
Bromodichloromethane	19.52	1.0	20	0	97.6	75-125	0			
Bromoform	16.2	1.0	20	0	81	60-125	0			
Bromomethane	21.29	1.0	20	0	106	30-185	0			
Carbon disulfide	19.89	1.0	20	0	99.4	60-165	0			
Carbon tetrachloride	18.74	1.0	20	0	93.7	65-140	0			
Chlorobenzene	19.01	1.0	20	0	95	80-120	0			
Chloroethane	16.91	1.0	20	0	84.6	50-140	0			
cis-1,2-Dichloroethene	18.68	1.0	20	0	93.4	75-134	0			
cis-1,3-Dichloropropene	17.06	1.0	20	0	85.3	70-130	0			
Ethylbenzene	18.96	1.0	20	0	94.8	85-125	0			
Methyl tert-butyl ether	19.79	1.0	20	0	99	80-130	0			
Methylene chloride	17.37	5.0	20	0	86.8	75-140	0			
Styrene	20.96	1.0	20	0	105	83-137	0			
Tetrachloroethene	28.45	1.0	20	0	142	68-166	0			
Toluene	20.16	1.0	20	0	101	85-125	0			
trans-1,2-Dichloroethene	18.97	1.0	20	0	94.8	80-140	0			
trans-1,3-Dichloropropene	16.31	1.0	20	0	81.6	56-132	0			
Trichloroethene	21.98	1.0	20	0	110	84-130	0			
Vinyl chloride	17.58	1.0	20	0	87.9	50-136	0			
Xylenes, Total	61.99	3.0	60	0	103	80-126	0			
Surr: 1,2-Dichloroethane-d4	*18.61*	0	*20*	0	*93*	*75-120*	0			
Surr: 4-Bromofluorobenzene	*20.61*	0	*20*	0	*103*	*80-110*	0			
Surr: Dibromofluoromethane	*20.2*	0	*20*	0	*101*	*85-115*	0			
Surr: Toluene-d8	*20.03*	0	*20*	0	*100*	*85-110*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201328A** Instrument ID **VMS10** Method: **SW8260B**

MS Sample ID: **16111189-02A MS** Units: **µg/L** Analysis Date: **11/24/2016 12:13 PM**

Client ID: **BA-TMW1-111616** Run ID: **VMS10_161123B** SeqNo: **4171475** 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	21.71	1.0	20	0	109	75-130	0			
1,1,2,2-Tetrachloroethane	18.6	1.0	20	0	93	75-130	0			
1,1,2-Trichloroethane	20.47	1.0	20	0	102	75-125	0			
1,1-Dichloroethane	21.71	1.0	20	0	109	75-133	0			
1,1-Dichloroethene	24.16	1.0	20	0	121	70-145	0			
1,2-Dichloroethane	20.86	1.0	20	0	104	78-125	0			
1,2-Dichloropropane	19.02	1.0	20	0	95.1	75-125	0			
2-Butanone	18.28	5.0	20	0	91.4	55-150	0			
2-Hexanone	18.54	5.0	20	0	92.7	60-135	0			
4-Methyl-2-pentanone	19.01	1.0	20	0	95	77-178	0			
Acetone	26.35	10	20	0	132	60-160	0			
Benzene	20.17	1.0	20	0	101	85-125	0			
Bromodichloromethane	21.49	1.0	20	0	107	75-125	0			
Bromoform	15.63	1.0	20	0	78.2	60-125	0			
Bromomethane	22.81	1.0	20	0	114	30-185	0			
Carbon disulfide	23.13	1.0	20	0	116	60-165	0			
Carbon tetrachloride	21.72	1.0	20	0	109	65-140	0			
Chlorobenzene	19.69	1.0	20	0	98.4	80-120	0			
Chloroethane	19.82	1.0	20	0	99.1	50-140	0			
cis-1,2-Dichloroethene	19.62	1.0	20	0	98.1	75-134	0			
cis-1,3-Dichloropropene	16.09	1.0	20	0	80.4	70-130	0			
Ethylbenzene	19.04	1.0	20	0	95.2	85-125	0			
Methyl tert-butyl ether	20.54	1.0	20	0	103	80-130	0			
Methylene chloride	19.8	5.0	20	0	99	75-140	0			
Styrene	20.65	1.0	20	0	103	83-137	0			
Tetrachloroethene	29.86	1.0	20	0	149	68-166	0			
Toluene	20.93	1.0	20	0	105	85-125	0			
trans-1,2-Dichloroethene	21.54	1.0	20	0	108	80-140	0			
trans-1,3-Dichloropropene	14.87	1.0	20	0	74.4	56-132	0			
Trichloroethene	23.98	1.0	20	0	120	84-130	0			
Vinyl chloride	21.61	1.0	20	0	108	50-136	0			
Xylenes, Total	64.18	3.0	60	0	107	80-126	0			
Surr: 1,2-Dichloroethane-d4	*20.31*	0	*20*	0	*102*	*75-120*	0			
Surr: 4-Bromofluorobenzene	*21.35*	0	*20*	0	*107*	*80-110*	0			
Surr: Dibromofluoromethane	*21.74*	0	*20*	0	*109*	*85-115*	0			
Surr: Toluene-d8	*20.07*	0	*20*	0	*100*	*85-110*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111189
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201328A** Instrument ID **VMS10** Method: **SW8260B**

MSD Sample ID: **16111189-02A MSD** Units: **µg/L** Analysis Date: **11/24/2016 12:37 PM**

Client ID: **BA-TMW1-111616** Run ID: **VMS10_161123B** SeqNo: **4171476** 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	22.09	1.0	20	0	110	75-130	21.71	1.74	30	
1,1,2,2-Tetrachloroethane	18.45	1.0	20	0	92.2	75-130	18.6	0.81	30	
1,1,2-Trichloroethane	19.91	1.0	20	0	99.6	75-125	20.47	2.77	30	
1,1-Dichloroethane	21.37	1.0	20	0	107	75-133	21.71	1.58	30	
1,1-Dichloroethene	24.11	1.0	20	0	121	70-145	24.16	0.207	30	
1,2-Dichloroethane	21.49	1.0	20	0	107	78-125	20.86	2.98	30	
1,2-Dichloropropane	18.73	1.0	20	0	93.6	75-125	19.02	1.54	30	
2-Butanone	18.57	5.0	20	0	92.8	55-150	18.28	1.57	30	
2-Hexanone	18.6	5.0	20	0	93	60-135	18.54	0.323	30	
4-Methyl-2-pentanone	18.77	1.0	20	0	93.8	77-178	19.01	1.27	30	
Acetone	25.42	10	20	0	127	60-160	26.35	3.59	30	
Benzene	20.23	1.0	20	0	101	85-125	20.17	0.297	30	
Bromodichloromethane	21.19	1.0	20	0	106	75-125	21.49	1.41	30	
Bromoform	15.54	1.0	20	0	77.7	60-125	15.63	0.577	30	
Bromomethane	22.15	1.0	20	0	111	30-185	22.81	2.94	30	
Carbon disulfide	23.43	1.0	20	0	117	60-165	23.13	1.29	30	
Carbon tetrachloride	21.37	1.0	20	0	107	65-140	21.72	1.62	30	
Chlorobenzene	18.97	1.0	20	0	94.8	80-120	19.69	3.72	30	
Chloroethane	19.98	1.0	20	0	99.9	50-140	19.82	0.804	30	
cis-1,2-Dichloroethene	19.01	1.0	20	0	95	75-134	19.62	3.16	30	
cis-1,3-Dichloropropene	16.15	1.0	20	0	80.8	70-130	16.09	0.372	30	
Ethylbenzene	18.74	1.0	20	0	93.7	85-125	19.04	1.59	30	
Methyl tert-butyl ether	20.04	1.0	20	0	100	80-130	20.54	2.46	30	
Methylene chloride	19.9	5.0	20	0	99.5	75-140	19.8	0.504	30	
Styrene	19.77	1.0	20	0	98.8	83-137	20.65	4.35	30	
Tetrachloroethene	28.96	1.0	20	0	145	68-166	29.86	3.06	30	
Toluene	19.93	1.0	20	0	99.6	85-125	20.93	4.89	30	
trans-1,2-Dichloroethene	21.03	1.0	20	0	105	80-140	21.54	2.4	30	
trans-1,3-Dichloropropene	14.6	1.0	20	0	73	56-132	14.87	1.83	30	
Trichloroethene	23.26	1.0	20	0	116	84-130	23.98	3.05	30	
Vinyl chloride	21.32	1.0	20	0	107	50-136	21.61	1.35	30	
Xylenes, Total	61.55	3.0	60	0	103	80-126	64.18	4.18	30	
Surr: 1,2-Dichloroethane-d4	*21.18*	0	*20*	0	*106*	*75-120*	20.31	*4.19*	*30*	
Surr: 4-Bromofluorobenzene	*20.86*	0	*20*	0	*104*	*80-110*	21.35	*2.32*	*30*	
Surr: Dibromofluoromethane	*21.25*	0	*20*	0	*106*	*85-115*	21.74	*2.28*	*30*	
Surr: Toluene-d8	*19.15*	0	*20*	0	*95.8*	*85-110*	20.07	*4.69*	*30*	

The following samples were analyzed in this batch: 16111189-01A 16111189-02A 16111189-03A

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

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511 | Houston, TX +1 281 530 5656 | Spring City, PA +1 610 948 4903 | South Charleston, WV +1 304 356 3168
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070 | Middletown, PA +1 717 944 5541 | Salt Lake City, UT +1 801 266 7700 | York, PA +1 717 505 5280

Chain of Custody Form

Page ____ of ____

COC ID: 39630

ALS Project Manager: | ALS Work Order #: 16111189

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Bluff Avenue Site	A	VOCs
Work Order		Project Number		B	SVOCs
Company Name	Tetra Tech EM Inc.	Bill To Company	Tetra Tech EM Inc.	C	PCBs/Pesticides
Send Report To	Carol Nissen	Invoice Attn	Carol Nissen	D	TAL Metals incl. Hg and Cyanide
Address	1 South Wacker Dr Suite 3700	Address	1 South Wacker Dr Suite 3700	E	Moisture
				F	
City/State/Zip	Chicago, IL 60606	City/State/Zip	Chicago, IL 60606	G	
Phone	(312) 201-7411	Phone	(312) 201-7411	H	
Fax	(312) 938-0118	Fax	(312) 938-0118	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	TRIP BLANK	11/16/16	0800	Water	1	1	X										
2	BA-TMW1-111616	↓	0955	↓	1, 2	7	X	X	X	X							
3	BA-TMW1-111616D	↓	1000	↓	↓	↓	X	X	X	X							
4	BA-TMW1-111616 MS/MSD	↓	1005	↓	↓	↓	X	X	X	X							
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign	Shipment Method	Turnaround Time in Business Days (BD)	Results Due Date:
Elise Steger Elise Steger	Fed Ex	☒ 10 BD ☐ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD ☐ Other ____	

Relinquished by:	Date:	Time:	Received by:	Notes:
Elise Steger	11-16-16	1600		Metals Field Filtered
Relinquished by:	Date: 11/17/16	Time: 930	Received by (Laboratory): MBrecett	
Logged by (Laboratory): MB	Date: 11/17/16	Time: 1508	Checked by (Laboratory):	

Cooler ID	Cooler Temp
	4.2

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other ____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

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

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ALS Group, USA

Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **17-Nov-16 09:30**

Work Order: **16111189** Received by: **MBB**

Checklist completed by Meghan Broadbent (eSignature) 17-Nov-16 (Date) Reviewed by: Joseph Ribar (eSignature) 17-Nov-16 (Date)

Matrices: water

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.2/4.2	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	11/17/2016 3:17:23 PM		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

30-Nov-2016

Carol Nissen
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Bluff Avenue Site** Work Order: **16111216**

Dear Carol,

ALS Environmental received 4 samples on 17-Nov-2016 09:30 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 45.

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

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: MN: 998501

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

Date: 30-Nov-16

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Work Order: **16111216**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
16111216-01	Trip Blank	Water		11/16/2016 08:00	11/17/2016 09:30	☐
16111216-02	BA-TMW2-111616	Water		11/16/2016 11:15	11/17/2016 09:30	☐
16111216-03	BA-TMW3-111616	Water		11/16/2016 11:55	11/17/2016 09:30	☐
16111216-04	BA-TMW4-111616	Water		11/16/2016 12:35	11/17/2016 09:30	☐

ALS Group, USA

Date: 30-Nov-16

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Work Order: 16111216

Case Narrative

Samples for the above noted Work Order were received on 11/17/2016. 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:
No other deviations or anomalies were noted.

Extractable Organics:
No other deviations or anomalies were noted.

Metals:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: Trip Blank
Collection Date: 11/16/2016 08:00 AM

Work Order: 16111216
Lab ID: 16111216-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260B**					Analyst: **AK**
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	11/24/2016 04:53
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	11/24/2016 04:53
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	11/24/2016 04:53
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	11/24/2016 04:53
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 04:53
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	11/24/2016 04:53
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	11/24/2016 04:53
2-Butanone	U		0.58	5.0	µg/L	1	11/24/2016 04:53
2-Hexanone	U		0.13	5.0	µg/L	1	11/24/2016 04:53
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	11/24/2016 04:53
Acetone	U		0.92	10	µg/L	1	11/24/2016 04:53
Benzene	U		0.30	1.0	µg/L	1	11/24/2016 04:53
Bromodichloromethane	U		0.23	1.0	µg/L	1	11/24/2016 04:53
Bromoform	U		0.77	1.0	µg/L	1	11/24/2016 04:53
Bromomethane	U		0.38	1.0	µg/L	1	11/24/2016 04:53
Carbon disulfide	U		0.23	1.0	µg/L	1	11/24/2016 04:53
Carbon tetrachloride	U		0.31	1.0	µg/L	1	11/24/2016 04:53
Chlorobenzene	U		0.27	1.0	µg/L	1	11/24/2016 04:53
Chloroethane	U		0.29	1.0	µg/L	1	11/24/2016 04:53
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	11/24/2016 04:53
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	11/24/2016 04:53
Ethylbenzene	U		0.40	1.0	µg/L	1	11/24/2016 04:53
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	11/24/2016 04:53
Methylene chloride	**0.77**	J	**0.56**	**5.0**	**µg/L**	1	11/24/2016 04:53
Styrene	U		0.24	1.0	µg/L	1	11/24/2016 04:53
Tetrachloroethene	U		0.27	1.0	µg/L	1	11/24/2016 04:53
Toluene	U		0.37	1.0	µg/L	1	11/24/2016 04:53
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 04:53
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	11/24/2016 04:53
Trichloroethene	U		0.30	1.0	µg/L	1	11/24/2016 04:53
Vinyl chloride	U		0.20	1.0	µg/L	1	11/24/2016 04:53
Xylenes, Total	U		1.3	3.0	µg/L	1	11/24/2016 04:53
Surr: 1,2-Dichloroethane-d4	*104*			*75-120*	*%REC*	1	11/24/2016 04:53
Surr: 4-Bromofluorobenzene	*93.4*			*80-110*	*%REC*	1	11/24/2016 04:53
Surr: Dibromofluoromethane	*101*			*85-115*	*%REC*	1	11/24/2016 04:53
Surr: Toluene-d8	*95.6*			*85-110*	*%REC*	1	11/24/2016 04:53

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW2-111616
Collection Date: 11/16/2016 11:15 AM

Work Order: 16111216
Lab ID: 16111216-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**		Prep: SW3510 / 11/18/16		Analyst: **EB**
Aroclor 1016	U		0.065	0.20	µg/L	1	11/19/2016 01:17
Aroclor 1221	U		0.065	0.20	µg/L	1	11/19/2016 01:17
Aroclor 1232	U		0.065	0.20	µg/L	1	11/19/2016 01:17
Aroclor 1242	U		0.065	0.20	µg/L	1	11/19/2016 01:17
Aroclor 1248	U		0.065	0.20	µg/L	1	11/19/2016 01:17
Aroclor 1254	U		0.025	0.20	µg/L	1	11/19/2016 01:17
Aroclor 1260	U		0.025	0.20	µg/L	1	11/19/2016 01:17
Surr: Decachlorobiphenyl	*43.0*			*40-110*	*%REC*	1	11/19/2016 01:17
Surr: Tetrachloro-m-xylene	*41.0*			*40-110*	*%REC*	1	11/19/2016 01:17
PESTICIDES		Method:	**SW8081**		Prep: SW3510 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.0012	0.020	µg/L	1	11/28/2016 22:58
4,4´-DDE	U		0.0012	0.020	µg/L	1	11/28/2016 22:58
4,4´-DDT	U		0.0017	0.020	µg/L	1	11/28/2016 22:58
Aldrin	U		0.0015	0.010	µg/L	1	11/28/2016 22:58
alpha-BHC	U		0.0025	0.010	µg/L	1	11/28/2016 22:58
alpha-Chlordane	U		0.0017	0.020	µg/L	1	11/28/2016 22:58
beta-BHC	U		0.0044	0.010	µg/L	1	11/28/2016 22:58
Chlordane, Technical	U		0.034	0.50	µg/L	1	11/28/2016 22:58
delta-BHC	U		0.0015	0.010	µg/L	1	11/28/2016 22:58
Dieldrin	U		0.0017	0.020	µg/L	1	11/28/2016 22:58
Endosulfan I	U		0.0017	0.020	µg/L	1	11/28/2016 22:58
Endosulfan II	U		0.0012	0.020	µg/L	1	11/28/2016 22:58
Endosulfan sulfate	U		0.0012	0.020	µg/L	1	11/28/2016 22:58
Endrin	U		0.0012	0.020	µg/L	1	11/28/2016 22:58
Endrin aldehyde	U		0.0030	0.020	µg/L	1	11/28/2016 22:58
Endrin ketone	**0.0020**	J	**0.0012**	**0.020**	**µg/L**	1	11/28/2016 22:58
gamma-BHC (Lindane)	U		0.0012	0.010	µg/L	1	11/28/2016 22:58
gamma-Chlordane	U		0.0012	0.020	µg/L	1	11/28/2016 22:58
Heptachlor	U		0.0017	0.010	µg/L	1	11/28/2016 22:58
Heptachlor epoxide	U		0.0017	0.010	µg/L	1	11/28/2016 22:58
Methoxychlor	U		0.0015	0.040	µg/L	1	11/28/2016 22:58
Toxaphene	U		0.11	2.0	µg/L	1	11/28/2016 22:58
Surr: Decachlorobiphenyl	*49.0*			*42-119*	*%REC*	1	11/28/2016 22:58
Surr: Tetrachloro-m-xylene	*46.0*			*32-104*	*%REC*	1	11/28/2016 22:58
MERCURY BY CVAA (DISSOLVED)		Method:	**SW7470A**		Prep: SW7470 / 11/20/16		Analyst: **LR**
Mercury	U		0.000019	0.00020	mg/L	1	11/21/2016 17:44
METALS BY ICP-MS (DISSOLVED)		Method:	**SW6020A**				Analyst: **RH**

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW2-111616
Collection Date: 11/16/2016 11:15 AM

Work Order: 16111216
Lab ID: 16111216-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**0.010**		**0.0042**	**0.010**	**mg/L**	1	11/28/2016 14:14
Antimony	**0.0027**	J	**0.00017**	**0.0050**	**mg/L**	1	11/28/2016 14:14
Arsenic	U		0.00087	0.0050	mg/L	1	11/28/2016 14:14
Barium	**0.72**		**0.0022**	**0.0050**	**mg/L**	1	11/28/2016 14:14
Beryllium	U		0.00012	0.0020	mg/L	1	11/28/2016 14:14
Cadmium	**0.000076**	J	**0.000050**	**0.0020**	**mg/L**	1	11/28/2016 14:14
Calcium	**110**		**0.086**	**0.50**	**mg/L**	1	11/28/2016 14:14
Chromium	U		0.00065	0.0050	mg/L	1	11/28/2016 14:14
Cobalt	**0.00045**	J	**0.00014**	**0.0050**	**mg/L**	1	11/28/2016 14:14
Copper	**0.0014**	J	**0.00028**	**0.0050**	**mg/L**	1	11/28/2016 14:14
Iron	**0.012**	J	**0.0046**	**0.080**	**mg/L**	1	11/28/2016 14:14
Lead	U		0.00033	0.0050	mg/L	1	11/28/2016 14:14
Magnesium	**42**		**0.0068**	**0.20**	**mg/L**	1	11/28/2016 14:14
Manganese	**0.76**		**0.00051**	**0.0050**	**mg/L**	1	11/28/2016 14:14
Nickel	**0.0058**		**0.00041**	**0.0050**	**mg/L**	1	11/28/2016 14:14
Potassium	**1.9**		**0.017**	**0.20**	**mg/L**	1	11/28/2016 14:14
Selenium	U		0.00090	0.0050	mg/L	1	11/28/2016 14:14
Silver	**0.000051**	J	**0.000050**	**0.0050**	**mg/L**	1	11/28/2016 14:14
Sodium	**51**		**0.034**	**0.20**	**mg/L**	1	11/28/2016 14:14
Thallium	U		0.00016	0.0050	mg/L	1	11/28/2016 14:14
Vanadium	**0.0016**	J	**0.00098**	**0.0050**	**mg/L**	1	11/28/2016 14:14
Zinc	**0.23**		**0.0014**	**0.010**	**mg/L**	1	11/28/2016 14:14
SEMI-VOLATILE ORGANIC COMPOUNDS		Method:	**SW846 8270D**		Prep: SW3510 / 11/18/16		Analyst: **JF**
1,2,4-Trichlorobenzene	U		0.41	1.0	µg/L	1	11/20/2016 16:49
1,2-Dichlorobenzene	U		0.39	1.0	µg/L	1	11/20/2016 16:49
1,3-Dichlorobenzene	U		0.65	1.0	µg/L	1	11/20/2016 16:49
1,4-Dichlorobenzene	U		0.32	1.0	µg/L	1	11/20/2016 16:49
2,2`-Oxybis(1-chloropropane)	U		0.23	1.0	µg/L	1	11/20/2016 16:49
2,4,5-Trichlorophenol	U		0.17	1.0	µg/L	1	11/20/2016 16:49
2,4,6-Trichlorophenol	U		0.25	1.0	µg/L	1	11/20/2016 16:49
2,4-Dichlorophenol	U		0.35	1.0	µg/L	1	11/20/2016 16:49
2,4-Dimethylphenol	U		0.36	1.0	µg/L	1	11/20/2016 16:49
2,4-Dinitrophenol	U		0.40	5.0	µg/L	1	11/20/2016 16:49
2,4-Dinitrotoluene	U		0.42	1.0	µg/L	1	11/20/2016 16:49
2,6-Dinitrotoluene	U		0.33	1.0	µg/L	1	11/20/2016 16:49
2-Chloronaphthalene	U		0.075	0.10	µg/L	1	11/20/2016 16:49
2-Chlorophenol	U		0.23	1.0	µg/L	1	11/20/2016 16:49
2-Methylnaphthalene	U		0.065	0.10	µg/L	1	11/20/2016 16:49
2-Methylphenol	U		0.25	1.0	µg/L	1	11/20/2016 16:49

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW2-111616
Collection Date: 11/16/2016 11:15 AM

Work Order: 16111216
Lab ID: 16111216-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.21	1.0	µg/L	1	11/20/2016 16:49
2-Nitrophenol	U		0.34	1.0	µg/L	1	11/20/2016 16:49
3&4-Methylphenol	U		0.21	1.0	µg/L	1	11/20/2016 16:49
3,3´-Dichlorobenzidine	U		1.6	5.0	µg/L	1	11/20/2016 16:49
3-Nitroaniline	U		0.64	1.0	µg/L	1	11/20/2016 16:49
4,6-Dinitro-2-methylphenol	U		0.27	1.0	µg/L	1	11/20/2016 16:49
4-Bromophenyl phenyl ether	U		0.33	1.0	µg/L	1	11/20/2016 16:49
4-Chloro-3-methylphenol	U		0.26	1.0	µg/L	1	11/20/2016 16:49
4-Chloroaniline	U		0.34	1.0	µg/L	1	11/20/2016 16:49
4-Chlorophenyl phenyl ether	U		0.31	1.0	µg/L	1	11/20/2016 16:49
4-Nitroaniline	U		0.57	1.0	µg/L	1	11/20/2016 16:49
4-Nitrophenol	U		0.24	5.0	µg/L	1	11/20/2016 16:49
Acenaphthene	U		0.081	0.10	µg/L	1	11/20/2016 16:49
Acenaphthylene	U		0.075	0.10	µg/L	1	11/20/2016 16:49
Anthracene	U		0.028	0.10	µg/L	1	11/20/2016 16:49
Benzo(a)anthracene	**0.28**		**0.022**	**0.10**	**µg/L**	1	11/20/2016 16:49
Benzo(a)pyrene	**0.73**		**0.044**	**0.10**	**µg/L**	1	11/20/2016 16:49
Benzo(b)fluoranthene	**0.76**		**0.051**	**0.10**	**µg/L**	1	11/20/2016 16:49
Benzo(g,h,i)perylene	**0.33**		**0.030**	**0.10**	**µg/L**	1	11/20/2016 16:49
Benzo(k)fluoranthene	**0.33**		**0.048**	**0.10**	**µg/L**	1	11/20/2016 16:49
Bis(2-chloroethoxy)methane	U		0.29	1.0	µg/L	1	11/20/2016 16:49
Bis(2-chloroethyl)ether	U		0.37	1.0	µg/L	1	11/20/2016 16:49
Bis(2-ethylhexyl)phthalate	**0.86**	J	**0.40**	**1.0**	**µg/L**	1	11/20/2016 16:49
Butyl benzyl phthalate	U		0.30	1.0	µg/L	1	11/20/2016 16:49
Carbazole	U		0.10	1.0	µg/L	1	11/20/2016 16:49
Chrysene	**0.15**		**0.048**	**0.10**	**µg/L**	1	11/20/2016 16:49
Dibenzo(a,h)anthracene	U		0.030	0.10	µg/L	1	11/20/2016 16:49
Dibenzofuran	U		0.23	1.0	µg/L	1	11/20/2016 16:49
Diethyl phthalate	U		0.17	1.0	µg/L	1	11/20/2016 16:49
Dimethyl phthalate	U		0.18	1.0	µg/L	1	11/20/2016 16:49
Di-n-butyl phthalate	U		0.21	1.0	µg/L	1	11/20/2016 16:49
Di-n-octyl phthalate	U		0.15	1.0	µg/L	1	11/20/2016 16:49
Fluoranthene	**0.19**		**0.038**	**0.10**	**µg/L**	1	11/20/2016 16:49
Fluorene	U		0.051	0.10	µg/L	1	11/20/2016 16:49
Hexachlorobenzene	U		0.44	1.0	µg/L	1	11/20/2016 16:49
Hexachlorobutadiene	U		0.28	1.0	µg/L	1	11/20/2016 16:49
Hexachlorocyclopentadiene	U		1.1	5.0	µg/L	1	11/20/2016 16:49
Hexachloroethane	U		0.21	1.0	µg/L	1	11/20/2016 16:49
Indeno(1,2,3-cd)pyrene	**0.98**		**0.067**	**0.10**	**µg/L**	1	11/20/2016 16:49
Isophorone	U		0.34	5.0	µg/L	1	11/20/2016 16:49

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW2-111616
Collection Date: 11/16/2016 11:15 AM

Work Order: 16111216
Lab ID: 16111216-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.067	0.10	µg/L	1	11/20/2016 16:49
Nitrobenzene	U		0.26	1.0	µg/L	1	11/20/2016 16:49
N-Nitrosodi-n-propylamine	U		0.35	1.0	µg/L	1	11/20/2016 16:49
N-Nitrosodiphenylamine	U		0.23	1.0	µg/L	1	11/20/2016 16:49
Pentachlorophenol	U		0.97	5.0	µg/L	1	11/20/2016 16:49
Phenanthrene	U		0.030	0.10	µg/L	1	11/20/2016 16:49
Phenol	U		0.21	1.0	µg/L	1	11/20/2016 16:49
Pyrene	**0.16**		**0.036**	**0.10**	**µg/L**	1	11/20/2016 16:49
Surr: 2,4,6-Tribromophenol	*52.6*			*38-115*	*%REC*	1	11/20/2016 16:49
Surr: 2-Fluorobiphenyl	*52.8*			*32-100*	*%REC*	1	11/20/2016 16:49
Surr: 2-Fluorophenol	*31.0*			*22-59*	*%REC*	1	11/20/2016 16:49
Surr: 4-Terphenyl-d14	*58.7*			*23-112*	*%REC*	1	11/20/2016 16:49
Surr: Nitrobenzene-d5	*39.7*			*31-93*	*%REC*	1	11/20/2016 16:49
Surr: Phenol-d6	*20.0*			*13-36*	*%REC*	1	11/20/2016 16:49
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**				Analyst: **AK**
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	11/24/2016 10:42
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	11/24/2016 10:42
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	11/24/2016 10:42
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	11/24/2016 10:42
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 10:42
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	11/24/2016 10:42
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	11/24/2016 10:42
2-Butanone	U		0.58	5.0	µg/L	1	11/24/2016 10:42
2-Hexanone	U		0.13	5.0	µg/L	1	11/24/2016 10:42
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	11/24/2016 10:42
Acetone	U		0.92	10	µg/L	1	11/24/2016 10:42
Benzene	U		0.30	1.0	µg/L	1	11/24/2016 10:42
Bromodichloromethane	U		0.23	1.0	µg/L	1	11/24/2016 10:42
Bromoform	U		0.77	1.0	µg/L	1	11/24/2016 10:42
Bromomethane	U		0.38	1.0	µg/L	1	11/24/2016 10:42
Carbon disulfide	U		0.23	1.0	µg/L	1	11/24/2016 10:42
Carbon tetrachloride	U		0.31	1.0	µg/L	1	11/24/2016 10:42
Chlorobenzene	U		0.27	1.0	µg/L	1	11/24/2016 10:42
Chloroethane	U		0.29	1.0	µg/L	1	11/24/2016 10:42
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	11/24/2016 10:42
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	11/24/2016 10:42
Ethylbenzene	U		0.40	1.0	µg/L	1	11/24/2016 10:42
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	11/24/2016 10:42
Methylene chloride	U		0.56	5.0	µg/L	1	11/24/2016 10:42

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW2-111616
Collection Date: 11/16/2016 11:15 AM

Work Order: 16111216
Lab ID: 16111216-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Styrene	U		0.24	1.0	µg/L	1	11/24/2016 10:42
Tetrachloroethene	U		0.27	1.0	µg/L	1	11/24/2016 10:42
Toluene	U		0.37	1.0	µg/L	1	11/24/2016 10:42
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 10:42
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	11/24/2016 10:42
Trichloroethene	U		0.30	1.0	µg/L	1	11/24/2016 10:42
Vinyl chloride	U		0.20	1.0	µg/L	1	11/24/2016 10:42
Xylenes, Total	U		1.3	3.0	µg/L	1	11/24/2016 10:42
Surr: 1,2-Dichloroethane-d4	*109*			*75-120*	*%REC*	1	11/24/2016 10:42
Surr: 4-Bromofluorobenzene	*93.8*			*80-110*	*%REC*	1	11/24/2016 10:42
Surr: Dibromofluoromethane	*105*			*85-115*	*%REC*	1	11/24/2016 10:42
Surr: Toluene-d8	*96.4*			*85-110*	*%REC*	1	11/24/2016 10:42

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW3-111616
Collection Date: 11/16/2016 11:55 AM

Work Order: 16111216
Lab ID: 16111216-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**		Prep: SW3510 / 11/18/16		Analyst: **EB**
Aroclor 1016	U		0.065	0.20	µg/L	1	11/19/2016 01:34
Aroclor 1221	U		0.065	0.20	µg/L	1	11/19/2016 01:34
Aroclor 1232	U		0.065	0.20	µg/L	1	11/19/2016 01:34
Aroclor 1242	U		0.065	0.20	µg/L	1	11/19/2016 01:34
Aroclor 1248	U		0.065	0.20	µg/L	1	11/19/2016 01:34
Aroclor 1254	U		0.025	0.20	µg/L	1	11/19/2016 01:34
Aroclor 1260	U		0.025	0.20	µg/L	1	11/19/2016 01:34
Surr: Decachlorobiphenyl	*42.0*			*40-110*	*%REC*	1	11/19/2016 01:34
Surr: Tetrachloro-m-xylene	*40.0*			*40-110*	*%REC*	1	11/19/2016 01:34
PESTICIDES		Method:	**SW8081**		Prep: SW3510 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.0012	0.020	µg/L	1	11/29/2016 14:29
4,4´-DDE	U		0.0012	0.020	µg/L	1	11/29/2016 14:29
4,4´-DDT	U		0.0017	0.020	µg/L	1	11/29/2016 14:29
Aldrin	U		0.0015	0.010	µg/L	1	11/29/2016 14:29
alpha-BHC	U		0.0025	0.010	µg/L	1	11/29/2016 14:29
alpha-Chlordane	U		0.0017	0.020	µg/L	1	11/29/2016 14:29
beta-BHC	U		0.0044	0.010	µg/L	1	11/29/2016 14:29
Chlordane, Technical	U		0.034	0.50	µg/L	1	11/29/2016 14:29
delta-BHC	U		0.0015	0.010	µg/L	1	11/29/2016 14:29
Dieldrin	U		0.0017	0.020	µg/L	1	11/29/2016 14:29
Endosulfan I	U		0.0017	0.020	µg/L	1	11/29/2016 14:29
Endosulfan II	U		0.0012	0.020	µg/L	1	11/29/2016 14:29
Endosulfan sulfate	U		0.0012	0.020	µg/L	1	11/29/2016 14:29
Endrin	U		0.0012	0.020	µg/L	1	11/29/2016 14:29
Endrin aldehyde	U		0.0030	0.020	µg/L	1	11/29/2016 14:29
Endrin ketone	U		0.0012	0.020	µg/L	1	11/29/2016 14:29
gamma-BHC (Lindane)	U		0.0012	0.010	µg/L	1	11/29/2016 14:29
gamma-Chlordane	U		0.0012	0.020	µg/L	1	11/29/2016 14:29
Heptachlor	U		0.0017	0.010	µg/L	1	11/29/2016 14:29
Heptachlor epoxide	U		0.0017	0.010	µg/L	1	11/29/2016 14:29
Methoxychlor	U		0.0015	0.040	µg/L	1	11/29/2016 14:29
Toxaphene	U		0.11	2.0	µg/L	1	11/29/2016 14:29
Surr: Decachlorobiphenyl	*42.0*			*42-119*	*%REC*	1	11/29/2016 14:29
Surr: Tetrachloro-m-xylene	*39.0*			*32-104*	*%REC*	1	11/29/2016 14:29
MERCURY BY CVAA (DISSOLVED)		Method:	**SW7470A**		Prep: SW7470 / 11/20/16		Analyst: **LR**
Mercury	U		0.000019	0.00020	mg/L	1	11/21/2016 17:47
METALS BY ICP-MS (DISSOLVED)		Method:	**SW6020A**				Analyst: **RH**

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW3-111616
Collection Date: 11/16/2016 11:55 AM

Work Order: 16111216
Lab ID: 16111216-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	U		0.0042	0.010	mg/L	1	11/28/2016 14:19
Antimony	**0.00031**	J	**0.00017**	**0.0050**	**mg/L**	1	11/28/2016 14:19
Arsenic	U		0.00087	0.0050	mg/L	1	11/28/2016 14:19
Barium	**0.44**		**0.0022**	**0.0050**	**mg/L**	1	11/28/2016 14:19
Beryllium	U		0.00012	0.0020	mg/L	1	11/28/2016 14:19
Cadmium	**0.000082**	J	**0.000050**	**0.0020**	**mg/L**	1	11/28/2016 14:19
Calcium	**170**		**0.086**	**0.50**	**mg/L**	1	11/28/2016 14:19
Chromium	U		0.00065	0.0050	mg/L	1	11/28/2016 14:19
Cobalt	**0.00071**	J	**0.00014**	**0.0050**	**mg/L**	1	11/28/2016 14:19
Copper	**0.0023**	J	**0.00028**	**0.0050**	**mg/L**	1	11/28/2016 14:19
Iron	U		0.0046	0.080	mg/L	1	11/28/2016 14:19
Lead	U		0.00033	0.0050	mg/L	1	11/28/2016 14:19
Magnesium	**27**		**0.0068**	**0.20**	**mg/L**	1	11/28/2016 14:19
Manganese	**0.095**		**0.00051**	**0.0050**	**mg/L**	1	11/28/2016 14:19
Nickel	**0.0068**		**0.00041**	**0.0050**	**mg/L**	1	11/28/2016 14:19
Potassium	**0.47**		**0.017**	**0.20**	**mg/L**	1	11/28/2016 14:19
Selenium	U		0.00090	0.0050	mg/L	1	11/28/2016 14:19
Silver	U		0.000050	0.0050	mg/L	1	11/28/2016 14:19
Sodium	**18**		**0.034**	**0.20**	**mg/L**	1	11/28/2016 14:19
Thallium	U		0.00016	0.0050	mg/L	1	11/28/2016 14:19
Vanadium	**0.0014**	J	**0.00098**	**0.0050**	**mg/L**	1	11/28/2016 14:19
Zinc	**0.30**		**0.0014**	**0.010**	**mg/L**	1	11/28/2016 14:19
SEMI-VOLATILE ORGANIC COMPOUNDS		Method:	**SW846 8270D**		Prep: SW3510 / 11/18/16		Analyst: **JF**
1,2,4-Trichlorobenzene	U		0.41	1.0	µg/L	1	11/20/2016 17:12
1,2-Dichlorobenzene	U		0.39	1.0	µg/L	1	11/20/2016 17:12
1,3-Dichlorobenzene	U		0.65	1.0	µg/L	1	11/20/2016 17:12
1,4-Dichlorobenzene	U		0.32	1.0	µg/L	1	11/20/2016 17:12
2,2`-Oxybis(1-chloropropane)	U		0.23	1.0	µg/L	1	11/20/2016 17:12
2,4,5-Trichlorophenol	U		0.17	1.0	µg/L	1	11/20/2016 17:12
2,4,6-Trichlorophenol	U		0.25	1.0	µg/L	1	11/20/2016 17:12
2,4-Dichlorophenol	U		0.35	1.0	µg/L	1	11/20/2016 17:12
2,4-Dimethylphenol	U		0.36	1.0	µg/L	1	11/20/2016 17:12
2,4-Dinitrophenol	U		0.40	5.0	µg/L	1	11/20/2016 17:12
2,4-Dinitrotoluene	U		0.42	1.0	µg/L	1	11/20/2016 17:12
2,6-Dinitrotoluene	U		0.33	1.0	µg/L	1	11/20/2016 17:12
2-Chloronaphthalene	U		0.075	0.10	µg/L	1	11/20/2016 17:12
2-Chlorophenol	U		0.23	1.0	µg/L	1	11/20/2016 17:12
2-Methylnaphthalene	U		0.065	0.10	µg/L	1	11/20/2016 17:12
2-Methylphenol	U		0.25	1.0	µg/L	1	11/20/2016 17:12

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW3-111616
Collection Date: 11/16/2016 11:55 AM

Work Order: 16111216
Lab ID: 16111216-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.21	1.0	µg/L	1	11/20/2016 17:12
2-Nitrophenol	U		0.34	1.0	µg/L	1	11/20/2016 17:12
3&4-Methylphenol	U		0.21	1.0	µg/L	1	11/20/2016 17:12
3,3´-Dichlorobenzidine	U		1.6	5.0	µg/L	1	11/20/2016 17:12
3-Nitroaniline	U		0.64	1.0	µg/L	1	11/20/2016 17:12
4,6-Dinitro-2-methylphenol	U		0.27	1.0	µg/L	1	11/20/2016 17:12
4-Bromophenyl phenyl ether	U		0.33	1.0	µg/L	1	11/20/2016 17:12
4-Chloro-3-methylphenol	U		0.26	1.0	µg/L	1	11/20/2016 17:12
4-Chloroaniline	U		0.34	1.0	µg/L	1	11/20/2016 17:12
4-Chlorophenyl phenyl ether	U		0.31	1.0	µg/L	1	11/20/2016 17:12
4-Nitroaniline	U		0.57	1.0	µg/L	1	11/20/2016 17:12
4-Nitrophenol	U		0.24	5.0	µg/L	1	11/20/2016 17:12
Acenaphthene	U		0.081	0.10	µg/L	1	11/20/2016 17:12
Acenaphthylene	U		0.075	0.10	µg/L	1	11/20/2016 17:12
Anthracene	U		0.028	0.10	µg/L	1	11/20/2016 17:12
Benzo(a)anthracene	U		0.022	0.10	µg/L	1	11/20/2016 17:12
Benzo(a)pyrene	U		0.044	0.10	µg/L	1	11/20/2016 17:12
Benzo(b)fluoranthene	U		0.051	0.10	µg/L	1	11/20/2016 17:12
Benzo(g,h,i)perylene	U		0.030	0.10	µg/L	1	11/20/2016 17:12
Benzo(k)fluoranthene	U		0.048	0.10	µg/L	1	11/20/2016 17:12
Bis(2-chloroethoxy)methane	U		0.29	1.0	µg/L	1	11/20/2016 17:12
Bis(2-chloroethyl)ether	U		0.37	1.0	µg/L	1	11/20/2016 17:12
Bis(2-ethylhexyl)phthalate	U		0.40	1.0	µg/L	1	11/20/2016 17:12
Butyl benzyl phthalate	U		0.30	1.0	µg/L	1	11/20/2016 17:12
Carbazole	U		0.10	1.0	µg/L	1	11/20/2016 17:12
Chrysene	U		0.048	0.10	µg/L	1	11/20/2016 17:12
Dibenzo(a,h)anthracene	U		0.030	0.10	µg/L	1	11/20/2016 17:12
Dibenzofuran	U		0.23	1.0	µg/L	1	11/20/2016 17:12
Diethyl phthalate	U		0.17	1.0	µg/L	1	11/20/2016 17:12
Dimethyl phthalate	U		0.18	1.0	µg/L	1	11/20/2016 17:12
Di-n-butyl phthalate	U		0.21	1.0	µg/L	1	11/20/2016 17:12
Di-n-octyl phthalate	U		0.15	1.0	µg/L	1	11/20/2016 17:12
Fluoranthene	U		0.038	0.10	µg/L	1	11/20/2016 17:12
Fluorene	U		0.051	0.10	µg/L	1	11/20/2016 17:12
Hexachlorobenzene	U		0.44	1.0	µg/L	1	11/20/2016 17:12
Hexachlorobutadiene	U		0.28	1.0	µg/L	1	11/20/2016 17:12
Hexachlorocyclopentadiene	U		1.1	5.0	µg/L	1	11/20/2016 17:12
Hexachloroethane	U		0.21	1.0	µg/L	1	11/20/2016 17:12
Indeno(1,2,3-cd)pyrene	U		0.067	0.10	µg/L	1	11/20/2016 17:12
Isophorone	U		0.34	5.0	µg/L	1	11/20/2016 17:12

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW3-111616
Collection Date: 11/16/2016 11:55 AM

Work Order: 16111216
Lab ID: 16111216-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.067	0.10	µg/L	1	11/20/2016 17:12
Nitrobenzene	U		0.26	1.0	µg/L	1	11/20/2016 17:12
N-Nitrosodi-n-propylamine	U		0.35	1.0	µg/L	1	11/20/2016 17:12
N-Nitrosodiphenylamine	U		0.23	1.0	µg/L	1	11/20/2016 17:12
Pentachlorophenol	U		0.97	5.0	µg/L	1	11/20/2016 17:12
Phenanthrene	U		0.030	0.10	µg/L	1	11/20/2016 17:12
Phenol	U		0.21	1.0	µg/L	1	11/20/2016 17:12
Pyrene	U		0.036	0.10	µg/L	1	11/20/2016 17:12
Surr: 2,4,6-Tribromophenol	*51.9*			*38-115*	*%REC*	1	11/20/2016 17:12
Surr: 2-Fluorobiphenyl	*50.2*			*32-100*	*%REC*	1	11/20/2016 17:12
Surr: 2-Fluorophenol	*25.7*			*22-59*	*%REC*	1	11/20/2016 17:12
Surr: 4-Terphenyl-d14	*71.6*			*23-112*	*%REC*	1	11/20/2016 17:12
Surr: Nitrobenzene-d5	*37.4*			*31-93*	*%REC*	1	11/20/2016 17:12
Surr: Phenol-d6	*15.2*			*13-36*	*%REC*	1	11/20/2016 17:12
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**				Analyst: **AK**
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	11/24/2016 11:09
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	11/24/2016 11:09
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	11/24/2016 11:09
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	11/24/2016 11:09
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 11:09
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	11/24/2016 11:09
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	11/24/2016 11:09
2-Butanone	U		0.58	5.0	µg/L	1	11/24/2016 11:09
2-Hexanone	U		0.13	5.0	µg/L	1	11/24/2016 11:09
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	11/24/2016 11:09
Acetone	U		0.92	10	µg/L	1	11/24/2016 11:09
Benzene	U		0.30	1.0	µg/L	1	11/24/2016 11:09
Bromodichloromethane	U		0.23	1.0	µg/L	1	11/24/2016 11:09
Bromoform	U		0.77	1.0	µg/L	1	11/24/2016 11:09
Bromomethane	U		0.38	1.0	µg/L	1	11/24/2016 11:09
Carbon disulfide	U		0.23	1.0	µg/L	1	11/24/2016 11:09
Carbon tetrachloride	U		0.31	1.0	µg/L	1	11/24/2016 11:09
Chlorobenzene	U		0.27	1.0	µg/L	1	11/24/2016 11:09
Chloroethane	U		0.29	1.0	µg/L	1	11/24/2016 11:09
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	11/24/2016 11:09
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	11/24/2016 11:09
Ethylbenzene	U		0.40	1.0	µg/L	1	11/24/2016 11:09
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	11/24/2016 11:09
Methylene chloride	U		0.56	5.0	µg/L	1	11/24/2016 11:09

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW3-111616
Collection Date: 11/16/2016 11:55 AM

Work Order: 16111216
Lab ID: 16111216-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Styrene	U		0.24	1.0	µg/L	1	11/24/2016 11:09
Tetrachloroethene	U		0.27	1.0	µg/L	1	11/24/2016 11:09
Toluene	U		0.37	1.0	µg/L	1	11/24/2016 11:09
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 11:09
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	11/24/2016 11:09
Trichloroethene	U		0.30	1.0	µg/L	1	11/24/2016 11:09
Vinyl chloride	U		0.20	1.0	µg/L	1	11/24/2016 11:09
Xylenes, Total	U		1.3	3.0	µg/L	1	11/24/2016 11:09
Surr: 1,2-Dichloroethane-d4	*110*			*75-120*	*%REC*	1	11/24/2016 11:09
Surr: 4-Bromofluorobenzene	*93.6*			*80-110*	*%REC*	1	11/24/2016 11:09
Surr: Dibromofluoromethane	*107*			*85-115*	*%REC*	1	11/24/2016 11:09
Surr: Toluene-d8	*97.6*			*85-110*	*%REC*	1	11/24/2016 11:09

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW4-111616
Collection Date: 11/16/2016 12:35 PM

Work Order: 16111216
Lab ID: 16111216-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS		Method:	**SW8082**		Prep: SW3510 / 11/18/16		Analyst: **EB**
Aroclor 1016	U		0.068	0.21	µg/L	1	11/19/2016 01:52
Aroclor 1221	U		0.068	0.21	µg/L	1	11/19/2016 01:52
Aroclor 1232	U		0.068	0.21	µg/L	1	11/19/2016 01:52
Aroclor 1242	U		0.068	0.21	µg/L	1	11/19/2016 01:52
Aroclor 1248	U		0.068	0.21	µg/L	1	11/19/2016 01:52
Aroclor 1254	U		0.026	0.21	µg/L	1	11/19/2016 01:52
Aroclor 1260	U		0.026	0.21	µg/L	1	11/19/2016 01:52
Surr: Decachlorobiphenyl	*27.0*	S		*40-110*	*%REC*	1	11/19/2016 01:52
Surr: Tetrachloro-m-xylene	*41.0*			*40-110*	*%REC*	1	11/19/2016 01:52
PESTICIDES		Method:	**SW8081**		Prep: SW3510 / 11/18/16		Analyst: **JF**
4,4´-DDD	U		0.0012	0.020	µg/L	1	11/29/2016 14:41
4,4´-DDE	U		0.0012	0.020	µg/L	1	11/29/2016 14:41
4,4´-DDT	U		0.0017	0.020	µg/L	1	11/29/2016 14:41
Aldrin	U		0.0015	0.010	µg/L	1	11/29/2016 14:41
alpha-BHC	U		0.0025	0.010	µg/L	1	11/29/2016 14:41
alpha-Chlordane	U		0.0017	0.020	µg/L	1	11/29/2016 14:41
beta-BHC	U		0.0044	0.010	µg/L	1	11/29/2016 14:41
Chlordane, Technical	U		0.034	0.50	µg/L	1	11/29/2016 14:41
delta-BHC	U		0.0015	0.010	µg/L	1	11/29/2016 14:41
Dieldrin	U		0.0017	0.020	µg/L	1	11/29/2016 14:41
Endosulfan I	U		0.0017	0.020	µg/L	1	11/29/2016 14:41
Endosulfan II	U		0.0012	0.020	µg/L	1	11/29/2016 14:41
Endosulfan sulfate	U		0.0012	0.020	µg/L	1	11/29/2016 14:41
Endrin	U		0.0012	0.020	µg/L	1	11/29/2016 14:41
Endrin aldehyde	U		0.0030	0.020	µg/L	1	11/29/2016 14:41
Endrin ketone	U		0.0012	0.020	µg/L	1	11/29/2016 14:41
gamma-BHC (Lindane)	U		0.0012	0.010	µg/L	1	11/29/2016 14:41
gamma-Chlordane	U		0.0012	0.020	µg/L	1	11/29/2016 14:41
Heptachlor	U		0.0017	0.010	µg/L	1	11/29/2016 14:41
Heptachlor epoxide	U		0.0017	0.010	µg/L	1	11/29/2016 14:41
Methoxychlor	U		0.0015	0.040	µg/L	1	11/29/2016 14:41
Toxaphene	U		0.11	2.0	µg/L	1	11/29/2016 14:41
Surr: Decachlorobiphenyl	*43.0*			*42-119*	*%REC*	1	11/29/2016 14:41
Surr: Tetrachloro-m-xylene	*44.0*			*32-104*	*%REC*	1	11/29/2016 14:41
MERCURY BY CVAA (DISSOLVED)		Method:	**SW7470A**		Prep: SW7470 / 11/20/16		Analyst: **LR**
Mercury	U		0.000019	0.00020	mg/L	1	11/21/2016 17:49
METALS BY ICP-MS (DISSOLVED)		Method:	**SW6020A**				Analyst: **RH**

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW4-111616
Collection Date: 11/16/2016 12:35 PM

Work Order: 16111216
Lab ID: 16111216-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	**0.78**		**0.042**	**0.10**	**mg/L**	10	11/29/2016 15:21
Antimony	**0.0028**	J	**0.00017**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Arsenic	**0.0022**	J	**0.00087**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Barium	**0.60**		**0.0022**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Beryllium	**0.00017**	J	**0.00012**	**0.0020**	**mg/L**	1	11/28/2016 15:45
Cadmium	**0.00013**	J	**0.000050**	**0.0020**	**mg/L**	1	11/28/2016 15:45
Calcium	**290**		**0.86**	**5.0**	**mg/L**	10	11/29/2016 15:21
Chromium	**0.0034**	J	**0.00065**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Cobalt	**0.0030**	J	**0.00014**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Copper	**0.0065**		**0.00028**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Iron	**2.8**		**0.0046**	**0.080**	**mg/L**	1	11/28/2016 15:45
Lead	**0.0030**	J	**0.00033**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Magnesium	**64**		**0.0068**	**0.20**	**mg/L**	1	11/28/2016 15:45
Manganese	**0.70**		**0.00051**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Nickel	**0.013**		**0.00041**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Potassium	**1.6**		**0.017**	**0.20**	**mg/L**	1	11/28/2016 15:45
Selenium	U		0.00090	0.0050	mg/L	1	11/28/2016 15:45
Silver	U		0.000050	0.0050	mg/L	1	11/28/2016 15:45
Sodium	**62**		**0.034**	**0.20**	**mg/L**	1	11/28/2016 15:45
Thallium	U		0.00016	0.0050	mg/L	1	11/28/2016 15:45
Vanadium	**0.0092**		**0.00098**	**0.0050**	**mg/L**	1	11/28/2016 15:45
Zinc	**0.30**		**0.0014**	**0.010**	**mg/L**	1	11/28/2016 15:45
SEMI-VOLATILE ORGANIC COMPOUNDS		Method:	**SW846 8270D**		Prep: SW3510 / 11/18/16		Analyst: **JF**
1,2,4-Trichlorobenzene	U		0.41	1.0	µg/L	1	11/20/2016 17:35
1,2-Dichlorobenzene	U		0.39	1.0	µg/L	1	11/20/2016 17:35
1,3-Dichlorobenzene	U		0.65	1.0	µg/L	1	11/20/2016 17:35
1,4-Dichlorobenzene	U		0.32	1.0	µg/L	1	11/20/2016 17:35
2,2`-Oxybis(1-chloropropane)	U		0.23	1.0	µg/L	1	11/20/2016 17:35
2,4,5-Trichlorophenol	U		0.17	1.0	µg/L	1	11/20/2016 17:35
2,4,6-Trichlorophenol	U		0.25	1.0	µg/L	1	11/20/2016 17:35
2,4-Dichlorophenol	U		0.35	1.0	µg/L	1	11/20/2016 17:35
2,4-Dimethylphenol	U		0.36	1.0	µg/L	1	11/20/2016 17:35
2,4-Dinitrophenol	U		0.40	5.0	µg/L	1	11/20/2016 17:35
2,4-Dinitrotoluene	U		0.42	1.0	µg/L	1	11/20/2016 17:35
2,6-Dinitrotoluene	U		0.33	1.0	µg/L	1	11/20/2016 17:35
2-Chloronaphthalene	U		0.075	0.10	µg/L	1	11/20/2016 17:35
2-Chlorophenol	U		0.23	1.0	µg/L	1	11/20/2016 17:35
2-Methylnaphthalene	U		0.065	0.10	µg/L	1	11/20/2016 17:35
2-Methylphenol	U		0.25	1.0	µg/L	1	11/20/2016 17:35

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW4-111616
Collection Date: 11/16/2016 12:35 PM

Work Order: 16111216
Lab ID: 16111216-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		0.21	1.0	µg/L	1	11/20/2016 17:35
2-Nitrophenol	U		0.34	1.0	µg/L	1	11/20/2016 17:35
3&4-Methylphenol	U		0.21	1.0	µg/L	1	11/20/2016 17:35
3,3´-Dichlorobenzidine	U		1.6	5.0	µg/L	1	11/20/2016 17:35
3-Nitroaniline	U		0.64	1.0	µg/L	1	11/20/2016 17:35
4,6-Dinitro-2-methylphenol	U		0.27	1.0	µg/L	1	11/20/2016 17:35
4-Bromophenyl phenyl ether	U		0.33	1.0	µg/L	1	11/20/2016 17:35
4-Chloro-3-methylphenol	U		0.26	1.0	µg/L	1	11/20/2016 17:35
4-Chloroaniline	U		0.34	1.0	µg/L	1	11/20/2016 17:35
4-Chlorophenyl phenyl ether	U		0.31	1.0	µg/L	1	11/20/2016 17:35
4-Nitroaniline	U		0.57	1.0	µg/L	1	11/20/2016 17:35
4-Nitrophenol	U		0.24	5.0	µg/L	1	11/20/2016 17:35
Acenaphthene	U		0.081	0.10	µg/L	1	11/20/2016 17:35
Acenaphthylene	U		0.075	0.10	µg/L	1	11/20/2016 17:35
Anthracene	U		0.028	0.10	µg/L	1	11/20/2016 17:35
Benzo(a)anthracene	U		0.022	0.10	µg/L	1	11/20/2016 17:35
Benzo(a)pyrene	U		0.044	0.10	µg/L	1	11/20/2016 17:35
Benzo(b)fluoranthene	U		0.051	0.10	µg/L	1	11/20/2016 17:35
Benzo(g,h,i)perylene	U		0.030	0.10	µg/L	1	11/20/2016 17:35
Benzo(k)fluoranthene	U		0.048	0.10	µg/L	1	11/20/2016 17:35
Bis(2-chloroethoxy)methane	U		0.29	1.0	µg/L	1	11/20/2016 17:35
Bis(2-chloroethyl)ether	U		0.37	1.0	µg/L	1	11/20/2016 17:35
Bis(2-ethylhexyl)phthalate	U		0.40	1.0	µg/L	1	11/20/2016 17:35
Butyl benzyl phthalate	U		0.30	1.0	µg/L	1	11/20/2016 17:35
Carbazole	U		0.10	1.0	µg/L	1	11/20/2016 17:35
Chrysene	U		0.048	0.10	µg/L	1	11/20/2016 17:35
Dibenzo(a,h)anthracene	U		0.030	0.10	µg/L	1	11/20/2016 17:35
Dibenzofuran	U		0.23	1.0	µg/L	1	11/20/2016 17:35
Diethyl phthalate	U		0.17	1.0	µg/L	1	11/20/2016 17:35
Dimethyl phthalate	U		0.18	1.0	µg/L	1	11/20/2016 17:35
Di-n-butyl phthalate	U		0.21	1.0	µg/L	1	11/20/2016 17:35
Di-n-octyl phthalate	U		0.15	1.0	µg/L	1	11/20/2016 17:35
Fluoranthene	U		0.038	0.10	µg/L	1	11/20/2016 17:35
Fluorene	U		0.051	0.10	µg/L	1	11/20/2016 17:35
Hexachlorobenzene	U		0.44	1.0	µg/L	1	11/20/2016 17:35
Hexachlorobutadiene	U		0.28	1.0	µg/L	1	11/20/2016 17:35
Hexachlorocyclopentadiene	U		1.1	5.0	µg/L	1	11/20/2016 17:35
Hexachloroethane	U		0.21	1.0	µg/L	1	11/20/2016 17:35
Indeno(1,2,3-cd)pyrene	U		0.067	0.10	µg/L	1	11/20/2016 17:35
Isophorone	U		0.34	5.0	µg/L	1	11/20/2016 17:35

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW4-111616
Collection Date: 11/16/2016 12:35 PM

Work Order: 16111216
Lab ID: 16111216-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Naphthalene	U		0.067	0.10	µg/L	1	11/20/2016 17:35
Nitrobenzene	U		0.26	1.0	µg/L	1	11/20/2016 17:35
N-Nitrosodi-n-propylamine	U		0.35	1.0	µg/L	1	11/20/2016 17:35
N-Nitrosodiphenylamine	U		0.23	1.0	µg/L	1	11/20/2016 17:35
Pentachlorophenol	U		0.97	5.0	µg/L	1	11/20/2016 17:35
Phenanthrene	U		0.030	0.10	µg/L	1	11/20/2016 17:35
Phenol	U		0.21	1.0	µg/L	1	11/20/2016 17:35
Pyrene	U		0.036	0.10	µg/L	1	11/20/2016 17:35
Surr: 2,4,6-Tribromophenol	*56.4*			*38-115*	*%REC*	1	11/20/2016 17:35
Surr: 2-Fluorobiphenyl	*65.1*			*32-100*	*%REC*	1	11/20/2016 17:35
Surr: 2-Fluorophenol	*33.7*			*22-59*	*%REC*	1	11/20/2016 17:35
Surr: 4-Terphenyl-d14	*73.5*			*23-112*	*%REC*	1	11/20/2016 17:35
Surr: Nitrobenzene-d5	*51.4*			*31-93*	*%REC*	1	11/20/2016 17:35
Surr: Phenol-d6	*19.5*			*13-36*	*%REC*	1	11/20/2016 17:35
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**				Analyst: **AK**
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	11/24/2016 11:36
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	11/24/2016 11:36
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	11/24/2016 11:36
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	11/24/2016 11:36
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 11:36
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	11/24/2016 11:36
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	11/24/2016 11:36
2-Butanone	U		0.58	5.0	µg/L	1	11/24/2016 11:36
2-Hexanone	U		0.13	5.0	µg/L	1	11/24/2016 11:36
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	11/24/2016 11:36
Acetone	**3.4**	J	**0.92**	**10**	**µg/L**	1	11/24/2016 11:36
Benzene	U		0.30	1.0	µg/L	1	11/24/2016 11:36
Bromodichloromethane	U		0.23	1.0	µg/L	1	11/24/2016 11:36
Bromoform	U		0.77	1.0	µg/L	1	11/24/2016 11:36
Bromomethane	U		0.38	1.0	µg/L	1	11/24/2016 11:36
Carbon disulfide	U		0.23	1.0	µg/L	1	11/24/2016 11:36
Carbon tetrachloride	U		0.31	1.0	µg/L	1	11/24/2016 11:36
Chlorobenzene	U		0.27	1.0	µg/L	1	11/24/2016 11:36
Chloroethane	U		0.29	1.0	µg/L	1	11/24/2016 11:36
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	11/24/2016 11:36
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	11/24/2016 11:36
Ethylbenzene	U		0.40	1.0	µg/L	1	11/24/2016 11:36
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	11/24/2016 11:36
Methylene chloride	U		0.56	5.0	µg/L	1	11/24/2016 11:36

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

ALS Group, USA

Date: *30-Nov-16*

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
Sample ID: BA-TMW4-111616
Collection Date: 11/16/2016 12:35 PM

Work Order: 16111216
Lab ID: 16111216-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Styrene	U		0.24	1.0	µg/L	1	11/24/2016 11:36
Tetrachloroethene	U		0.27	1.0	µg/L	1	11/24/2016 11:36
Toluene	U		0.37	1.0	µg/L	1	11/24/2016 11:36
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	11/24/2016 11:36
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	11/24/2016 11:36
Trichloroethene	U		0.30	1.0	µg/L	1	11/24/2016 11:36
Vinyl chloride	U		0.20	1.0	µg/L	1	11/24/2016 11:36
Xylenes, Total	U		1.3	3.0	µg/L	1	11/24/2016 11:36
Surr: 1,2-Dichloroethane-d4	*109*			*75-120*	*%REC*	1	11/24/2016 11:36
Surr: 4-Bromofluorobenzene	*91.2*			*80-110*	*%REC*	1	11/24/2016 11:36
Surr: Dibromofluoromethane	*107*			*85-115*	*%REC*	1	11/24/2016 11:36
Surr: Toluene-d8	*94.6*			*85-110*	*%REC*	1	11/24/2016 11:36

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

ALS Group, USA

Date: 30-Nov-16

Client: Tetra Tech EM Inc.
Project: Bluff Avenue Site
WorkOrder: **16111216**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	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.

Acronym	Description
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

Units Reported	Description
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group, USA

Date: 30-Nov-16

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94763** Instrument ID **GC14** Method: **SW8082**

MBLK Sample ID: **PBLKW1-94763-94763** Units: **µg/L** Analysis Date: **11/18/2016 09:46 PM**

Client ID: Run ID: **GC14_161118A** SeqNo: **4164004** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	U	0.20								
Aroclor 1221	U	0.20								
Aroclor 1232	U	0.20								
Aroclor 1242	U	0.20								
Aroclor 1248	U	0.20								
Aroclor 1254	U	0.20								
Aroclor 1260	U	0.20								
Surr: Decachlorobiphenyl	*0.077*	0	*0.1*	0	*77*	*40-110*	0			
Surr: Tetrachloro-m-xylene	*0.071*	0	*0.1*	0	*71*	*40-110*	0			

LCS Sample ID: **PLCSW1-94763-94763** Units: **µg/L** Analysis Date: **11/18/2016 10:03 PM**

Client ID: Run ID: **GC14_161118A** SeqNo: **4164005** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	1.822	0.20	2.5	0	72.9	50-130	0			
Aroclor 1260	1.975	0.20	2.5	0	79	50-130	0			
Surr: Decachlorobiphenyl	*0.072*	0	*0.1*	0	*72*	*40-110*	0			
Surr: Tetrachloro-m-xylene	*0.061*	0	*0.1*	0	*61*	*40-110*	0			

MS Sample ID: **16111189-02B MS** Units: **µg/L** Analysis Date: **11/18/2016 10:39 PM**

Client ID: Run ID: **GC14_161118A** SeqNo: **4164007** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	1.959	0.21	2.632	0	74.4	40-140	0			
Aroclor 1260	1.765	0.21	2.632	0	67.1	40-140	0			
Surr: Decachlorobiphenyl	*0.04316*	0	*0.1053*	0	*41*	*40-110*	0			
Surr: Tetrachloro-m-xylene	*0.06526*	0	*0.1053*	0	*62*	*40-110*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94763** Instrument ID **GC14** Method: **SW8082**

DUP Sample ID: **16111184-01B DUP** Units: **µg/L** Analysis Date: **11/18/2016 11:49 PM**

Client ID: Run ID: **GC14_161118A** SeqNo: **4164009** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1221	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1232	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1242	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1248	U	0.20	0	0	0	0-0	0.034	0	50	
Aroclor 1254	U	0.20	0	0	0	0-0	0	0	50	
Aroclor 1260	U	0.20	0	0	0	0-0	0	0	50	
Surr: Decachlorobiphenyl	*0.049*	0	*0.1*	0	*49*	*40-110*	0.055	*11.5*	*50*	
Surr: Tetrachloro-m-xylene	*0.046*	0	*0.1*	0	*46*	*40-110*	0.048	*4.26*	*50*	

The following samples were analyzed in this batch:

16111216-02B	16111216-03B	16111216-04B

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94764** Instrument ID **GC12** Method: **SW8081**

MBLK Sample ID: **PBLKW1-94764-94764** Units: **µg/L** Analysis Date: **11/28/2016 11:33 PM**

Client ID: Run ID: **GC12_161128A** SeqNo: **4174984** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	U	0.020								
4,4´-DDE	U	0.020								
4,4´-DDT	U	0.020								
Aldrin	U	0.010								
alpha-BHC	U	0.010								
alpha-Chlordane	U	0.020								
beta-BHC	U	0.010								
Chlordane, Technical	U	0.50								
delta-BHC	U	0.010								
Dieldrin	U	0.020								
Endosulfan I	U	0.020								
Endosulfan II	U	0.020								
Endosulfan sulfate	U	0.020								
Endrin	U	0.020								
Endrin aldehyde	U	0.020								
Endrin ketone	U	0.020								
gamma-BHC (Lindane)	U	0.010								
gamma-Chlordane	U	0.020								
Heptachlor	U	0.010								
Heptachlor epoxide	U	0.010								
Methoxychlor	U	0.040								
Toxaphene	U	2.0								
Surr: Decachlorobiphenyl	*0.079*	0	*0.1*	0	*79*	*42-119*	0			
Surr: Tetrachloro-m-xylene	*0.076*	0	*0.1*	0	*76*	*32-104*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94764** Instrument ID **GC12** Method: **SW8081**

LCS Sample ID: **PLCSW1-94764-94764** Units: **µg/L** Analysis Date: **11/28/2016 11:45 PM**

Client ID: Run ID: **GC12_161128A** SeqNo: **4174985** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	0.077	0.020	0.1	0	77	33-126	0			
4,4´-DDE	0.068	0.020	0.1	0	68	34-112	0			
4,4´-DDT	0.07	0.020	0.1	0	70	41-122	0			
Aldrin	0.055	0.010	0.1	0	55	18-110	0			
alpha-BHC	0.063	0.010	0.1	0	63	31-109	0			
alpha-Chlordane	0.063	0.020	0.1	0	63	34-108	0			
beta-BHC	0.07	0.010	0.1	0	70	38-108	0			
delta-BHC	0.071	0.010	0.1	0	71	36-114	0			
Dieldrin	0.067	0.020	0.1	0	67	35-114	0			
Endosulfan I	0.066	0.020	0.1	0	66	32-114	0			
Endosulfan II	0.069	0.020	0.1	0	69	40-119	0			
Endosulfan sulfate	0.079	0.020	0.1	0	79	42-120	0			
Endrin	0.073	0.020	0.1	0	73	39-123	0			
Endrin aldehyde	0.063	0.020	0.1	0	63	29-116	0			
Endrin ketone	0.07	0.020	0.1	0	70	36-117	0			
gamma-BHC (Lindane)	0.065	0.010	0.1	0	65	32-114	0			
gamma-Chlordane	0.065	0.020	0.1	0	65	32-109	0			
Heptachlor	0.055	0.010	0.1	0	55	34-112	0			
Heptachlor epoxide	0.065	0.010	0.1	0	65	36-109	0			
Methoxychlor	0.074	0.040	0.1	0	74	44-133	0			
Surr: Decachlorobiphenyl	*0.065*	0	*0.1*	0	*65*	*42-119*	0			
Surr: Tetrachloro-m-xylene	*0.059*	0	*0.1*	0	*59*	*32-104*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94764** Instrument ID **GC12** Method: **SW8081**

MS Sample ID: **16111189-02B MS** Units: **µg/L** Analysis Date: **11/28/2016 10:47 PM**

Client ID: Run ID: **GC12_161128A** SeqNo: **4174977** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	0.075	0.020	0.1	0	75	33-126	0			
4,4´-DDE	0.058	0.020	0.1	0	58	34-112	0			
4,4´-DDT	0.06	0.020	0.1	0	60	41-122	0			
Aldrin	0.048	0.010	0.1	0	48	18-110	0			
alpha-BHC	0.061	0.010	0.1	0	61	31-109	0			
alpha-Chlordane	0.058	0.020	0.1	0	58	34-108	0			
beta-BHC	0.065	0.010	0.1	0	65	38-108	0			
delta-BHC	0.07	0.010	0.1	0	70	36-114	0			
Dieldrin	0.063	0.020	0.1	0	63	35-114	0			
Endosulfan I	0.061	0.020	0.1	0	61	32-114	0			
Endosulfan II	0.066	0.020	0.1	0	66	40-119	0			
Endosulfan sulfate	0.081	0.020	0.1	0	81	42-120	0			
Endrin	0.071	0.020	0.1	0	71	39-123	0			
Endrin aldehyde	0.065	0.020	0.1	0	65	29-116	0			
Endrin ketone	0.071	0.020	0.1	0	71	36-117	0			
gamma-BHC (Lindane)	0.062	0.010	0.1	0	62	32-114	0			
gamma-Chlordane	0.061	0.020	0.1	0	61	32-109	0			
Heptachlor	0.052	0.010	0.1	0	52	34-112	0			
Heptachlor epoxide	0.061	0.010	0.1	0	61	36-109	0			
Methoxychlor	0.081	0.040	0.1	0	81	44-133	0			
Surr: Decachlorobiphenyl	*0.046*	0	*0.1*	0	*46*	*42-119*	0			
Surr: Tetrachloro-m-xylene	*0.058*	0	*0.1*	0	*58*	*32-104*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94764** Instrument ID **GC12** Method: **SW8081**

DUP Sample ID: **16111216-02B DUP** Units: **µg/L** Analysis Date: **11/28/2016 11:10 PM**

Client ID: **BA-TMW2-111616** Run ID: **GC12_161128A** SeqNo: **4174982** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	U	0.020	0	0	0	0-0	0	0	50	
4,4´-DDE	U	0.020	0	0	0	0-0	0	0	50	
4,4´-DDT	U	0.020	0	0	0	0-0	0	0	50	
Aldrin	U	0.010	0	0	0	0-0	0	0	50	
alpha-BHC	U	0.010	0	0	0	0-0	0	0	50	
alpha-Chlordane	U	0.020	0	0	0		0	0	50	
beta-BHC	U	0.010	0	0	0	0-0	0	0	50	
Chlordane, Technical	U	0.50	0	0	0	0-0	0	0	50	
delta-BHC	U	0.010	0	0	0	0-0	0	0	50	
Dieldrin	U	0.020	0	0	0	0-0	0	0	50	
Endosulfan I	U	0.020	0	0	0	0-0	0	0	50	
Endosulfan II	U	0.020	0	0	0	0-0	0	0	50	
Endosulfan sulfate	U	0.020	0	0	0	0-0	0	0	50	
Endrin	U	0.020	0	0	0	0-0	0	0	50	
Endrin aldehyde	U	0.020	0	0	0	0-0	0	0	50	
Endrin ketone	U	0.020	0	0	0		0.002	0	50	
gamma-BHC (Lindane)	U	0.010	0	0	0	0-0	0	0	50	
gamma-Chlordane	U	0.020	0	0	0		0	0	50	
Heptachlor	U	0.010	0	0	0	0-0	0	0	50	
Heptachlor epoxide	U	0.010	0	0	0	0-0	0	0	50	
Methoxychlor	U	0.040	0	0	0	0-0	0	0	50	
Toxaphene	U	2.0	0	0	0	0-0	0	0	50	
Surr: Decachlorobiphenyl	*0.047*	0	*0.1*	0	*47*	*42-119*	0.049	*4.17*	*50*	
Surr: Tetrachloro-m-xylene	*0.046*	0	*0.1*	0	*46*	*32-104*	0.046	*0*	*50*	

The following samples were analyzed in this batch:

16111216-02B	16111216-03B	16111216-04B

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94834** Instrument ID **HG1** Method: **SW7470A**

MBLK Sample ID: **MBLK-94834-94834** Units: **mg/L** Analysis Date: **11/21/2016 05:11 PM**
Client ID: Run ID: **HG1_161121A** SeqNo: **4165541** Prep Date: **11/20/2016** 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-94834-94834** Units: **mg/L** Analysis Date: **11/21/2016 05:13 PM**
Client ID: Run ID: **HG1_161121A** SeqNo: **4165542** Prep Date: **11/20/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0018	0.00020	0.002	0	90	80-120	0			

MS Sample ID: **16111189-02CMS** Units: **mg/L** Analysis Date: **11/21/2016 05:26 PM**
Client ID: Run ID: **HG1_161121A** SeqNo: **4165547** Prep Date: **11/20/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00178	0.00020	0.002	-0.000015	89.8	75-125	0			

MSD Sample ID: **16111189-02CMSD** Units: **mg/L** Analysis Date: **11/21/2016 05:29 PM**
Client ID: Run ID: **HG1_161121A** SeqNo: **4165548** Prep Date: **11/20/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0018	0.00020	0.002	-0.000015	90.8	75-125	0.00178	1.12	20	

The following samples were analyzed in this batch:

16111216-02C	16111216-03C	16111216-04C

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201400A** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK Sample ID: **MBLK-R201400A-R201400A** Units: **mg/L** Analysis Date: **11/28/2016 01:17 PM**

Client ID: Run ID: **ICPMS2_161128A** SeqNo: **4174659** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Beryllium	U	0.0020								
Cadmium	U	0.0020								
Calcium	U	0.50								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Magnesium	U	0.20								
Manganese	U	0.0050								
Nickel	U	0.0050								
Potassium	U	0.20								
Selenium	U	0.0050								
Silver	U	0.0050								
Sodium	U	0.20								
Thallium	U	0.0050								
Vanadium	U	0.0050								
Zinc	U	0.010								

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201400A** Instrument ID **ICPMS2** Method: **SW6020A**

LCS Sample ID: **LCS-R201400A-R201400A** Units: **mg/L** Analysis Date: **11/28/2016 01:12 PM**

Client ID: Run ID: **ICPMS2_161128A** SeqNo: **4174658** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1186	0.010	0.1	0	119	80-120	0			
Antimony	0.1006	0.0050	0.1	0	101	80-120	0			
Arsenic	0.1001	0.0050	0.1	0	100	80-120	0			
Barium	0.1016	0.0050	0.1	0	102	80-120	0			
Beryllium	0.09924	0.0020	0.1	0	99.2	80-120	0			
Cadmium	0.1002	0.0020	0.1	0	100	80-120	0			
Calcium	9.908	0.50	10	0	99.1	80-120	0			
Chromium	0.09973	0.0050	0.1	0	99.7	80-120	0			
Cobalt	0.1012	0.0050	0.1	0	101	80-120	0			
Copper	0.1007	0.0050	0.1	0	101	80-120	0			
Iron	10.07	0.080	10	0	101	80-120	0			
Lead	0.09979	0.0050	0.1	0	99.8	80-120	0			
Magnesium	9.943	0.20	10	0	99.4	80-120	0			
Manganese	0.1016	0.0050	0.1	0	102	80-120	0			
Nickel	0.1001	0.0050	0.1	0	100	80-120	0			
Potassium	9.894	0.20	10	0	98.9	80-120	0			
Selenium	0.09957	0.0050	0.1	0	99.6	80-120	0			
Silver	0.09857	0.0050	0.1	0	98.6	80-120	0			
Sodium	9.834	0.20	10	0	98.3	80-120	0			
Thallium	0.1017	0.0050	0.1	0	102	80-120	0			
Vanadium	0.09878	0.0050	0.1	0	98.8	80-120	0			
Zinc	0.1001	0.010	0.1	0	100	80-120	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201400A** Instrument ID **ICPMS2** Method: **SW6020A**

MS Sample ID: **16111189-02CMS** Units: **mg/L** Analysis Date: **11/28/2016 01:58 PM**

Client ID: Run ID: **ICPMS2_161128A** SeqNo: **4174661** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09826	0.0050	0.1	0.0002023	98.1	75-125	0			
Arsenic	0.1078	0.0050	0.1	0.001102	107	75-125	0			
Barium	0.5761	0.0050	0.1	0.4869	89.2	75-125	0			O
Beryllium	0.09034	0.0020	0.1	-8.477E-06	90.3	75-125	0			
Cadmium	0.09384	0.0020	0.1	0.00004077	93.8	75-125	0			
Calcium	128.2	0.50	10	123.3	49	75-125	0			SO
Chromium	0.09499	0.0050	0.1	-6.421E-05	95.1	75-125	0			
Cobalt	0.09572	0.0050	0.1	0.003569	92.2	75-125	0			
Copper	0.09233	0.0050	0.1	0.001251	91.1	75-125	0			
Iron	9.664	0.080	10	0.02924	96.3	75-125	0			
Magnesium	36.75	0.20	10	28.63	81.2	75-125	0			
Nickel	0.09797	0.0050	0.1	0.008212	89.8	75-125	0			
Potassium	9.66	0.20	10	0.5011	91.6	75-125	0			
Selenium	0.1108	0.0050	0.1	0.00003161	111	75-125	0			
Sodium	42.38	0.20	10	34.52	78.6	75-125	0			
Zinc	0.1531	0.010	0.1	0.06524	87.9	75-125	0			

MS Sample ID: **16111189-02CMS** Units: **mg/L** Analysis Date: **11/29/2016 03:06 PM**

Client ID: Run ID: **ICPMS2_161129A** SeqNo: **4176184** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	4.645	0.050	1	4.265	38	75-125	0			SO
Silver	0.9686	0.050	1	0.0001064	96.8	75-125	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201400A** Instrument ID **ICPMS2** Method: **SW6020A**

MSD Sample ID: **16111189-02CMSD** Units: **mg/L** Analysis Date: **11/28/2016 02:03 PM**

Client ID: Run ID: **ICPMS2_161128A** SeqNo: **4174662** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.1015	0.0050	0.1	0.0002023	101	75-125	0.09826	3.24	20	
Arsenic	0.1111	0.0050	0.1	0.001102	110	75-125	0.1078	3.02	20	
Barium	0.5768	0.0050	0.1	0.4869	89.9	75-125	0.5761	0.121	20	O
Beryllium	0.094	0.0020	0.1	-8.477E-06	94	75-125	0.09034	3.97	20	
Cadmium	0.09736	0.0020	0.1	0.00004077	97.3	75-125	0.09384	3.68	20	
Calcium	127.6	0.50	10	123.3	43	75-125	128.2	0.469	20	SO
Chromium	0.09777	0.0050	0.1	-6.421E-05	97.8	75-125	0.09499	2.88	20	
Cobalt	0.09834	0.0050	0.1	0.003569	94.8	75-125	0.09572	2.7	20	
Copper	0.09528	0.0050	0.1	0.001251	94	75-125	0.09233	3.14	20	
Iron	9.904	0.080	10	0.02924	98.7	75-125	9.664	2.45	20	
Magnesium	36.66	0.20	10	28.63	80.3	75-125	36.75	0.245	20	
Nickel	0.1011	0.0050	0.1	0.008212	92.9	75-125	0.09797	3.14	20	
Potassium	9.913	0.20	10	0.5011	94.1	75-125	9.66	2.59	20	
Selenium	0.1124	0.0050	0.1	0.00003161	112	75-125	0.1108	1.43	20	
Sodium	42.05	0.20	10	34.52	75.3	75-125	42.38	0.782	20	
Zinc	0.1551	0.010	0.1	0.06524	89.9	75-125	0.1531	1.3	20	

MSD Sample ID: **16111189-02CMSD** Units: **mg/L** Analysis Date: **11/29/2016 03:11 PM**

Client ID: Run ID: **ICPMS2_161129A** SeqNo: **4176185** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	4.085	0.050	1	4.265	-18	75-125	4.645	12.8	20	SO
Silver	0.9679	0.050	1	0.0001064	96.8	75-125	0.9686	0.0723	20	

The following samples were analyzed in this batch:

16111216-02C	16111216-03C	16111216-04C

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKW1-94759-94759** Units: **µg/L** Analysis Date: **11/18/2016 11:23 PM**

Client ID: Run ID: **SVMS5_161118A** SeqNo: **4162657** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	U	5.0								
1,2-Dichlorobenzene	U	5.0								
1,3-Dichlorobenzene	U	5.0								
1,4-Dichlorobenzene	U	5.0								
2,2`-Oxybis(1-chloropropane)	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								
Anthracene	U	5.0								
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-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Carbazole	U	5.0								
Chrysene	U	5.0								

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

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

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					
Surr: 2,4,6-Tribromophenol	*32.27*	0	*50*	0	*64.5*	*38-115*	0
Surr: 2-Fluorobiphenyl	*41.39*	0	*50*	0	*82.8*	*32-100*	0
Surr: 2-Fluorophenol	*20.17*	0	*50*	0	*40.3*	*22-59*	0
Surr: 4-Terphenyl-d14	*43.61*	0	*50*	0	*87.2*	*23-112*	0
Surr: Nitrobenzene-d5	*31.24*	0	*50*	0	*62.5*	*31-93*	0
Surr: Phenol-d6	*12.08*	0	*50*	0	*24.2*	*13-36*	0

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSW1-94759-94759** Units: **µg/L** Analysis Date: **11/18/2016 11:46 PM**

Client ID: Run ID: **SVMS5_161118A** SeqNo: **4162658** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	11.07	5.0	20	0	55.4	35-105	0			
1,2-Dichlorobenzene	10.95	5.0	20	0	54.8	35-100	0			
1,3-Dichlorobenzene	10.68	5.0	20	0	53.4	30-100	0			
1,4-Dichlorobenzene	10.82	5.0	20	0	54.1	30-100	0			
2,4,5-Trichlorophenol	15.61	5.0	20	0	78	50-110	0			
2,4,6-Trichlorophenol	16.18	5.0	20	0	80.9	50-115	0			
2,4-Dichlorophenol	13.66	5.0	20	0	68.3	50-105	0			
2,4-Dimethylphenol	10.68	5.0	20	0	53.4	30-110	0			
2,4-Dinitrophenol	12.5	5.0	20	0	62.5	15-140	0			
2,4-Dinitrotoluene	16.65	5.0	20	0	83.2	50-120	0			
2,6-Dinitrotoluene	16.65	5.0	20	0	83.2	50-115	0			
2-Chloronaphthalene	14.99	5.0	20	0	75	50-105	0			
2-Chlorophenol	12.43	5.0	20	0	62.2	35-105	0			
2-Methylnaphthalene	12.68	5.0	20	0	63.4	45-105	0			
2-Methylphenol	11.13	5.0	20	0	55.6	40-110	0			
2-Nitroaniline	16.42	5.0	20	0	82.1	50-115	0			
2-Nitrophenol	13.25	5.0	20	0	66.2	40-115	0			
3&4-Methylphenol	10.53	5.0	20	0	52.6	30-110	0			
3,3´-Dichlorobenzidine	13.5	5.0	20	0	67.5	30-120	0			
3-Nitroaniline	16.08	5.0	20	0	80.4	20-125	0			
4,6-Dinitro-2-methylphenol	15.6	5.0	20	0	78	40-130	0			
4-Bromophenyl phenyl ether	14.96	5.0	20	0	74.8	50-115	0			
4-Chloro-3-methylphenol	13.5	5.0	20	0	67.5	45-110	0			
4-Chloroaniline	13.76	5.0	20	0	68.8	15-110	0			
4-Chlorophenyl phenyl ether	15.78	5.0	20	0	78.9	50-110	0			
4-Nitroaniline	16.41	5.0	20	0	82	35-150	0			
4-Nitrophenol	5.87	5.0	20	0	29.4	10-58	0			
Acenaphthene	14.64	5.0	20	0	73.2	45-110	0			
Acenaphthylene	15.97	5.0	20	0	79.8	50-105	0			
Anthracene	15.89	5.0	20	0	79.4	55-110	0			
Benzo(a)anthracene	16.71	5.0	20	0	83.6	55-110	0			
Benzo(a)pyrene	14.95	5.0	20	0	74.8	55-110	0			
Benzo(b)fluoranthene	15.14	5.0	20	0	75.7	45-120	0			
Benzo(g,h,i)perylene	16.05	5.0	20	0	80.2	40-125	0			
Benzo(k)fluoranthene	15.91	5.0	20	0	79.6	45-125	0			
Bis(2-chloroethoxy)methane	13.73	5.0	20	0	68.6	45-105	0			
Bis(2-chloroethyl)ether	14.37	5.0	20	0	71.8	35-110	0			
Bis(2-ethylhexyl)phthalate	16.23	5.0	20	0	81.2	40-125	0			
Butyl benzyl phthalate	15.68	5.0	20	0	78.4	45-115	0			
Carbazole	16.46	5.0	20	0	82.3	50-150	0			
Chrysene	16.74	5.0	20	0	83.7	55-110	0			
Dibenzo(a,h)anthracene	15.71	5.0	20	0	78.6	40-125	0			

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

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	15.82	5.0	20	0	79.1	55-105	0
Diethyl phthalate	19.03	5.0	20	0	95.2	40-120	0
Dimethyl phthalate	17.7	5.0	20	0	88.5	25-125	0
Di-n-butyl phthalate	16.68	5.0	20	0	83.4	55-115	0
Di-n-octyl phthalate	14.52	5.0	20	0	72.6	35-135	0
Fluoranthene	16.6	5.0	20	0	83	55-115	0
Fluorene	16.36	5.0	20	0	81.8	50-110	0
Hexachlorobenzene	14.83	5.0	20	0	74.2	50-110	0
Hexachlorobutadiene	10.63	5.0	20	0	53.2	25-105	0
Hexachlorocyclopentadiene	11.31	5.0	20	0	56.6	25-105	0
Hexachloroethane	11	5.0	20	0	55	30-95	0
Indeno(1,2,3-cd)pyrene	14.57	5.0	20	0	72.8	45-125	0
Isophorone	14.19	5.0	20	0	71	50-110	0
Naphthalene	11.72	5.0	20	0	58.6	40-100	0
Nitrobenzene	12.97	5.0	20	0	64.8	45-110	0
N-Nitrosodi-n-propylamine	14.36	5.0	20	0	71.8	35-130	0
N-Nitrosodiphenylamine	15.1	5.0	20	0	75.5	50-110	0
Pentachlorophenol	13.68	5.0	20	0	68.4	40-115	0
Phenanthrene	16.93	5.0	20	0	84.6	50-115	0
Phenol	5.06	5.0	20	0	25.3	12-43	0
Pyrene	17.34	5.0	20	0	86.7	50-130	0
Surr: 2,4,6-Tribromophenol	*35.89*	0	*50*	0	*71.8*	*38-115*	0
Surr: 2-Fluorobiphenyl	*39.41*	0	*50*	0	*78.8*	*32-100*	0
Surr: 2-Fluorophenol	*19.81*	0	*50*	0	*39.6*	*22-59*	0
Surr: 4-Terphenyl-d14	*43.39*	0	*50*	0	*86.8*	*23-112*	0
Surr: Nitrobenzene-d5	*30.88*	0	*50*	0	*61.8*	*31-93*	0
Surr: Phenol-d6	*12.59*	0	*50*	0	*25.2*	*13-36*	0

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **16111189-02B MS** Units: **µg/L** Analysis Date: **11/19/2016 12:44 PM**

Client ID: Run ID: **SVMS5_161118A** SeqNo: **4162661** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	9.4	5.0	20	0	47	35-105	0			
1,2-Dichlorobenzene	9.67	5.0	20	0	48.4	35-100	0			
1,3-Dichlorobenzene	9.35	5.0	20	0	46.8	30-100	0			
1,4-Dichlorobenzene	9.68	5.0	20	0	48.4	30-100	0			
2,4,5-Trichlorophenol	13.67	5.0	20	0	68.4	50-110	0			
2,4,6-Trichlorophenol	13.69	5.0	20	0	68.4	50-115	0			
2,4-Dichlorophenol	10.67	5.0	20	0	53.4	50-105	0			
2,4-Dimethylphenol	9.28	5.0	20	0	46.4	30-110	0			
2,4-Dinitrophenol	14.37	5.0	20	0	71.8	15-140	0			
2,4-Dinitrotoluene	14.95	5.0	20	0	74.8	50-120	0			
2,6-Dinitrotoluene	14.95	5.0	20	0	74.8	50-115	0			
2-Chloronaphthalene	12	5.0	20	0	60	50-105	0			
2-Chlorophenol	9.58	5.0	20	0	47.9	35-105	0			
2-Methylnaphthalene	10.46	5.0	20	0	52.3	45-105	0			
2-Methylphenol	9.04	5.0	20	0	45.2	40-110	0			
2-Nitroaniline	14.77	5.0	20	0	73.8	50-115	0			
2-Nitrophenol	10.44	5.0	20	0	52.2	40-115	0			
3&4-Methylphenol	8.51	5.0	20	0	42.6	30-110	0			
3,3´-Dichlorobenzidine	11.08	5.0	20	0	55.4	30-120	0			
3-Nitroaniline	15.2	5.0	20	0	76	20-125	0			
4,6-Dinitro-2-methylphenol	14.34	5.0	20	0	71.7	40-130	0			
4-Bromophenyl phenyl ether	12.95	5.0	20	0	64.8	50-115	0			
4-Chloro-3-methylphenol	12.07	5.0	20	0	60.4	45-110	0			
4-Chloroaniline	11.79	5.0	20	0	59	15-110	0			
4-Chlorophenyl phenyl ether	13.94	5.0	20	0	69.7	50-110	0			
4-Nitroaniline	15.28	5.0	20	0	76.4	35-150	0			
4-Nitrophenol	6	5.0	20	0	30	1-58	0			
Acenaphthene	12.76	5.0	20	0	63.8	45-110	0			
Acenaphthylene	13.28	5.0	20	0	66.4	50-105	0			
Anthracene	14.15	5.0	20	0	70.8	55-110	0			
Benzo(a)anthracene	14.89	5.0	20	0	74.4	55-110	0			
Benzo(a)pyrene	13.42	5.0	20	0	67.1	55-110	0			
Benzo(b)fluoranthene	13.61	5.0	20	0	68	45-120	0			
Benzo(g,h,i)perylene	14.3	5.0	20	0	71.5	40-125	0			
Benzo(k)fluoranthene	14.37	5.0	20	0	71.8	45-125	0			
Bis(2-chloroethoxy)methane	11.4	5.0	20	0	57	45-105	0			
Bis(2-chloroethyl)ether	11.63	5.0	20	0	58.2	35-110	0			
Bis(2-ethylhexyl)phthalate	15.98	5.0	20	0	79.9	40-125	0			
Butyl benzyl phthalate	14.16	5.0	20	0	70.8	45-115	0			
Carbazole	15.02	5.0	20	0	75.1	50-150	0			
Chrysene	14.99	5.0	20	0	75	55-110	0			
Dibenzo(a,h)anthracene	13.64	5.0	20	0	68.2	40-125	0			

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

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	13.64	5.0	20	0	68.2	55-105	0	
Diethyl phthalate	17.49	5.0	20	0	87.4	40-120	0	
Dimethyl phthalate	16.01	5.0	20	0	80	25-125	0	
Di-n-butyl phthalate	15.17	5.0	20	0	75.8	55-115	0	
Di-n-octyl phthalate	13.19	5.0	20	0	66	35-135	0	
Fluoranthene	14.96	5.0	20	0	74.8	55-115	0	
Fluorene	14.46	5.0	20	0	72.3	50-110	0	
Hexachlorobenzene	13.03	5.0	20	0	65.2	50-110	0	
Hexachlorobutadiene	9.5	5.0	20	0	47.5	25-105	0	
Hexachlorocyclopentadiene	9.52	5.0	20	0	47.6	25-105	0	
Hexachloroethane	9.8	5.0	20	0	49	30-95	0	
Indeno(1,2,3-cd)pyrene	13.3	5.0	20	0	66.5	45-125	0	
Isophorone	11.82	5.0	20	0	59.1	50-110	0	
Naphthalene	9.89	5.0	20	0	49.4	40-100	0	
Nitrobenzene	10.3	5.0	20	0	51.5	45-110	0	
N-Nitrosodi-n-propylamine	11.67	5.0	20	0	58.4	35-130	0	
N-Nitrosodiphenylamine	13.28	5.0	20	0	66.4	50-110	0	
Pentachlorophenol	13.56	5.0	20	0	67.8	40-115	0	
Phenanthrene	15.1	5.0	20	0	75.5	50-115	0	
Phenol	3.93	5.0	20	0	19.6	12-43	0	J
Pyrene	15.48	5.0	20	0	77.4	50-130	0	
Surr: 2,4,6-Tribromophenol	*32.51*	0	*50*	0	*65*	*38-115*	0	
Surr: 2-Fluorobiphenyl	*32.01*	0	*50*	0	*64*	*32-100*	0	
Surr: 2-Fluorophenol	*14.76*	0	*50*	0	*29.5*	*22-59*	0	
Surr: 4-Terphenyl-d14	*37.56*	0	*50*	0	*75.1*	*23-112*	0	
Surr: Nitrobenzene-d5	*24.8*	0	*50*	0	*49.6*	*31-93*	0	
Surr: Phenol-d6	*9.51*	0	*50*	0	*19*	*13-36*	0	

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **16111189-02B MSD** Units: **µg/L** Analysis Date: **11/19/2016 01:08 A**

Client ID: Run ID: **SVMS5_161118A** SeqNo: **4162659** Prep Date: **11/18/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	12.16	5.0	20	0	60.8	35-105	9.4	25.6	30	
1,2-Dichlorobenzene	12.27	5.0	20	0	61.4	35-100	9.67	23.7	30	
1,3-Dichlorobenzene	12.25	5.0	20	0	61.2	30-100	9.35	26.9	30	
1,4-Dichlorobenzene	12.31	5.0	20	0	61.6	30-100	9.68	23.9	30	
2,4,5-Trichlorophenol	15.8	5.0	20	0	79	50-110	13.67	14.5	30	
2,4,6-Trichlorophenol	16.26	5.0	20	0	81.3	50-115	13.69	17.2	30	
2,4-Dichlorophenol	13.51	5.0	20	0	67.6	50-105	10.67	23.5	30	
2,4-Dimethylphenol	10.01	5.0	20	0	50	30-110	9.28	7.57	30	
2,4-Dinitrophenol	15.83	5.0	20	0	79.2	15-140	14.37	9.67	30	
2,4-Dinitrotoluene	16.39	5.0	20	0	82	50-120	14.95	9.19	30	
2,6-Dinitrotoluene	16.39	5.0	20	0	82	50-115	14.95	9.19	30	
2-Chloronaphthalene	15.04	5.0	20	0	75.2	50-105	12	22.5	30	
2-Chlorophenol	12.25	5.0	20	0	61.2	35-105	9.58	24.5	30	
2-Methylnaphthalene	13.23	5.0	20	0	66.2	45-105	10.46	23.4	30	
2-Methylphenol	10.66	5.0	20	0	53.3	40-110	9.04	16.4	30	
2-Nitroaniline	16.73	5.0	20	0	83.6	50-115	14.77	12.4	30	
2-Nitrophenol	13.31	5.0	20	0	66.6	40-115	10.44	24.2	30	
3&4-Methylphenol	9.81	5.0	20	0	49	30-110	8.51	14.2	30	
3,3´-Dichlorobenzidine	12.36	5.0	20	0	61.8	30-120	11.08	10.9	30	
3-Nitroaniline	16.12	5.0	20	0	80.6	20-125	15.2	5.87	30	
4,6-Dinitro-2-methylphenol	15.6	5.0	20	0	78	40-130	14.34	8.42	30	
4-Bromophenyl phenyl ether	15.02	5.0	20	0	75.1	50-115	12.95	14.8	30	
4-Chloro-3-methylphenol	13.47	5.0	20	0	67.4	45-110	12.07	11	30	
4-Chloroaniline	12.72	5.0	20	0	63.6	15-110	11.79	7.59	30	
4-Chlorophenyl phenyl ether	16.17	5.0	20	0	80.8	50-110	13.94	14.8	30	
4-Nitroaniline	16.84	5.0	20	0	84.2	35-150	15.28	9.71	30	
4-Nitrophenol	6.02	5.0	20	0	30.1	1-58	6	0.333	30	
Acenaphthene	15.14	5.0	20	0	75.7	45-110	12.76	17.1	30	
Acenaphthylene	15.8	5.0	20	0	79	50-105	13.28	17.3	30	
Anthracene	15.97	5.0	20	0	79.8	55-110	14.15	12.1	30	
Benzo(a)anthracene	16.48	5.0	20	0	82.4	55-110	14.89	10.1	30	
Benzo(a)pyrene	14.93	5.0	20	0	74.6	55-110	13.42	10.7	30	
Benzo(b)fluoranthene	15.08	5.0	20	0	75.4	45-120	13.61	10.2	30	
Benzo(g,h,i)perylene	15.77	5.0	20	0	78.8	40-125	14.3	9.78	30	
Benzo(k)fluoranthene	15.77	5.0	20	0	78.8	45-125	14.37	9.29	30	
Bis(2-chloroethoxy)methane	13.78	5.0	20	0	68.9	45-105	11.4	18.9	30	
Bis(2-chloroethyl)ether	14.73	5.0	20	0	73.6	35-110	11.63	23.5	30	
Bis(2-ethylhexyl)phthalate	16.28	5.0	20	0	81.4	40-125	15.98	1.86	30	
Butyl benzyl phthalate	15.61	5.0	20	0	78	45-115	14.16	9.74	30	
Carbazole	16.72	5.0	20	0	83.6	50-150	15.02	10.7	30	
Chrysene	16.66	5.0	20	0	83.3	55-110	14.99	10.6	30	
Dibenzo(a,h)anthracene	15.09	5.0	20	0	75.4	40-125	13.64	10.1	30	

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

QC BATCH REPORT

Batch ID: **94759** Instrument ID **SVMS5** Method: **SW846 8270D**

Dibenzofuran	15.85	5.0	20	0	79.2	55-105	13.64	15	30	
Diethyl phthalate	19.33	5.0	20	0	96.6	40-120	17.49	9.99	30	
Dimethyl phthalate	17.39	5.0	20	0	87	25-125	16.01	8.26	30	
Di-n-butyl phthalate	16.72	5.0	20	0	83.6	55-115	15.17	9.72	30	
Di-n-octyl phthalate	14.45	5.0	20	0	72.2	35-135	13.19	9.12	30	
Fluoranthene	16.67	5.0	20	0	83.4	55-115	14.96	10.8	30	
Fluorene	16.54	5.0	20	0	82.7	50-110	14.46	13.4	30	
Hexachlorobenzene	14.9	5.0	20	0	74.5	50-110	13.03	13.4	30	
Hexachlorobutadiene	12	5.0	20	0	60	25-105	9.5	23.3	30	
Hexachlorocyclopentadiene	12	5.0	20	0	60	25-105	9.52	23	30	
Hexachloroethane	12.81	5.0	20	0	64	30-95	9.8	26.6	30	
Indeno(1,2,3-cd)pyrene	14.32	5.0	20	0	71.6	45-125	13.3	7.39	30	
Isophorone	14.02	5.0	20	0	70.1	50-110	11.82	17	30	
Naphthalene	12.28	5.0	20	0	61.4	40-100	9.89	21.6	30	
Nitrobenzene	13.35	5.0	20	0	66.8	45-110	10.3	25.8	30	
N-Nitrosodi-n-propylamine	14.52	5.0	20	0	72.6	35-130	11.67	21.8	30	
N-Nitrosodiphenylamine	14.99	5.0	20	0	75	50-110	13.28	12.1	30	
Pentachlorophenol	14.77	5.0	20	0	73.8	40-115	13.56	8.54	30	
Phenanthrene	17.08	5.0	20	0	85.4	50-115	15.1	12.3	30	
Phenol	4.63	5.0	20	0	23.2	12-43	3.93	0	30	J
Pyrene	17.18	5.0	20	0	85.9	50-130	15.48	10.4	30	
Surr: 2,4,6-Tribromophenol	*36.73*	0	*50*	0	*73.5*	*38-115*	32.51	*12.2*	*40*	
Surr: 2-Fluorobiphenyl	*38.94*	0	*50*	0	*77.9*	*32-100*	32.01	*19.5*	*40*	
Surr: 2-Fluorophenol	*17.93*	0	*50*	0	*35.9*	*22-59*	14.76	*19.4*	*40*	
Surr: 4-Terphenyl-d14	*38.22*	0	*50*	0	*76.4*	*23-112*	37.56	*1.74*	*40*	
Surr: Nitrobenzene-d5	*32.2*	0	*50*	0	*64.4*	*31-93*	24.8	*26*	*40*	
Surr: Phenol-d6	*11.39*	0	*50*	0	*22.8*	*13-36*	9.51	*18*	*40*	

The following samples were analyzed in this batch:

16111216-02B	16111216-03B	16111216-04B

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201318A** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: **VBLKW2-161123-R201318A** Units: **µg/L** Analysis Date: **11/24/2016 03:06 A**

Client ID: Run ID: **VMS5_161123B** SeqNo: **4171318** 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-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	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								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Ethylbenzene	U	1.0								
Methyl tert-butyl ether	U	1.0								
Methylene chloride	U	5.0								
Styrene	U	1.0								
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								
Vinyl chloride	U	1.0								
Xylenes, Total	U	3.0								
Surr: 1,2-Dichloroethane-d4	*20.63*	0	*20*	0	*103*	*75-120*	0			
Surr: 4-Bromofluorobenzene	*18.99*	0	*20*	0	*95*	*80-110*	0			
Surr: Dibromofluoromethane	*20.21*	0	*20*	0	*101*	*85-115*	0			
Surr: Toluene-d8	*19.51*	0	*20*	0	*97.6*	*85-110*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201318A** Instrument ID **VMS5** Method: **SW8260B**

LCS Sample ID: **VLCSW2-161123-R201318A** Units: **µg/L** Analysis Date: **11/24/2016 02:13 A**

Client ID: Run ID: **VMS5_161123B** SeqNo: **4171317** 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	19.17	1.0	20	0	95.8	75-130	0			
1,1,2,2-Tetrachloroethane	19.65	1.0	20	0	98.2	75-130	0			
1,1,2-Trichloroethane	19.64	1.0	20	0	98.2	75-125	0			
1,1-Dichloroethane	19.43	1.0	20	0	97.2	75-133	0			
1,1-Dichloroethene	20.17	1.0	20	0	101	70-145	0			
1,2-Dichloroethane	19.04	1.0	20	0	95.2	78-125	0			
1,2-Dichloropropane	17.99	1.0	20	0	90	75-125	0			
2-Butanone	17.97	5.0	20	0	89.8	55-150	0			
2-Hexanone	18.05	5.0	20	0	90.2	60-135	0			
4-Methyl-2-pentanone	25.22	1.0	20	0	126	77-178	0			
Acetone	18.19	10	20	0	91	60-160	0			
Benzene	19.56	1.0	20	0	97.8	85-125	0			
Bromodichloromethane	19.26	1.0	20	0	96.3	75-125	0			
Bromoform	17.14	1.0	20	0	85.7	60-125	0			
Bromomethane	14.93	1.0	20	0	74.6	30-185	0			
Carbon disulfide	20.95	1.0	20	0	105	60-165	0			
Carbon tetrachloride	17.48	1.0	20	0	87.4	65-140	0			
Chlorobenzene	18.87	1.0	20	0	94.4	80-120	0			
Chloroethane	18.99	1.0	20	0	95	50-140	0			
cis-1,2-Dichloroethene	18.53	1.0	20	0	92.6	75-134	0			
cis-1,3-Dichloropropene	19.2	1.0	20	0	96	70-130	0			
Ethylbenzene	19.66	1.0	20	0	98.3	85-125	0			
Methyl tert-butyl ether	18.97	1.0	20	0	94.8	80-130	0			
Methylene chloride	20.74	5.0	20	0	104	75-140	0			
Styrene	20.38	1.0	20	0	102	83-137	0			
Tetrachloroethene	19.41	1.0	20	0	97	68-166	0			
Toluene	19.07	1.0	20	0	95.4	85-125	0			
trans-1,2-Dichloroethene	19.4	1.0	20	0	97	80-140	0			
trans-1,3-Dichloropropene	18.66	1.0	20	0	93.3	56-132	0			
Trichloroethene	19.92	1.0	20	0	99.6	84-130	0			
Vinyl chloride	19.62	1.0	20	0	98.1	50-136	0			
Xylenes, Total	58.38	3.0	60	0	97.3	80-126	0			
Surr: 1,2-Dichloroethane-d4	*19.74*	0	*20*	0	*98.7*	*75-120*	0			
Surr: 4-Bromofluorobenzene	*19.92*	0	*20*	0	*99.6*	*80-110*	0			
Surr: Dibromofluoromethane	*20.51*	0	*20*	0	*103*	*85-115*	0			
Surr: Toluene-d8	*19.94*	0	*20*	0	*99.7*	*85-110*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201318A** Instrument ID **VMS5** Method: **SW8260B**

MS Sample ID: **16111247-03A MS** Units: **µg/L** Analysis Date: **11/24/2016 12:29 PM**

Client ID: Run ID: **VMS5_161123B** SeqNo: **4171326** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	199	10	200	0	99.5	75-130	0			
1,1,2,2-Tetrachloroethane	204.1	10	200	0	102	75-130	0			
1,1,2-Trichloroethane	200.9	10	200	0	100	75-125	0			
1,1-Dichloroethane	212.4	10	200	0	106	75-133	0			
1,1-Dichloroethene	219.8	10	200	0	110	70-145	0			
1,2-Dichloroethane	205.9	10	200	0	103	78-125	0			
1,2-Dichloropropane	193.6	10	200	0	96.8	75-125	0			
2-Butanone	200.8	50	200	0	100	55-150	0			
2-Hexanone	185.8	50	200	0	92.9	60-135	0			
4-Methyl-2-pentanone	260.5	10	200	0	130	77-178	0			
Acetone	411.2	100	200	207.7	102	60-160	0			
Benzene	207.4	10	200	0	104	85-125	0			
Bromodichloromethane	204.3	10	200	0	102	75-125	0			
Bromoform	175.9	10	200	0	88	60-125	0			
Bromomethane	158.4	10	200	0	79.2	30-185	0			
Carbon disulfide	227.3	10	200	0	114	60-165	0			
Carbon tetrachloride	205.3	10	200	0	103	65-140	0			
Chlorobenzene	194.7	10	200	0	97.4	80-120	0			
Chloroethane	210.5	10	200	0	105	50-140	0			
cis-1,2-Dichloroethene	195.4	10	200	0	97.7	75-134	0			
cis-1,3-Dichloropropene	187.2	10	200	0	93.6	70-130	0			
Ethylbenzene	200	10	200	0	100	85-125	0			
Methyl tert-butyl ether	197.8	10	200	0	98.9	80-130	0			
Methylene chloride	223.9	50	200	0	112	75-140	0			
Styrene	198.2	10	200	0	99.1	83-137	0			
Tetrachloroethene	192.2	10	200	0	96.1	68-166	0			
Toluene	200	10	200	0	100	85-125	0			
trans-1,2-Dichloroethene	210.8	10	200	0	105	80-140	0			
trans-1,3-Dichloropropene	176.2	10	200	0	88.1	56-132	0			
Trichloroethene	209.6	10	200	0	105	84-130	0			
Vinyl chloride	215.7	10	200	0	108	50-136	0			
Xylenes, Total	595.6	30	600	0	99.3	80-126	0			
Surr: 1,2-Dichloroethane-d4	*202.9*	0	*200*	0	*101*	*75-120*	0			
Surr: 4-Bromofluorobenzene	*194*	0	*200*	0	*97*	*80-110*	0			
Surr: Dibromofluoromethane	*201.3*	0	*200*	0	*101*	*85-115*	0			
Surr: Toluene-d8	*197.7*	0	*200*	0	*98.8*	*85-110*	0			

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

Client: Tetra Tech EM Inc.
Work Order: 16111216
Project: Bluff Avenue Site

QC BATCH REPORT

Batch ID: **R201318A** Instrument ID **VMS5** Method: **SW8260B**

MSD Sample ID: **16111247-03A MSD** Units: **µg/L** Analysis Date: **11/24/2016 12:56 PM**

Client ID: Run ID: **VMS5_161123B** SeqNo: **4171327** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	203	10	200	0	102	75-130	199	1.99	30	
1,1,2,2-Tetrachloroethane	207.7	10	200	0	104	75-130	204.1	1.75	30	
1,1,2-Trichloroethane	197.3	10	200	0	98.6	75-125	200.9	1.81	30	
1,1-Dichloroethane	209.3	10	200	0	105	75-133	212.4	1.47	30	
1,1-Dichloroethene	221.3	10	200	0	111	70-145	219.8	0.68	30	
1,2-Dichloroethane	202.5	10	200	0	101	78-125	205.9	1.67	30	
1,2-Dichloropropane	193.3	10	200	0	96.6	75-125	193.6	0.155	30	
2-Butanone	216.5	50	200	0	108	55-150	200.8	7.52	30	
2-Hexanone	187.1	50	200	0	93.6	60-135	185.8	0.697	30	
4-Methyl-2-pentanone	264.5	10	200	0	132	77-178	260.5	1.52	30	
Acetone	439.8	100	200	207.7	116	60-160	411.2	6.72	30	
Benzene	202.7	10	200	0	101	85-125	207.4	2.29	30	
Bromodichloromethane	203.5	10	200	0	102	75-125	204.3	0.392	30	
Bromoform	167.2	10	200	0	83.6	60-125	175.9	5.07	30	
Bromomethane	171.2	10	200	0	85.6	30-185	158.4	7.77	30	
Carbon disulfide	226.7	10	200	0	113	60-165	227.3	0.264	30	
Carbon tetrachloride	203.7	10	200	0	102	65-140	205.3	0.782	30	
Chlorobenzene	194.7	10	200	0	97.4	80-120	194.7	0	30	
Chloroethane	212.3	10	200	0	106	50-140	210.5	0.851	30	
cis-1,2-Dichloroethene	200.8	10	200	0	100	75-134	195.4	2.73	30	
cis-1,3-Dichloropropene	186.9	10	200	0	93.4	70-130	187.2	0.16	30	
Ethylbenzene	201.9	10	200	0	101	85-125	200	0.946	30	
Methyl tert-butyl ether	203.7	10	200	0	102	80-130	197.8	2.94	30	
Methylene chloride	228.4	50	200	0	114	75-140	223.9	1.99	30	
Styrene	197.8	10	200	0	98.9	83-137	198.2	0.202	30	
Tetrachloroethene	199.5	10	200	0	99.8	68-166	192.2	3.73	30	
Toluene	199.4	10	200	0	99.7	85-125	200	0.3	30	
trans-1,2-Dichloroethene	217.4	10	200	0	109	80-140	210.8	3.08	30	
trans-1,3-Dichloropropene	177.9	10	200	0	89	56-132	176.2	0.96	30	
Trichloroethene	207.1	10	200	0	104	84-130	209.6	1.2	30	
Vinyl chloride	215.3	10	200	0	108	50-136	215.7	0.186	30	
Xylenes, Total	598.7	30	600	0	99.8	80-126	595.6	0.519	30	
Surr: 1,2-Dichloroethane-d4	*205.3*	0	*200*	0	*103*	*75-120*	202.9	*1.18*	*30*	
Surr: 4-Bromofluorobenzene	*199.1*	0	*200*	0	*99.6*	*80-110*	194	*2.59*	*30*	
Surr: Dibromofluoromethane	*205.6*	0	*200*	0	*103*	*85-115*	201.3	*2.11*	*30*	
Surr: Toluene-d8	*197.9*	0	*200*	0	*99*	*85-110*	197.7	*0.101*	*30*	

The following samples were analyzed in this batch: 16111216-01A 16111216-02A 16111216-03A 16111216-04A

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

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511 | Houston, TX +1 281 530 5656 | Spring City, PA +1 610 948 4903 | South Charleston, WV +1 304 356 3168
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070 | Middletown, PA +1 717 944 5541 | Salt Lake City, UT +1 801 266 7700 | York, PA +1 717 505 5280

Chain of Custody Form

Page _____ of _____

COC ID: 39629

ALS Project Manager: | ALS Work Order #: 1611216

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Bluff Avenue Site	A	VOCs
Work Order		Project Number		B	SVOCs
Company Name	Tetra Tech EM Inc.	Bill To Company	Tetra Tech EM Inc.	C	PCBs/Pesticides
Send Report To	Carol Nissen	Invoice Attn	Carol Nissen	D	TAL Metals incl. Hg and Cyanide
Address	1 South Wacker Dr Suite 3700	Address	1 South Wacker Dr Suite 3700	E	Moisture
				F	
City/State/Zip	Chicago, IL 60606	City/State/Zip	Chicago, IL 60606	G	
Phone	(312) 201-7411	Phone	(312) 201-7411	H	
Fax	(312) 938-0118	Fax	(312) 938-0118	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	TRIP BLANK	11.16.16	0800	Water	1	1	X										
2	BA-TMW2-1116116	↓	1115	↓	1,2	7	X	X	X	X							
3	BA-TMW3-1116116		1155		↓	7	X	X	X	X							
4	BA-TMW4-1116116		1235			7	X	X	X	X							
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Elise Steger Elise Steger

Shipment Method:

Turnaround Time in Business Days (BD): ☐ Other _____ ☐ 10 BD ☐ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Elise Steger	11/16/16	1600	
Relinquished by:	11/17/16	930	Received by (Laboratory): MBrescatti
Logged by (Laboratory): MB	11/17/16	1628	Checked by (Laboratory):

Notes: Metals Field Filtered

Cooler ID	Cooler Temp
	2.6

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other _____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

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

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Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **17-Nov-16 09:30**

Work Order: **16111216** Received by: **MBB**

Checklist completed by Meghan Broadbent (eSignature) 17-Nov-16 (Date) Reviewed by: Joseph Ribar (eSignature) 21-Nov-16 (Date)

Matrices: water

Carrier name: FedEx

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

Temperature(s)/Thermometer(s): 2.6/2.6 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 11/17/2016 4:34:26 PM

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

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

pH adjusted by: -

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

ATTACHMENT 2

FINAL REPORT REGULATED HAZARDOUS MATERIALS SURVEY
LEGEND TECHNICAL SERVICES, INC.

FINAL REPORT
REGULATED HAZARDOUS MATERIALS SURVEY

1245/1251 BLUFF AVENUE EAST
SHAKOPEE, MN 55379

PREPARED FOR:

TETRA TECH
1 SOUTH WACKER DRIVE, SUITE 3700
CHICAGO, IL 60606

LEGEND NO. 1604708

December 6, 2016

PREPARED BY:

LEGEND TECHNICAL SERVICES, INC.
88 Empire Drive
St. Paul, MN 55103
651/642-1150

LEGEND
Technical Services, Inc.
www.legend-group.com

88 Empire Drive
St. Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

December 6, 2016

Ms. Carol Nissen
Tetra Tech
1 south Wacker Drive
Chicago, IL 60606

RE: Regulated Hazardous Materials Survey
1245/1251 Bluff Avenue East
Shakopee, MN 55379
LEGEND No. 1604708

Dear Ms. Nissen:

LEGEND TECHNICAL SERVICES, INC. (LEGEND) is pleased to submit this report of the regulated hazardous materials survey of the property located at 1245/1251 Bluff Avenue East in Shakopee, MN. The survey was performed on November 15, 2016.

If you have any questions regarding this report please contact us at (651) 642-1150.

Cordially,

LEGEND TECHNICAL SERVICES, INC.

Andrew Tinklenberg
Industrial Hygienist

LEGEND TECHNICAL SERVICES, INC.

FINAL REPORT
REGULATED HAZARDOUS MATERIALS SURVEY

1245/1251 BLUFF AVENUE EAST
SHAKOPEE, MN 55379

LEGEND No. 1604708

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EXECUTIVE SUMMARY
BLUFF AVENUE SITE

The following is the final report of the regulated hazardous materials survey of the buildings located at 1245/1251 Bluff Avenue East in Shakopee, MN. The survey was performed on November 15, 2016 with analysis of suspect bulk asbestos materials completed on November 21, 2016 and analysis of lead paint chip samples performed on November 17, 2016.

OFFICE/RECREATION BUILDING

A. ASBESTOS CONTAINING MATERIALS (ACM)

No asbestos containing materials were found to be present on the interior or exterior of the building. See Table #1 in the appendix for further information on samples collected. See Diagram #1 for asbestos sample locations.

B. LEAD-BASED PAINT

No lead-based paints were found to be present on the interior or exterior of the building. See Table #2 in the appendix for further information on the lead-based paint testing.

C. MISCELLANEOUS REGULATED MATERIALS

Miscellaneous regulated materials observed include the following:

MATERIAL	LOCATION	APPROXIMATE QUANTITY
Fluorescent Bulbs	Throughout	79 [1]
Light Ballasts	Throughout	40
Compact Fluorescent Bulbs (CFLs)	Throughout	16
Door Closers	Throughout	6
Fire Extinguishers	Hallway & Laundry	4
Mercury Thermostats	Store Area & Laundry	2
Exit Signs	Hallway & Game Area	2
Emergency Lights	Hallway	1
Control Panels/Electronics/Circuit boards	Throughout	39
Cleaners/Chemicals/Paints	Throughout	Numerous
Security Cameras	Throughout	13
Drinking Fountain (Suspect CFCs)	Pool Area	1
Ice Freezer	Store Area	1
Refrigerators (Suspect CFCs)	Store Area & Storage 1	4
Window A/C Unit	Store Area	1

[1] = Stored boxes of fluorescent bulbs are also present in storage 2 and the mezzanine above office area.

C. MISCELLANEOUS REGULATED MATERIALS (cont.)

Miscellaneous regulated materials observed include the following:

MATERIAL	LOCATION	APPROXIMATE QUANTITY
Capacitor (Detached on Countertop)	Store Area	1
Bin Cleaner	Janitor's Closet	1
Soda Machines (Suspect CFCs)	Hallway & Game Area	3
Arcade Games	Game Area	2
Air Fresheners	Restrooms	2
Washers/Dryers	Laundry & Utility	12
Motors	Utility	4
Water Heaters	Utility & Janitor's Closet	2
Pool Heater	Utility	1
Pool Filtration System (Tanks, Circuitboards, etc.)	Utility	1
Furnace/AHU	Mezzanine Above Office	1
Warning Light	Exterior - South	1
Gas Meter (Potential Mercury Cup)	Exterior East	1
Green Treated Lumber Deck	Exterior West	5 Yards
Sodium/HID Bulb	Exterior West	1

*** Remediation cost estimate for the regulated materials - $4,000.00**

FORMER WASTE WATER TREATMENT PLANT

A. ASBESTOS CONTAINING MATERIALS

MATERIAL	LOCATION	APPROXIMATE QUANTITY	ABATEMENT ESTIMATE
Window Glazing	Exterior Windows & Doors	4 Window/Door Areas	$400
Residual Caulking (Doors, Windows, Roof Ledge Underside)	Exterior Building Perimeter	300 Linear Feet	$500
Roof Field/Flashing Membrane Sealant	Tank/Digester Rooftops	1,150 Square Feet	$2,500
Residual Flashing Sealant	WWTP Rooftop	8 Linear Feet	$100

A. ASBESTOS CONTAINING MATERIALS (CONTINUED)

MATERIAL	LOCATION	APPROXIMATE QUANTITY	ABATEMENT ESTIMATE
Pipe & Pipe Fitting Insulation	Basement	14 Linear Feet of Millboard (w/ Fittings) & 8 Fittings on Fiberglass Straight-Run Insulation	$700

See Table #1 in the appendix for further information on samples collected. See Diagram #2 for sample locations and asbestos containing material locations.

B. LEAD-BASED PAINT

One XRF reading of the red paint on the metal stair railing on the first floor was found to be inconclusive (1.0 mg/cm^2). A chip sample of the paint was collected and the sample was confirmed to be lead-based paint (36,000 mg/kg).

MATERIAL	LOCATION	APPROXIMATE QUANTITY	ABATEMENT ESTIMATE
Red Paint on Metal Stair Railing	Main Level	70 Linear Feet	$100 *

*** Remediation for lead-based paint is not required in Minnesota for pre-demolition buildings. Remediation cost estimate assumes the removal of the entire stair railing.**

See Table #2 in the appendix for further information on the lead-based paint testing. See Table #3 in the appendix for further information on the lead paint chip sampling. See Diagram #2 for paint chip sample locations and lead-based paint locations.

C. MISCELLANEOUS REGULATED MATERIALS

Miscellaneous regulated materials observed include the following.

MATERIAL	LOCATION	APPROXIMATE QUANTITY
Fluorescent Bulbs	Interior	12
Light Ballasts	Interior	6
Control Panels/Electronics/Circuit boards	Interior	2
Sodium/HID Bulbs	Exterior West	2
Transformer	Exterior West	1
Large Campground Sign (Potential bulbs, ballasts, circuit boards, etc.)	Exterior South	1
Motor	North Tank/Digester Rooftop	1
Green Treated Lumber Deck	Basement – Above Stairway	2 Yards

*** Remediation cost estimate for regulated materials - $800.00**

BATH HOUSES

A. ASBESTOS CONTAINING MATERIALS

No asbestos containing materials were found to be present on the interior or exterior of the buildings. See Table #1 in the appendix for further information on samples collected. See Diagram #3 for asbestos sample locations.

B. LEAD-BASED PAINT

No lead-based paints were found to be present on the interior or exterior of the building. See Table #2 in the appendix for further information on the lead-based paint testing.

C. MISCELLANEOUS REGULATED MATERIALS

Miscellaneous regulated materials observed include the following:

West Bath House

MATERIAL	LOCATION	APPROXIMATE QUANTITY
Fluorescent Bulbs	Throughout	12
Light Ballasts	Throughout	6
Compact Fluorescent Bulbs (CFLs)	Throughout	9
Water Heaters	Utility Room	2
Door Closers	Interior	2

East Bath House

MATERIAL	LOCATION	APPROXIMATE QUANTITY
Fluorescent Bulbs	Throughout	7
Light Ballasts	Throughout	5
Compact Fluorescent Bulbs (CFLs)	Throughout	13
Water Heaters	Utility Room	2
Door Closers	Interior	2
Air Freshener	Restroom	1
Green Treated Post	Exterior West	1

*** Remediation cost estimate for regulated materials - $600.00**

NARRATIVE REPORT
BLUFF AVENUE SITE, SHAKOPEE, MN

1.0 INTRODUCTION

The following is the final report of the regulated hazardous materials survey of the buildings located at 1245/1251 Bluff Avenue East in Shakopee, MN. The survey was performed on November 15, 2016 with analysis of suspect bulk asbestos materials completed on November 21, 2016 and analysis of lead paint chip samples performed on November 17, 2016. Site inspection for LEGEND TECHNICAL SERVICES, INC. was performed by Corey Campbell, certified Minnesota Department of Health (MDH) Asbestos Inspector No. AI3735 and Andrew Tinklenberg, certified MDH Asbestos Inspector No. AI10519 and MDH Lead Risk Assessor No. LR3105.

2.0 BACKGROUND INFORMATION

The site consists of four buildings. A former office/recreation building consisting of a metal frame and steel roof. A former waste water treatment plant building (WWTP) which consists of a two-story brick building with two large tank/digesters on each side. And two bath houses which are concrete block constructed with pitched, shingled rooftops. The office/recreation building and the exterior of the WWTP were previously surveyed by others and the information was used by LEGEND at the time of this survey. The results of that survey are included in the Appendices for reference.

3.0 ASSESSMENT PROCEDURE

3.1 Assessment Survey

A walk-through survey of the buildings was performed and samples were collected of materials suspected of containing asbestos. Asbestos samples were collected in a random fashion. Refer to Sections A of the Executive Summary for a list of materials.

A list of restricted wastes which may include mercury switches, possible PCB containing light ballasts, possible mercury vapor fluorescent tubes, motors, oil door closers, treated wood, tires, oil containing items, paints, miscellaneous liquids, etc. A list of materials can be found in Sections C of the Executive Summary.

3.2 Methodology

Analysis of Materials for Asbestos

The analysis was performed in accordance with current U.S. Environmental Protection Agency (USEPA) protocols, "Method for the Determination of Asbestos in Bulk Building Materials," EPA 600/R-93/116, 1993 and “Interim Method for the Determination of Asbestos in Bulk Insulation Samples,” EPA-600M4-82-020, Dec. 1982. All reported percentages are by visual estimates. In the case of nonhomogeneous samples, each material or layer is analyzed separately and the reported percentages are based on the total sample as received.

Analysis of Lead-Based Paint

Lead paint readings were collected in a nondestructive manner using a X-Ray Fluorescence (XRF) Lead Paint Analyzer manufactured by RMD Instruments (model LPA-

1), serial number 1346. The RMD LPA-1 XRF uses a radiation source of Cobalt-57 with a maximum radiation activity of 12 millicurie for paint identification. X-ray fluorescence quantitatively measures the concentration of lead within paint by bombarding it with ionizing radiation. This process causes the sample to emit X-rays which are detected and analyzed by the XRF to give a concentration of lead in the sample. An instrument calibration check is performed prior to and after testing to ensure accuracy of measurements.

Paint chip samples were collected for laboratory analysis to confirm the XRF Analyzer field results for the presence or absence of lead in paint. The paint chips were collected by scraping a small area (approximately four square inches) of paint directly into a plastic baggie. The sample was often collected at a damaged paint surface. If possible, each sample included all layers of paint noted to be present on the substrate. The samples were analyzed in LEGEND's St. Paul laboratory in accordance with methods based on current U.S. EPA protocols, EPA SW-846, Method 6010C using ICP.

4.0 DISCUSSION

4.1 Asbestos

Thirty-two (32) bulk samples were collected from the four buildings. Materials sampled included carpet adhesive, sheet flooring, baseboard and adhesive, window glazings, wall panel adhesive, penetration caulks, roof sealant, vapor barrier, flashing, caulkings, pipe fitting insulation, pipe straight-run insulation, flange gaskets and shingles. Of the 32 samples collected, (8) were found to be asbestos containing. Asbestos containing materials were only found to be present in the WWTP. An asbestos containing material is defined as any material containing greater than (>) 1% asbestos. Materials sampled and found to contain asbestos or previously known to contain asbestos include the following.

Pipe fitting insulation and millboard straight-run pipe insulation were found to contain asbestos. The pipe insulations are present in the basement level of the WWTP. The millboard straight-run pipe insulation is only present along the east wall. The straight-run pipe insulation in the west central portion of the basement is fiberglass. The pipe insulations were in poor condition.

Window glazing in the WWTP was previously identified as asbestos containing. The window glazing is located on the west windows and also on the windows inlaid on both the east and west doors. The glazing is in fair condition.

Exterior caulking in the WWTP was previously identified as asbestos containing. Only residual amounts of the caulking remain and are located around the windows and doors and also on the underside of the roof ledge around the entire perimeter of the building. The caulking is in poor condition.

Roof field membrane sealant and roof flashing sealant on the tank/digester rooftops of the WWTP were previously identified as asbestos containing. The sealants are located on the entire roof field of both tanks/digesters. The sealants are in poor condition.

Residual flashing sealant on the rooftop of the WWTP was previously identified as asbestos containing. The sealant is located on the exterior rooftop around an old vent/access opening. The sealant is in poor condition.

See Table #1 in the appendix for further information on the asbestos samples collected. See Diagrams #1-#3 for sample locations and asbestos containing material locations.

4.2 Lead-Based Paint

The East Bath House was not tested as the construction materials and paint history were the same as the West Bath House. LEGEND tested seventy (70) areas, including twelve (12) calibration readings for the presence of lead based paint (LBP) in the other three buildings. One (1) of those areas was found to have lead in paint levels of greater than or equal to 1.0 milligrams per square centimeter (1.0 mg/cm^2).

The red stair railing paint located in the main and basement levels of the WWTP was found to be inconclusive (1.0 mg/cm^2). A chip sample of the paint was collected and found to contain 39,000 mg/kg of lead. Lead-based paint is defined by the Minnesota Department of Health as any paint containing lead in concentration of 5,000 milligram per kilogram (mg/kg) or greater. The red stair railing paint was in poor condition.

See Table #2 in the appendix for further information on the lead-based paint testing. See Table #3 in the appendix for further information on the lead paint chip sampling. See Diagram #2 for paint chip sample locations and lead-based paint locations.

4.3 Regulated Waste

See the Executive Summary for a list of miscellaneous restricted waste which will need to be removed and properly disposed of prior to demolition of each structure.

5.0 REMARKS

This report represents our findings through sampling, analysis, and visual inspection of materials. Samples were collected using accepted Minnesota Department of Health inspection techniques. Other than this no warranty or guarantee is implied or intended.

Submitted by:

LEGEND TECHNICAL SERVICES, INC.

Corey Campbell, CHMM
MDH Asbestos Inspector No. AI3735

Andrew Tinklenberg
MDH Asbestos Inspector No. AI10519
MDH Lead Risk Assessor No. LR3105

Todd Giorgi
Microscopist

TABLES

LEGEND TECHNICAL SERVICES, INC.

TABLE #1

LEGEND No. 1604708

TETRA TECH SURVEY

1245/1251 Bluff Ave. E., Shakopee, MN

ASBESTOS BULK SAMPLE RESULTS TABLE

SAMPLE NO.	LAB NO.	LOCATION	MATERIAL/ PHYSICAL DESCRIPTION	ASBESTOS CONTENT	BALANCE OF MATERIAL
1	1604708-1	Office/Rec. Building Front Entry Hallway	Carpet Adhesive Gray, Cementitious Homogeneous	None Detected	<1% Cellulose 98% Nonfibrous <1% Synthetic Fibers
2	1604708-2	Office/Rec. Building Office	Carpet Adhesive Tan, Cementitious Homogeneous	None Detected	97% Nonfibrous 3% Synthetic Fibers
3	1604708-3	Office/Rec. Building Storage 2	Sheetflooring – Roll – Loose White, Cementitious Homogeneous	None Detected	100% Nonfibrous
3B	1604708-3B	Office/Rec. Building Storage 2	Sheetflooring Backing Gray, Fibrous Homogeneous	None Detected	80% Cellulose 5% Nonfibrous 15% Glass Fibers
4	1604708-4	Office/Rec. Building Storage 2	Sheetflooring – Loose Roll White, Cementitious Homogeneous	None Detected	100% Nonfibrous
4B	1604708-4B	Office/Rec. Building Storage 2	Sheetflooring Backing Gray, Fibrous Homogeneous	None Detected	80% Cellulose 10% Nonfibrous 10% Glass Fibers
5	1604708-5	Office/Rec. Building Game Room	Baseboard Tan, Cementitious Homogeneous	None Detected	100% Nonfibrous
6	1604708-6	Office/Rec. Building Game Room	Associated Baseboard Adhesive Tan, Cementitious Homogeneous	None Detected	<1% Cellulose 99% Nonfibrous

< = Less than the number shown

LEGEND TECHNICAL SERVICES, INC.

TABLE 1 (continued*)*

LEGEND No. 1604708

ASBESTOS BULK SAMPLE RESULTS TABLE

SAMPLE NO.	LAB NO.	LOCATION	MATERIAL/ PHYSICAL DESCRIPTION	ASBESTOS CONTENT	BALANCE OF MATERIAL
7	1604708-7	Office/Rec. Building Pool/Game Room	Window Glazing Black, Cementitious Homogeneous	None Detected	100% Nonfibrous
8	1604708-8	Office/Rec. Building Pool Area North Wall	Fiberglass Wall Panel Adhesive Tan, Cementitious Homogeneous	None Detected	98% Nonfibrous 2% Glass Fibers
9	1604708-9	Red Roof Exterior Northeast Corner	Pipe Penetration Caulk Gray, Cementitious Homogeneous	None Detected	97% Nonfibrous 3% Glass Fibers
10	1604708-10	Office/Rec. Building Red Roof - Exterior Northeast	Roofing Sealant Black, Cementitious Homogeneous	None Detected	10% Cellulose 90% Nonfibrous
11	1604708-11	WWTP Exterior Rooftop Under Foam Insulation	Tar Pitch Vapor Barrier Black, Cementitious Homogeneous	None Detected	2% Cellulose 98% Nonfibrous
12	1604708-12	WWTP Exterior Rooftop Under Foam Insulation	Flashing Back, Cementitious/Fibrous Homogeneous	None Detected	40% Cellulose 60% Nonfibrous
13	1604708-13	WWTP Exterior	Ridgecap Underside Caulk Gray, Cementitious Homogeneous	**5% Chrysotile**	2% Cellulose 93% Nonfibrous
14	1604708-14	WWTP Exterior	Brick Wall Seam Caulk Vertical White, Cementitious Homogeneous	None Detected	90% Nonfibrous 10% Wollastonite
15	1604708-15	WWTP Basement	Pipe Fitting on Fiberglass Line Gray, Cementitious/Fibrous Homogeneous	**5% Chrysotile**	5% Cellulose 10% Nonfibrous 80% Glass Fibers

< = Less than the number shown

LEGEND TECHNICAL SERVICES, INC.

TABLE 1 (continued***)***

LEGEND No. 1604708

ASBESTOS BULK SAMPLE RESULTS TABLE

SAMPLE NO.	LAB NO.	LOCATION	MATERIAL/ PHYSICAL DESCRIPTION	ASBESTOS CONTENT	BALANCE OF MATERIAL
16	1604708-16	WWTP Basement	Pipe Insulation – Millboard Gray, Fibrous Homogeneous	None Detected	80% Cellulose 15% Nonfibrous 5% Hair
16B	1604708-16B	WWTP Basement	Millboard – Black Layer Black, Fibrous Homogeneous	**80% Chrysotile**	20% Cellulose
17	1604708-17	WWTP Basement	Pipe Insulation – Millboard Gray, Fibrous Homogeneous	None Detected	85% Cellulose 10% Nonfibrous 5% Hair
17B	1604708-17B	WWTP Basement	Millboard – Black Layer Black, Fibrous Homogeneous	**80% Chrysotile**	20% Cellulose
18	1604708-18	WWTP Basement	Pipe Insulation – Millboard Gray, Fibrous Homogeneous	None Detected	95% Cellulose 5% Nonfibrous
18B	1604708-18B	WWTP Basement	Millboard – Black Layer Black, Fibrous Homogeneous	**80% Chrysotile**	20% Cellulose
19	1604708-19	WWTP Basement	Pipe Fitting Insulation Gray, Cementitious/Fibrous Homogeneous	**10% Chrysotile**	70% Nonfibrous 20% Mica
20	1604708-20	WWTP Basement	Pipe Fitting Insulation Gray, Cementitious/Fibrous Homogeneous	**10% Chrysotile**	70% Nonfibrous 20% Mica
21	1604708-21	WWTP Basement	Flange Gasket Red, Cementitious Homogeneous	None Detected	100% Nonfibrous

< = Less than the number shown

LEGEND TECHNICAL SERVICES, INC.

TABLE 1 (continued***)***

LEGEND No. 1604708

ASBESTOS BULK SAMPLE RESULTS TABLE

SAMPLE NO.	LAB NO.	LOCATION	MATERIAL/ PHYSICAL DESCRIPTION	ASBESTOS CONTENT	BALANCE OF MATERIAL
22	1604708-22	WWTP Exterior	Window Glazing (Inlaid on Door) White, Cementitious Homogeneous	**3% Chrysotile**	95% Nonfibrous 2% Glass Fibers
23	1604708-23	West Bathhouse Exterior	Door Frame Caulk Brown, Cementitious Homogeneous	None Detected	2% Cellulose 98% Nonfibrous
24	1604708-24	West Bathhouse Exterior	Door Frame Caulk Gray, Cementitious Homogeneous	None Detected	100% Nonfibrous
25	1604708-25	West Bathhouse Exterior Rooftop	Roofing Shingle Brown/Black, Cementitious/Fibrous Heterogeneous	None Detected	50% Cellulose 50% Nonfibrous
26	1604708-26	West Bathhouse Exterior Rooftop	Roofing Shingle Green/Black, Cementitious/Fibrous Heterogeneous	None Detected	40% Cellulose 60% Nonfibrous
27	1604708-27	East Bathhouse Exterior	Electrical Service Penetration Caulk Black/Gray, Cementitious Homogeneous	None Detected	5% Cellulose 95% Nonfibrous

< = Less than the number shown

LEGEND TECHNICAL SERVICES, INC.

TABLE #2

LEAD IN PAINT TESTING

LEGEND No. 1604708

Tetra Tech – 1245/1251 Bluff Avenue East, Shakopee, MN

Test No.	Bldg.	Room Name/No.	Direction	Component	Substrate Type	Color	Lead Result mg/cm^2	Damage / Condition
1	---	Calibration	---	---	---	---	1.0	---
2	---	Calibration	---	---	---	---	1.0	---
3	---	Calibration	---	---	---	---	0.0	---
4	Office/Rec.	Game Room	North	Upper Wall	GWB	Blue	0.0	Intact
5	Office/Rec.	Game Room	North	Lower Wall	GWB	Yellow	0.0	Fair
6	Office/Rec.	Game Room	North	Chair Rail	Wood	White	0.0	Fair
7	Office/Rec.	Game Room	North	Rafter/Support	Metal	Brown	0.1	Intact
8	Office/Rec.	Game Room	West	Door	Metal	Brown	0.0	Fair
9	Office/Rec.	Game Room	West	Wall	GWB	White	0.0	Intact
10	Office/Rec.	Storage 2	West	Wall	GWB	Yellow	0.0	Intact
11	Office/Rec.	Laundry	West	Wall	Wood	White	0.0	Intact
12	Office/Rec.	Laundry	Central	Ceiling	Wood	White	0.0	Intact
13	Office/Rec.	Laundry	East	Wall	GWB	Yellow	0.0	Intact
14	Office/Rec.	Utility Room	North	Door	Metal	Red	0.1	Fair
15	Office/Rec.	Utility Room	North	Door Jamb	Wood	White	0.0	Fair
16	Office/Rec.	Utility Room	West	Door jamb	Wood	White	0.0	Intact
17	Office/Rec.	Store Area	West	Wall	GWB	Tan	0.0	Fair
18	Office/Rec.	Store Area	West	Ceiling	GWB	White	0.0	Fair
19	Office/Rec.	Store Area	South	Window Casing	Wood	White	0.0	Intact
20	Office/Rec.	Store Area	South	Window Sill	Wood	White	0.0	Intact
21	Office/Rec.	Janitor's Closet	East	Wall	GWB	White	0.0	Intact
22	Office/Rec.	Office	South	Wall	GWB	White	0.0	Intact
23	Office/Rec.	Storage 1	North	Wall	GWB	White	0.0	Intact
24	Office/Rec.	Pool Area	South	Upper Wall	GWB	Blue	0.0	Intact
25	Office/Rec.	Pool Area	South	Lower Wall	Concrete	Yellow	0.0	Intact
26	Office/Rec.	Pool Area	South	Window Casing	Wood	White	0.0	Intact
27	Office/Rec.	Pool Area	South	Door Casing	Wood	White	0.0	Fair
28	Office/Rec.	Men's Restroom	Central	Floor	Concrete	Tan	0.0	Fair
29	Office/Rec.	Women's Restroom	Central	Floor	Concrete	Tan	0.0	Fair
30	Office/Rec.	Pool Area	South	Railing	Metal	Brown	0.0	Fair
31	Office/Rec.	Exterior	South	Siding	Wood	Brown	0.0	Fair
32	Office/Rec.	Exterior	South	Door Cover	Wood	Brown	0.0	Fair

Test No.	Bldg. Level	Room Name/No.	Direction	Component	Substrate Type	Color	Lead Result mg/cm^2	Damage / Condition
33	Office/Rec.	Exterior	South	Door Casing	Wood	White	0.0	Fair
34	Office/Rec.	Exterior	South	Entry Soffit	Wood	White	0.0	Intact
35	Office/Rec.	Exterior	South	Entry Support	Wood	White	0.0	Fair
36	Office/Rec.	Exterior	South	Entry Fascia	Wood	White	0.0	Intact
37	Office/Rec.	Exterior	South	Window Casing	Wood	White	0.0	Intact
38	Office/Rec.	Exterior	South	Window Cover	Wood	Brown	0.0	Fair
39	Office/Rec.	Exterior	South	Corner Board	Wood	White	0.0	Intact
40	Office/Rec.	Exterior	South	Dormer Wall	Wood	Brown	0.0	Fair
41	Office/Rec.	Exterior	South	Dormer Window Casing	Wood	White	0.0	Poor
42	---	Calibration	---	---	---	---	1.0	---
43	---	Calibration	---	---	---	---	1.0	---
44	---	Calibration	---	---	---	---	0.0	---
45	WWTP	Exterior	West	Fascia	Block	Brown	0.0	Poor
46	WWTP	Exterior	North	Tank Rooftop Interior Walls	Concrete	Blue	0.0	Poor
47	WWTP	Exterior	West	Window Cover	Wood	Red	0.0	Poor
48	WWTP	Exterior	West	Door	Metal	Orange	0.0	Poor
49	WWTP	Exterior	East	Door	Metal	Gray	0.0	Poor
50	WWTP	Exterior	East	Wall	Brick	Tan	0.0	Fair
51	WWTP	Interior	West	Railing	Metal	Red	**1.0**	Poor
52	WWTP	Basement	South	Piping	Metal	Tan	0.3	Poor
53	WWTP	Basement	South	Piping	Metal	Red	0.0	Poor
54	---	Calibration	---	---	---	---	1.0	---
55	---	Calibration	---	---	---	---	1.0	---
56	---	Calibration	---	---	---	---	0.0	---
57	W. Bathhouse	Exterior	South	Fascia	Wood	Brown	0.0	Fair
58	W. Bathhouse	Exterior	South	Window Casing	Wood	Brown	0.0	Fair
59	W. Bathhouse	Exterior	South	Window Jamb	Wood	White	0.2	Fair
60	W. Bathhouse	Exterior	South	Soffit	Wood	Brown	0.1	Fair
61	W. Bathhouse	Exterior	South	Door	Metal	Brown	0.0	Fair
62	W. Bathhouse	Exterior	South	Door Casing	Wood	Brown	0.0	Fair
63	W. Bathhouse	Laundry	East	Wall	Block	White	0.0	Intact
64	W. Bathhouse	Laundry	East	Wall Base	Block	Brown	0.0	Intact
65	W. Bathhouse	Women's Restroom	North	Wall	Block	White	0.0	Intact
66	W. Bathhouse	Women's Restroom	West	Stall Door	Metal	Brown	0.0	Fair
67	W. Bathhouse	Men's Restroom	South	Wall	Block	White	0.0	Intact
68	---	Calibration	---	---	---	---	1.0	
69	---	Calibration	---	---	---	---	1.0	
70	---	Calibration	---	---	---	---	0.0	

mg/cm^2 = Milligrams per square centimeter
WWTP = Waste Water Treatment Plant
GWB = Gypsum Wall Board

LEGEND TECHNICAL SERVICES, INC.
TABLE #3
LEAD IN PAINT CHIP SAMPLE RESULTS

LEGEND No. 1604708

Tetra Tech
1245/1251 Bluff Avenue East, Shakopee, MN

Sample No.	Laboratory No.	Room Name/ Number	Sample Description	Lead Concentration (mg/kg)	Reporting Limit (mg/kg)
L-1	1604993-1	Waste Water Treatment Plant – First Floor	Red Stair Railing Paint	**39,000**	25

Lead-based paint is defined by the Minnesota Department of Health as any paint containing lead in concentration of 5,000 milligram per kilogram (mg/kg) or greater.

88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

November 29, 2016

Mr. Andrew Tinklenberg
Legend Technical Services
88 Empire Drive
St. Paul, MN 55103

Work Order Number: 1604993
RE: Legend-IH

Enclosed are the results of analyses for samples received by the laboratory on 11/15/16. If you have any questions concerning this report, please feel free to contact me.

Results are not blank corrected unless noted within the report. Additionally, all QC results meet requirements unless noted.

All samples will be retained by Legend Technical Services, Inc., unless consumed in the analysis, at ambient conditions for 30 days from the date of this report and then discarded unless other arrangements are made. Dust wipe and air samples are consumed during analysis. All samples were received in acceptable condition unless otherwise noted in the case narrative.

AIHA-LAP, LLC, Accreditation # 101095

Prepared by,
LEGEND TECHNICAL SERVICES, INC

Bach Pham
Client Manager II
bpham@legend-group.com

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

Legend Technical Services	Project:	Legend-IH		
88 Empire Drive	Project Number:	1604708	Work Order #:	1604993
St. Paul, MN 55103	Project Manager:	Mr. Andrew Tinklenberg	Date Reported:	11/29/16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Date/Time Received
L-1	1604993-01	Paint	11/15/16 00:00	11/15/16 14:45

Case Narrative:

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88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

Legend Technical Services	Project:	Legend-IH		
88 Empire Drive	Project Number:	1604708	Work Order #:	1604993
St. Paul, MN 55103	Project Manager:	Mr. Andrew Tinklenberg	Date Reported:	11/29/16

TOTAL METALS ANALYSIS
Legend Technical Services, Inc.

Analyte	Result	RL	Unit	Batch	Prepared	Analyzed	Method	Notes
L-1 (1604993-01) Paint								
Lead	**39000**	25	mg/kg	B6K1702	11/17/16	11/17/16	EPA 6010C	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

Legend Technical Services	Project:	Legend-IH			
88 Empire Drive	Project Number:	1604708		Work Order #:	1604993
St. Paul, MN 55103	Project Manager:	Mr. Andrew Tinklenberg		Date Reported:	11/29/16

TOTAL METALS ANALYSIS - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	Unit	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B6K1702 - EPA 3050B										
Blank (B6K1702-BLK1)				Prepared & Analyzed: 11/17/16						
Lead	<25	25	mg/kg							
Blank (B6K1702-BLK2)				Prepared & Analyzed: 11/17/16						
Lead	<25	25	mg/kg							
LCS (B6K1702-BS1)				Prepared & Analyzed: 11/17/16						
Lead	293	81	mg/kg	287	<81	102	80-120			
LCS Dup (B6K1702-BSD1)				Prepared & Analyzed: 11/17/16						
Lead	299	83	mg/kg	287	<83	104	80-120	2.02	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

Legend Technical Services	Project:	Legend-IH		
88 Empire Drive	Project Number:	1604708	Work Order #:	1604993
St. Paul, MN 55103	Project Manager:	Mr. Andrew Tinklenberg	Date Reported:	11/29/16

Notes and Definitions

<	Less than value listed
dry	Sample results reported on a dry weight basis
NA	Not applicable. The %RPD is not calculated from values less than the reporting limit.
RL	Reporting Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Spike = Blank Spike (BS) = Laboratory Fortified Blank (LFB)
MS	Matrix Spike = Laboratory Fortified Matrix (LFM)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 1 of 1

LEGEND TECHNICAL SERVICES, INC
88 Empire Drive, St. Paul, MN 55103 - Telephone: 651-642-1150, Fax: 651-642-1239
CHAIN-OF-CUSTODY RECORD

Client Name: LEGEND St. Paul
Address:
Attn: Andrew Tinklenberg
Phone: 651-491-9999
Project Name: 1245 Bluff Ave. E.

Bill To:
Address:
PO #:
E-mail: atinklenberg@legend-group.com
Project#: 1604708

LEGEND Project#: 1604993
Turn Around Time: ☒ Normal ☐ RUSH
Requested Due Date:
Condition Received:
☐ Received at ____ °C
☐ Temp. from unpreserved sample
☐ Received on ice
☒ No temp. blank
☐ Received on ice pack
☐ Received on melt water
☒ Received ambient
☒ Acceptable (IH/ISO only)
☐ Custody Seals

COC/Sample Comments:

ANALYSIS

Item No.	Sample Name	Grab	Comp.	Collection Date	Collection Time	Sample Matrix	Lab ID No.	Number of Containers	Pb in Paint						Major Sample Components (5 greatest, including hazardous)
1	WUTP - Interior - Stair Railing - Lead Paint			11/15/16	AM	Paint	-01A		X						
2															
3															
4															
5															
6															
7															
8															
9															
10															

Sample Collector (please print):	Relinquished By:	Date:	Time:	Accepted by:	Date:	Time:
Andrew Tinklenberg	[signature]	11/15/16	2:45 pm			
Comments:	**Relinquished By:**	**Date:**	**Time:**	**Received by Lab:** [signature]	**Date:** 11/15/16	**Time:** 1445

PLEASE REVIEW TERMS AND CONDITIONS ON BACK BEFORE SIGNING

Form LAB-268.5 (12/14) **White Copy** – Original Accompanies Shipment to Lab **Yellow Copy** – Lab **Pink Copy** – Customer or Field Copy

L E G E N D
Technical Services, Inc.
www.legend-group.com

88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

Legend Technical Services	Project:	Legend-IH	Work Order #: 1604993
88 Empire Drive	Project Number:	1604708	Date Reported: 11/29/16
St. Paul, MN 55103	Project Manager:	Mr. Andrew Tinklenberg	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

DIAGRAMS

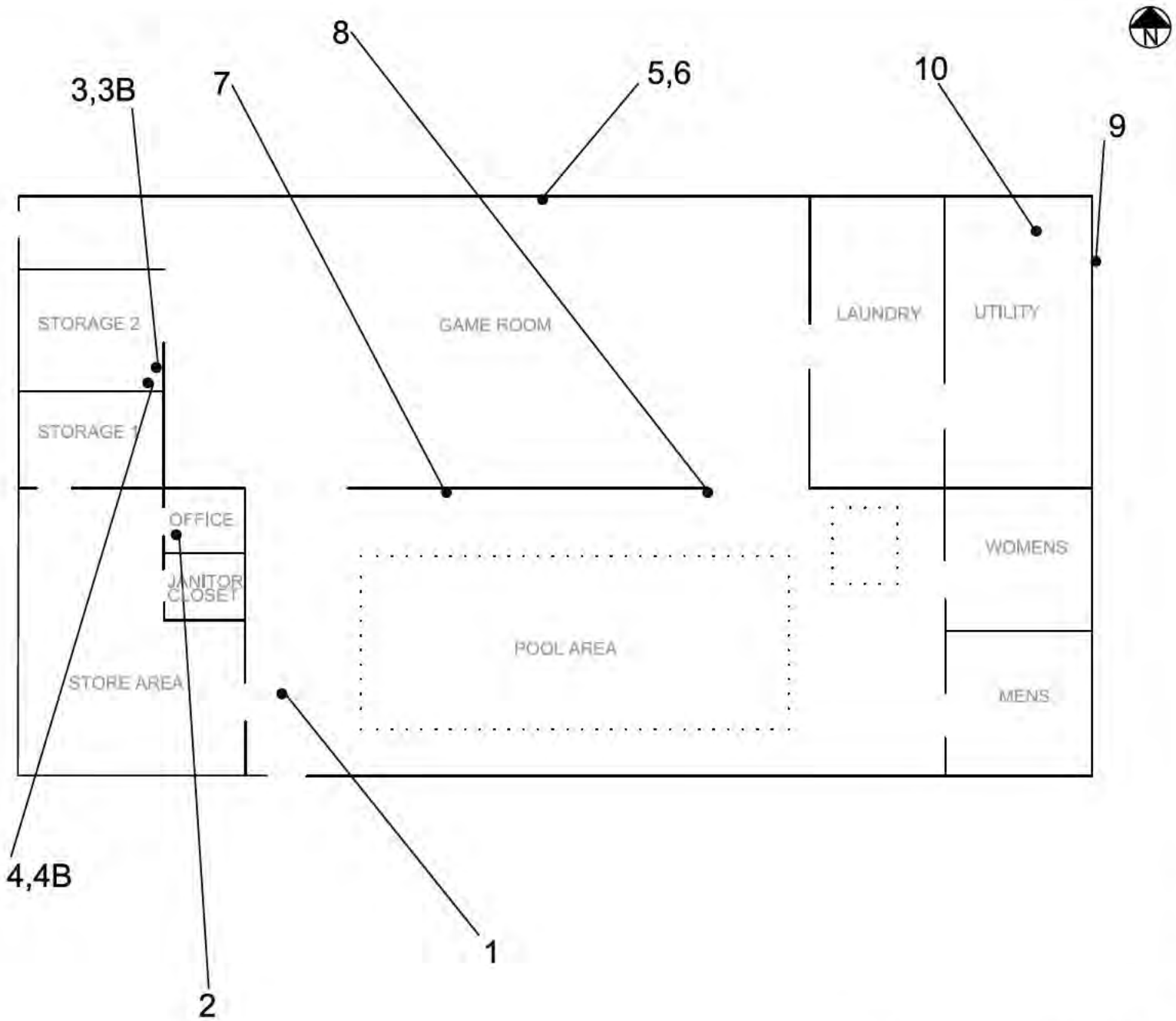


DIAGRAM #1

ASBESTOS SAMPLE AND MATERIAL LOCATIONS

● = Sample Location

Red Indicates asbestos containing material.

No asbestos containing materials were found in this building.

SITE: 1245/1251 BLUFF AVE. E.
SHAKOPEE, MN

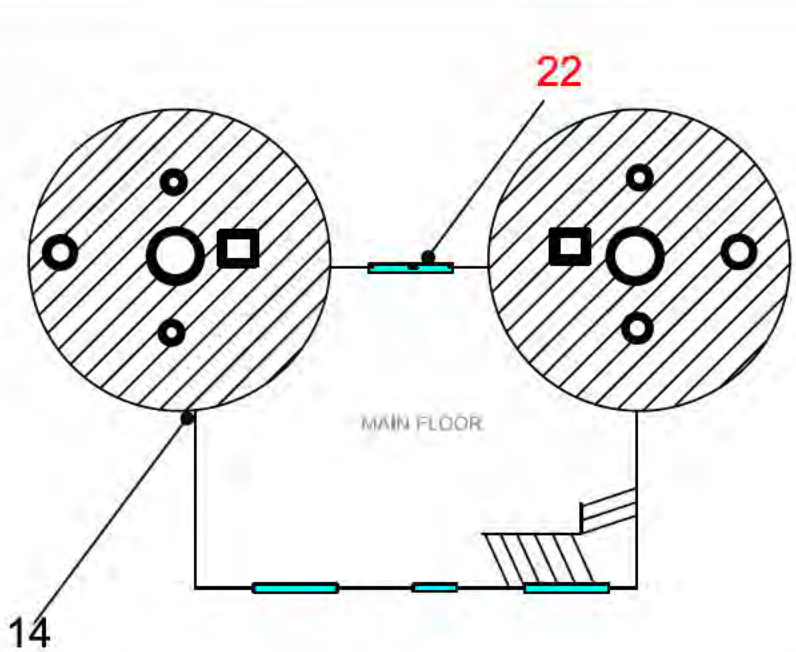
OFFICE/RECREATION BUILDING

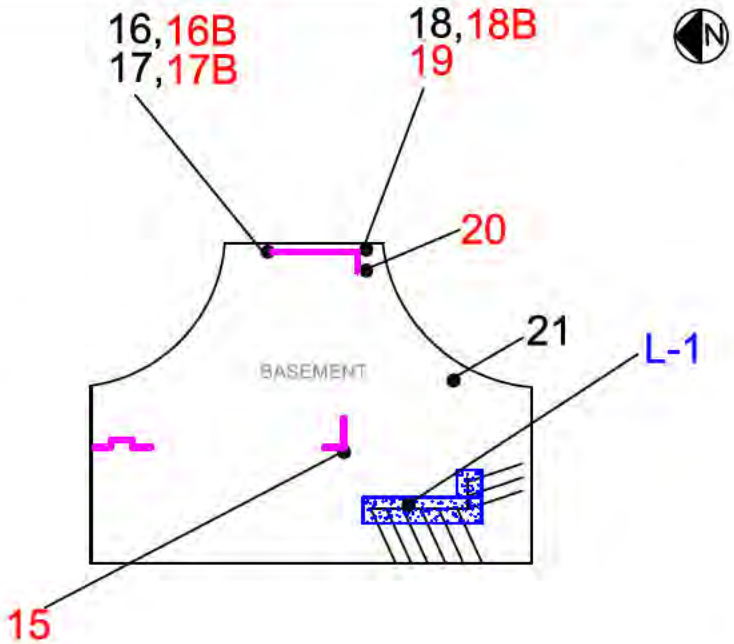
LEGEND No. 1604708

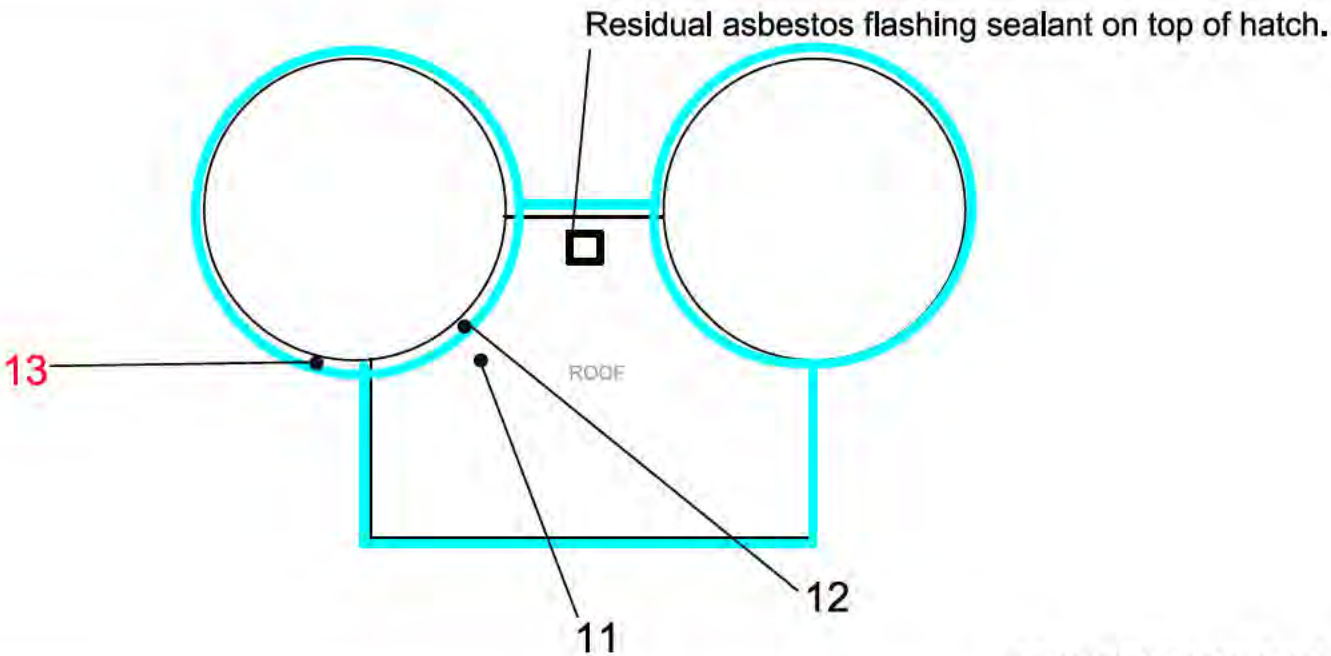
Prepared By:

LEGEND Technical Services, Inc.
www.legend-group.com
88 Empire Drive, St. Paul, MN 55103 Ph. 651.642.1150

DRAWINGS NOT TO SCALE







DRAWINGS NOT TO SCALE

DIAGRAM #2

ASBESTOS & LEAD PAINT SAMPLE AND MATERIAL LOCATIONS

● = Sample Location

Red Indicates asbestos containing material.
Blue Indicates lead-based painted component.

= Asbestos Containing Roofing Membrane/ Sealant on Tank/Digester Roofs

= Asbestos Containing Roof Flashing Sealant

= Asbestos Containing Pipe & Pipe Fitting Insulation

= Asbestos Containing Residual Door Frame Caulk, Window Frame Caulk & Window Glazing. Roof Ledge Underside Caulk Around Entire Perimeter of Building is Also Asbestos Containing.

= Red Lead-Based Paint on Metal Stair Railing

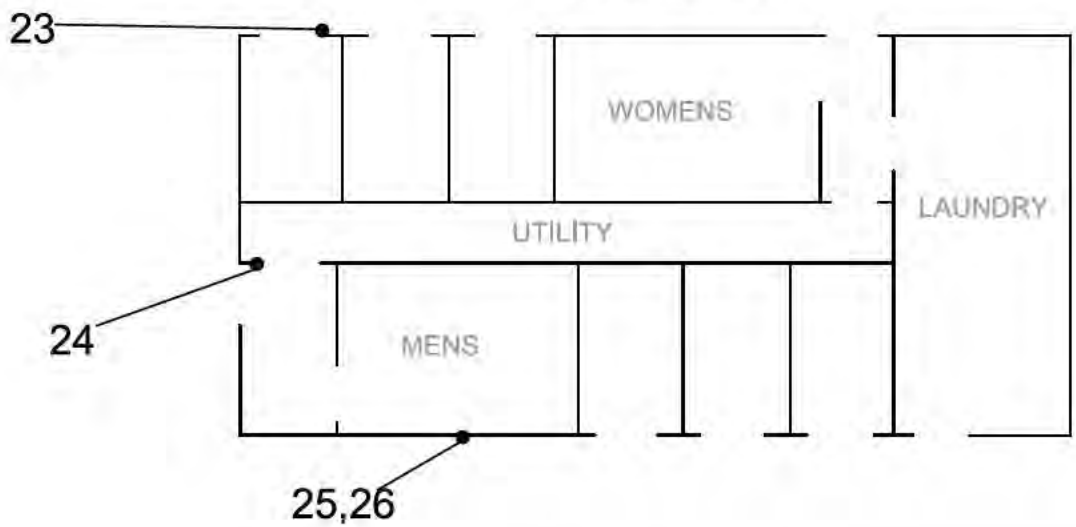
SITE: 1245/1251 BLUFF AVE. E.
SHAKOPEE, MN

WASTE WATER TREATMENT PLANT

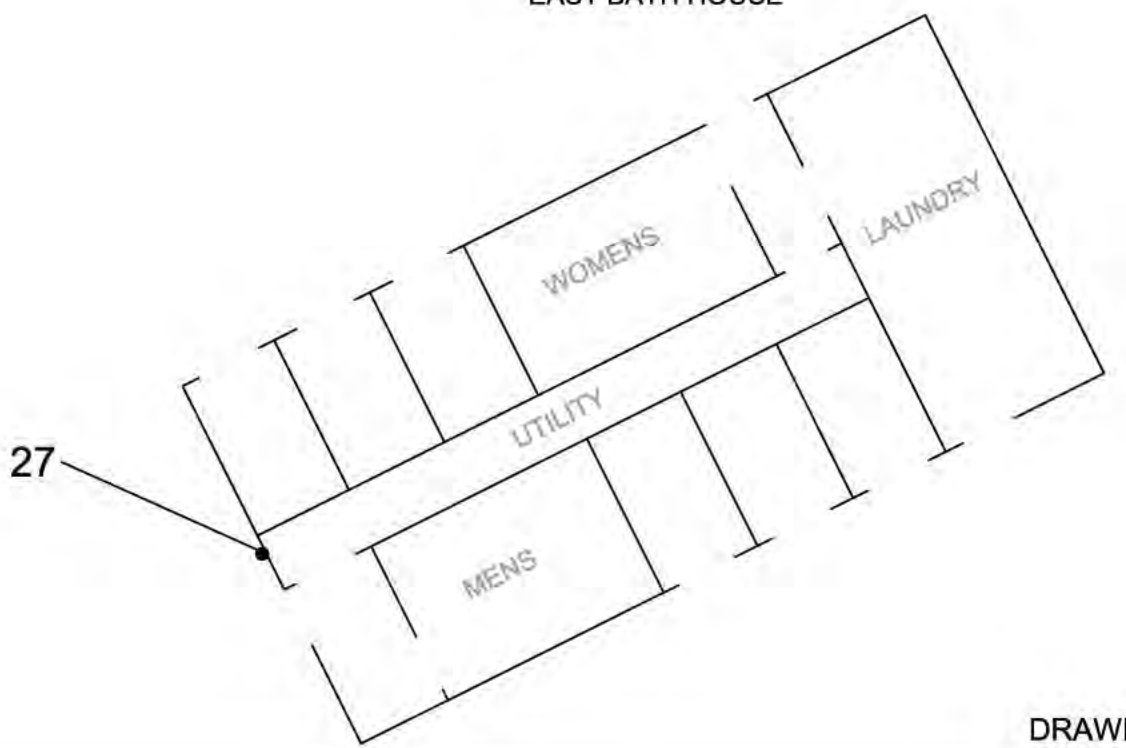
LEGEND No. 1604708

Prepared By:
LEGEND Technical Services, Inc.
www.legend-group.com
88 Empire Drive, St. Paul, MN 55103 Ph. 651.642.1150

WEST BATH HOUSE



EAST BATH HOUSE



DRAWINGS NOT TO SCALE

DIAGRAM #3

ASBESTOS SAMPLE AND MATERIAL LOCATIONS

● = Sample Location

Red Indicates asbestos containing material.

No asbestos containing materials were found in these buildings.

SITE: 1245/1251 BLUFF AVE. E.
SHAKOPEE, MN

BATH HOUSES

LEGEND No. 1604708

Prepared By:
LEGEND
Technical Services, Inc.
www.legend-group.com
88 Empire Drive, St. Paul, MN 55103 Ph. 651.642.1150

PHOTOGRAPHS

Photo 1 – Residual ACM Door Caulk (WWTP)

Photo 2 – Residual ACM Window Caulk & ACM Window Glazing Behind Wood Panel (WWTP)

Photo 3 – Residual ACM Underside Roof Ledge Caulking (WWTP)

Photo 4 – ACM Pipe Fitting Insulation on Fiberglass Straight-Run Insulation (WWTP)

Photo 5 – ACM Millboard Pipe Insulation and Pipe Fitting Insulation (WWTP)

Photo 6 – ACM Roof Field and Flashing Sealant (WWTP Tank/Digester Rooftops)

Photo 7 – ACM Residual Flashing Sealant (WWTP Rooftop)

Photo 8 – Red Lead-Based Paint on Metal Stair Railing (WWTP)

CERTIFICATIONS/ACCREDITATIONS

Certificate No: 5LM11031609IR

Expiration Date: November 3, 2017

This is to certify that

Nonresponsive – personally identifiable info

[redacted]

Nonresponsive – personally identifiable info

[redacted]

has attended and successfully completed an

ASBESTOS INSPECTOR
REFRESHER TRAINING COURSE

permitted by
the State of Minnesota under Minnesota Rules 4620.3702 to 4620.3722
and meets the requirements of
Section 206 of Title II of the Toxic Substances Control Act (TSCA)
conducted by

Lake States Environmental, Ltd.

in

White Bear Lake, MN on November 3, 2016
Examination Date: November 3, 2016

Lake States Environmental, Ltd
P. O. Box 645, Rice Lake, WI 54868
(800) 254-9811

Training Instructor

Certificate No: 5LM03021617PbRAR

Issue Date: March 2, 2016

This diploma is awarded to

Nonresponsive – personally identifiable info

Nonresponsive – personally identifiable info

Nonresponsive – personally identifiable info

[redacted]

for successfully completing and passing the examination for the

LEAD (Pb) RISK ASSESSOR REFRESHER TRAINING COURSE

This training course is Approved by the State of Minnesota under Minnesota Rules, parts 4761.2000 to 4761.2700 and meets the requirements of 40 CFR 745.225, and Title X of the Toxic Substances Control Act (TSCA) conducted by

Lake States Environmental, Ltd.

in

White Bear Lake, MN on March 2, 2016

Examination Date: March 2, 2016

Lake States Environmental, Ltd
P. O. Box 645, Rice Lake, WI 54868
(800) 254-9811

Bob Rogalla - Training Course Manager

United States Environmental Protection Agency

This is to certify that

Nonresponsive – personally identifiable info

[redacted]

Nonresponsive – personally identifiable info

[redacted]

Nonresponsive – personally identifiable info

[redacted]

led the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to co based paint activities pursuant to 40 CFR Part 745.226 as a:

Risk Assessor

In the Jurisdiction of:

Region 5 Tribal Lands

This certification is valid from the date of issuance and expires June 30, 2017

T5-R-16920-3

Certification #

JUNE 12, 2014

Issued On

Adrienne Priselac, Manager, Toxics Office

Land Division

Certificate of Achievement

This is to certify that

Nonresponsive – personally identifiable info

[redacted]

Legend Technical Services, Inc.

on the 7th day of December 2007 successfully completed the factory training for

RMD's LPA-1 Lead Paint Inspection System

including, but not limited to the topics of Radiation Safety, DOT Regulations, and the Proper Use of the Instrument.

Jacob Paster, Vice President, RMD
44 Hunt St., Watertown, Massachusetts

Nonresponsive – personally identifiable info

[redacted]

Certificate No: 5LM06081613IR

Expiration Date: June 8, 2017

This is to certify that

Nonresponsive – personally identifiable info

[redacted]

has attended and successfully completed an

ASBESTOS INSPECTOR
REFRESHER TRAINING COURSE

permitted by
the State of Minnesota under Minnesota Rules 4620.3702 to 4620.3722
and meets the requirements of
Section 206 of Title II of the Toxic Substances Control Act (TSCA)
conducted by

Lake States Environmental, Ltd.

in

White Bear Lake, MN on June 8, 2016
Examination Date: June 8, 2016

Lake States Environmental, Ltd
P. O. Box 645, Rice Lake, WI 54868
(800) 254-9811

Training Instructor

Institute of Hazardous Materials Management

This certifies that

Nonresponsive – personally identifiable info

[redacted]

has successfully met all the requirements of education, experience and examination, and is hereby designated a

Certified Hazardous Materials Manager®

April 2008	**14649**
Date of Certification	*Credential Number*
April 30, 2018	
Certification Expires	*Executive Director*

Valid so long as this credential is renewed according to schedule and is not otherwise revoked.

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 102081-0

Legend Technical Services, Inc.

St. Paul, MN

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2016-04-01 through 2017-03-31

Effective Dates

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Legend Technical Services, Inc.
88 Empire Drive
St. Paul, MN 55103
Ms. Cheryl Sykora
Phone: 651-221-4085 Fax: 651-642-1239
Email: csykora@legend-group.com
http://www.legend-group.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 102081-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA 600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

David E. Alderman

For the National Voluntary Laboratory Accreditation Program

Effective 2016-04-01 through 2017-03-31

MINNESOTA DEPARTMENT OF HEALTH

has authorized

LEGEND TECHNICAL SERVICES, INC.
88 EMPIRE DR
ST PAUL, MINNESOTA 55103

In accordance with Minnesota Statutes, section 144.9505 and Minnesota Rules, part 4761.2200, to practice in the State of Minnesota as a

CERTIFIED LEAD FIRM

Nonresponsive – personally identifiable info
[redacted]

EXPIRES: 12/07/2016

THIS CERTIFICATE IS NONTRANSFERABLE

MINNESOTA MDH DEPARTMENT OF HEALTH

Thomas P. Hogan, Director
Environmental Health Division

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

LEGEND Technical Services, Inc.

88 Empire Drive, St. Paul, MN 55103

Laboratory ID: 101095

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: 07/01/2017
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: 07/01/2017
☐	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires:
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Gerald R Schultz

Gerald Schultz, CIH
Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 14: 03/26/2014

Date Issued: 06/30/2015

AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

LEGEND Technical Services, Inc.
88 Empire Drive, St. Paul, MN 55103

Laboratory ID: **101095**
Issue Date: 06/30/2015

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 03/01/1998

IHLAP Scope Category	**Field of Testing (FoT)** (FoTs cover all relevant IH matrices)	**Technology sub-type/ Detector**	**Published Reference Method/Title of In-house Method**	**Method Description or Analyte** *(for internal methods only)*
Chromatography Core	GC/MS		EPA TO-15	
	Gas Chromatography (Diffusive Samplers)		NIOSH 1614	
Spectrometry Core	Inductively-Coupled Plasma	ICP/AES	EPA SW-846 6010C	
			NIOSH 7303	
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400A	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

LEGEND Technical Services, Inc.
88 Empire Drive, St. Paul, MN 55103

Laboratory ID: **101095**
Issue Date: 06/30/2015

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air analysis is not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 01/01/2002

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description *(for internal methods only)*
Paint		EPA SW-846 3050B	
		NIOSH 7300	
Soil		EPA SW-846 3050B	
		NIOSH 7300	
Settled Dust by Wipe		EPA SW-846 3050B	
		NIOSH 7300	
Airborne Dust		EPA SW-846 3050B	
		NIOSH 7300	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

PREVIOUS SAMPLING DATA

BLUFF AVENUE SITE

SHAKOPEE, MINNESOTA

SUMMARY OF ASBESTOS SAMPLES AND ANALYTICAL RESULTS

Sample Date	Sample ID	Material Description	Other Fibrous Non-Asbestos Content Total or Layer %	Asbestos Content Total or Layer %	Asbestos Material Location
05/16/16	1-1-01-gasket	Red rubbery w/paint	None Detected	None Detected	
05/16/16	1-door glazing	**Tan powdery compound with paint**	None Detected	**Chrysotile 3**	Perimeter of WWTP west service door
05/16/16	1-fire door	White fibrous	Glass Fibers 97	None Detected	
05/16/16	1-roof-1	Silver compound w/paint	None Detected	None Detected	
05/16/16	1-roof-2	Gray granular cementitious	None Detected	None Detected	
05/16/16	1-roof-3	**Black fibrous tarry**	Glass Fibers 2	**Chrysotile 5**	WWTP floating roof vent pipes sealant
05/16/16	1-roof-4	A-Black fibrous tarry B-White fibrous	A -Cellulose 40 A-Synthetic Fibers 2 B-Cellulose 5	A-None Detected B-Chrysotile 50	Roofing material covering both WWTP floating roofs
05/16/16	1-roof-5	**Black fibrous tarry**	None Detected	**Chrysotile 7**	WWTP roof 24-inch gas housing sealant
05/16/16	1-roof-6	Black rubbery	None Detected	None Detected	(WWTP roof gaskets black rubber)
05/16/16	1-roof-7	**Roofing material** **A-Gray fibrous** B-Black fibrous tarry	A-Glass Fibers 25 B-Cellulose 50	**A-Chrysotile 15** B-None Detected	WWTP roof manhole walls fabric covering
05/16/16	1-tank glazing	**White powdery compound with paint**	Fibrous Talc 5	**Chrysotile 5**	At vertical interfaces of central building and tanks and horizontal rims of tanks
05/16/16	1-window glazing	**White powdery compound with paint**	Fibrous Talc 3	**Chrysotile 5**	WWTP window glazing
05/16/16	2-1-01-floor	Linoleum: A-White vinyl B-White fibrous backing with adhesive	A-None Detected B-Cellulose 10/Glass Fibers 5	A-None Detected B-None Detected	

Sample Date	Sample ID	Material Description	Other Fibrous Non-Asbestos Content Total or Layer %	Asbestos Content Total or Layer %	Asbestos Material Location
05/16/16	2-1-01-spray-A	White granular texture	Cellulose<1	None Detected	
05/16/16	2-1-01-spray-B	White granular texture	Cellulose<1	None Detected	
05/16/16	2-1-01-spray-C	White granular texture	Cellulose<1	None Detected	
05/16/16	2-1-02-floor	Linoleum: A-Tan vinyl B-Tan fibrous backing	A-None Detected B-Glass Fibers 10	A-None Detected B-None Detected	
05/16/16	2-1-02-joint	White fibrous powdery	Glass Fibers 10	None Detected	
05/16/16	2-1-03-sponge-A	Sheetrock: A-White Powdery compound with Paint B-Brown/white paper C-White chalky	Cellulose 25 Glass Fibers 1 A-None Detected B-Cellulose 96 C-Cellulose 2 C-Glass Fibers 2	None Detected A-None Detected B-None Detected C-None Detected	
05/16/16	2-1-03-sponge-B	Sheetrock: A-White Powdery compound with Paint B-Brown/white paper C-White chalky	Cellulose 21 Glass Fibers 2 A-Cellulose 3 B-Cellulose 96 C-Cellulose 2 C-Glass Fibers 2	None Detected A-None Detected B-None Detected C-None Detected	
05/16/16	2-1-03-sponge-C	Sheetrock: A-White Powdery compound with Paint B-Brown/white paper C-White chalky	Cellulose 7 Glass Fibers 3 A-Cellulose 3 B-Cellulose 96 C-Cellulose 2 C-Glass Fibers 2	None Detected A-None Detected B-None Detected C-None Detected	
05/16/16	2-1-04-ceiling	Gray fibrous ceiling tile with paint	Cellulose 50 Glass Fibers 35	None Detected	

Sample Date	Sample ID	Material Description	Other Fibrous Non-Asbestos Content Total or Layer %	Asbestos Content Total or Layer %	Asbestos Material Location
05/16/16	2-1-04-floor	Linoleum: A-Tan Vinyl B-Gray fibrous backing	A-None Detected B-Cellulose 35 B-Glass Fibers 10	A-None Detected B-None Detected	
05/16/16	2-1-09-tile	Ceramic tile A-white/tan granular cementitious B-Gray rubbery C-Gray granular cementitious	A-None Detected B-None Detected C-Cellulose<1	A-None Detected B-None Detected C-None Detected	
05/16/16	2-1-11-tile-bottom	Ceramic tile A-Brown granular tile B-White/tan granular cementitious C-Tan adhesive	A-None Detected B-None Detected C-None Detected	A-None Detected B-None Detected C-None Detected	
05/16/16	2-1-11-tile-top	Ceramic tile A-Gray granular cementitious B-White granular cementitious C-Tan adhesive	A-None Detected B-None Detected C-None Detected	A-None Detected B-None Detected C-None Detected	
05/16/16	2-1-11-wall-A	White powdery compound with paint	Cellulose 3	None Detected	
05/16/16	2-1-06-wall-B	Sheetrock: A-White Powdery compound with Paint B-Brown/white paper C-White chalky	Cellulose 3 Glass Fibers 5 A-None Detected B-Cellulose 96 C-Glass Fibers 5	None Detected A-None Detected B-None Detected C-None Detected	

Sample Date	Sample ID	Material Description	Other Fibrous Non-Asbestos Content Total or Layer %	Asbestos Content Total or Layer %	Asbestos Material Location
05/16/16	2-1-01-wall-C	Sheetrock: A-White Powdery compound with Paint B-Brown/white paper C-White chalky	Cellulose 8 Glass Fibers 4 A-Cellulose 3 B-Cellulose 96 C-Glass Fibers 2	None Detected A-None Detected B-None Detected C-None Detected	
05/16/16	2-1-11-wall-D	White powdery compound with paint	Cellulose 3	None Detected	
05/16/16	2-1-06-wall-E	Sheetrock: A-White Powdery compound with Paint B-Brown/white paper C-White chalky	Cellulose 10 Glass Fibers 2 A-Glass Fibers 2 B-Cellulose 96 C-Glass Fibers 2	None Detected A-None Detected B-None Detected C-None Detected	
05/16/16	3-roof-brown	Black fibrous tarry with stones	Cellulose 50	None Detected	
05/16/16	3-roof-green	Black fibrous tarry with stones	Cellulose 50	None Detected	
05/16/16	1-center roof-1	**Roofing material**: A-Silver paint **B-black fibrous tarry**	A-None detected B-None detected	A-None detected **B-Chrysotile 5**	WWTP central building 16” x 16” roof vent sealant
05/16/16	1-center roof-2	White rubbery w/silver paint	None detected	None detected	WWTP central building flexible roof caulking