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March 24, 2017

RECEIVED

MAR 28 2017

SITE ASSESSMENT, REMEDIATION & REVITALIZATION

Ms. Carol Crooks

South Carolina Department of Health & Environmental Control

Bureau of Land and Waste Management

2600 Bull Street

Columbia, South Carolina 29201

Re: Supplemental Remedial Investigation (RI) Report Addendum (VCC Contract # 13-6078-RP; Itron Site, Greenwood County)

Dear Ms. Crooks:

Enclosed are two (2) copies of the Supplemental RI Report **Addendum** for the above referenced site prepared by URS/AECOM and one digital copy on a CD. We are pleased that with this report we have been able to implement the ***addendum work plan*** approved by SCDHEC (Letter dated December 06, 2016) and completely delineate the plume and address all of the comments in your November 07, 2016 letter following the RI report submitted in October 2015.

We await you approval to begin a Feasibility Study (FS) as was discussed while on site.

If you have any questions, do not hesitate to contact me at 510-844-2882 or email me at pad.kemmanahalli@Itron.com

Sincerely,

Pad Kemmanahalli

Corporate Senior Director HSE & Sustainability

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Endorsement Page

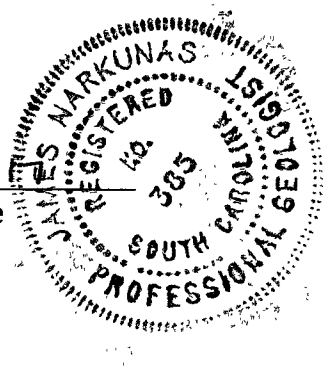
This Supplemental Remedial Investigation (SRI) Report Addendum was prepared under my direction or supervision in accordance with a system designed such that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

James Narkunas

3/24/17

James Narkunas, P.G.
SC License No. 385

Date



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List of Acronyms

bgs – below ground surface

cDCE – cis-1,2-Dichloroethene

COCs – chemicals of concern

DO – dissolved oxygen

EPA – Environmental Protection Agency

IDW – investigative derived waste

MCL – maximum contaminant level

ORP – oxidation reduction potential

PAHs – polynuclear aromatic hydrocarbons

PCE – tetrachloroethene

PID – photoionization detector

PSL – preliminary screening level

PVC – polyvinyl chloride

QA/QC – quality assurance/quality control

RBCA – risk-based corrective action

RBSL – risk-based screening level

RI – remedial investigation

RPVCC – responsible party voluntary cleanup contract

RSL – regional screening level

SCDHEC – South Carolina Department of Health and Environmental Control

SES – Shealy Environmental Services, Inc.

SRI – supplemental remedial investigation

TCE - trichloroethene

µg/L – micrograms per liter

UST – underground storage tank

VC – vinyl chloride

VOCs – volatile organic compounds

1.0 INTRODUCTION

1.1 Overview

This report serves as an addendum to the Supplemental Remediation Investigation (SRI) Report submitted by Itron, Inc. to the South Carolina Department of Health and Environmental Control (SCDHEC) in November 2015 (URS, 2015b) in regards to the facility located at 1310 Emerald Road in Greenwood, South Carolina, hereafter known as the "Site". The results from the field activities outlined in the Supplemental Work Plan for Continued Groundwater Investigation and Sampling, dated September 28, 2016 (URS, 2016a) and a follow-up Response to Comments letter, dated November 15, 2016 (URS, 2016b) are documented throughout this report. The Supplemental Work Plan and Response to Comments letter were approved by SCDHEC in a letter dated December 6, 2016.

Previous environmental investigations conducted at the Site between 2011 and 2012 (URS, 2012a, 2012b and 2012c) detected tetrachloroethene PCE and other hazardous substances in soil and groundwater at concentrations exceeding applicable screening levels. Due to the nature and extent of the contamination encountered, Itron and SCDHEC entered into a responsible party voluntary cleanup contract (RPVCC) - RPVCC 13-6078-RP, dated October 2, 2013, which required Itron to complete a Remedial Investigation (RI). Following entry into the RPVCC, Itron completed a RI Report (URS, 2014) documenting the investigation of soil and groundwater conditions on the Site in addition to a SRI Report (URS, 2015b) documenting the further delineation of horizontal and vertical impacts of chemicals of concern (COCs) in groundwater across the Site.

All previous reports and field work referenced in this report were completed by URS Corporation, which is now an affiliate of AECOM Technical Services, Inc. (AECOM). All work completed as part of this SRI Report Addendum has been conducted by AECOM.

1.2 Purpose of the Continued Groundwater Investigation and Sampling Activities

The primary objectives of the investigation were to:

- Investigate groundwater conditions with three temporary groundwater sampling

points at off-site locations east of monitoring well MW-20, in which PCE has been reported above the maximum contaminant level MCL;

- Install a permanent monitoring well at the off-site location east of monitoring well MW-20 for inclusion in the monitoring well network; and
- Sample an approved list of monitoring wells to assess the current distribution of COCs in groundwater at the Site.

This SRI Report Addendum presents the results of the additional groundwater investigation and sampling in combination with the relevant data obtained during previous investigations. In response to a comment received from SCDHEC, this report includes a revised Figure 13 from the Supplemental Remedial Investigation Report to include analytical results from intermediate well MW-10I.

1.3 Report Organization

The remainder of this report is organized as follows:

Section 2 summarizes the Site background including site description, and summaries of the site history and previous investigations.

Section 3 describes the methods and procedures used during the SRI field activities.

Section 4 presents a brief overview of the site geology and hydrogeology.

Section 5 describes the nature and extent of contamination identified on the Site. Applicable screening criteria for groundwater are documented and compared to concentrations of various COCs identified in groundwater at the Site.

Section 6 includes the conclusions developed based on the data obtained during the SRI and previous investigations.

Section 7 includes references utilized in preparing this report.

Tables and figures are included in separate sections following Section 7. Eleven appendices (A through K) follow the tables and figures and provide supporting information.

2.0 SITE BACKGROUND

2.1 Site Description

The Site currently consists of a 130,000 square-foot building (the "Building") on a 24.04-acre parcel of property located at 1310 Emerald Road, Greenwood, South Carolina. The facility manufactures flow meters for industrial and municipal uses. As part of the manufacturing process, the facility stores pre-formed brass, stainless steel, steel and aluminum parts on site. Additional materials manufactured at the facility include electronic circuit boards, wiring, casings and other smaller components. Features at the Site include office space, a parking area, production areas, loading docks, an oil-water separator, a maintenance shop and shipping and receiving areas.

2.2 Site History

Prior to 1972, the Site was reportedly used for agricultural purposes. The current Building was constructed in 1972 for flow meter manufacturing by Neptune Carolina, Inc. In April 1972, Neptune Carolina, Inc. transferred ownership of the property to Greenwood County. While the property was owned by Greenwood County for nearly 30 years, flow meter manufacturing continued under the operation of Allied Signal, Wheelabrator Frye and Schlumberger Industries. In September 2001, the ownership of the property reverted from Greenwood County to Schlumberger Industries. Schlumberger transferred ownership of the Site to Actaris U.S. Liquid Measurement on October 26, 2001. Itron, Inc. acquired Actaris in 2008. In 2012, Itron sold the operations at the facility (i.e., Itron's Liquid Measurement Business) to Measurement Technology Group, Inc., which is now doing business at the facility as Red Seal Measurement. Itron is currently leasing the facility to Red Seal Measurement, and retained ownership of the Building and the property.

2.3 Previous Investigations

An overview of the scope of work completed during previous phases of investigations at the Site is summarized in Table 1. The current understanding of contaminant nature and extent is briefly summarized below.

The collective results of previous investigations have indicated the presence of three potential source areas including the steel sump area located on the southeast side of the Building, the cardboard storage room area located east of the Building, and an area near the northeast corner of the Building where four underground storage tanks (USTs) and a gasoline dispenser were formerly located (see Figure 1). PCE is the primary COC at the Site while lower concentrations of degradation products [i.e., TCE and cis-1,2-dichloroethene (cDCE)] were also detected. PCE exceeded the preliminary screening level (PSL) in soil and groundwater samples collected from all three source areas, with the highest concentrations being detected in the vicinity of the steel sump and cardboard storage room areas. Although ancillary in nature compared to the PCE reported to be present, petroleum hydrocarbons and polynuclear aromatic hydrocarbons (PAHs) were also detected.

Groundwater samples collected from 27 groundwater monitoring wells during SRI activities in July 2015, indicated that PCE concentrations in 14 of the sampled wells exceeded the maximum contaminant level (MCL) of 5 micrograms per liter (µg/L). The highest PCE concentration (100,000 µg/L) was detected in a sample from well MW-7 which is located in the steel sump area. Impacts in the shallow groundwater extend at least 500 feet downgradient of the source area. The orientation of the plume in the shallow regolith is generally consistent with the easterly and southeasterly flow of groundwater across the Site. Sample results in the five deeper wells were several orders of magnitude lower than at the shallow wells, most likely due to the low permeability of soils and upward hydraulic gradients at some locations.

3.0 SUPPLEMENTAL REMEDIAL INVESTIGATION FIELD ACTIVITIES

This section describes field activities that were implemented during the latest round of fieldwork conducted at the site in January and February 2017. A chronological summary of the activities is provided in Table 2. The activities were performed according to the technical approach described in the Supplemental Work Plan for Continued Groundwater Investigation and Sampling (URS, 2016a) and the methods and procedures described in the RI Work Plan (URS, 2013a). Additionally, a Response to Comments letter dated November 18, 2016 was submitted to SCDHEC describing the planned utilization of Color-Tec® as a field screening method during the investigation of groundwater quality at an off-site location east of monitoring well MW-20.

As previously mentioned, the Supplemental Work Plan was approved by SCDHEC on December 6, 2016. Field activities also conformed to the procedures discussed in the Site Health and Safety Plan (URS, 2013b). Photographs of field activities are included in Appendix A. No significant deviations from the plan were made during the SRI.

Prior to the commencement of field work, Itron received approval from SCDHEC to install three temporary groundwater sampling points and one permanent groundwater monitoring well on the off-site property mentioned above. Itron and AECOM successfully negotiated an access agreement with an adjacent property owner to conduct the groundwater investigation. The monitoring well approval and signed access agreement are included in Appendix B**.**

For all phases of field activities, sampling and screening equipment were calibrated according to the manufacturer's instructions prior to use each day, and throughout the day as necessary. In addition, non-disposable equipment was decontaminated with a Liquinox® soap solution and rinsed with distilled water before use at each sampling point or location. Drilling tools were first cleaned by scrubbing to remove the larger amounts of soil residues followed by the application of heated wash-water through a high pressure jet.

3.1 Groundwater Assessment Utilizing Direct-Push Technology and Color-Tec®

AECOM retained Geologic Exploration a licensed well drilling contractor from Statesville, North Carolina to utilize a Geoprobe® (direct-push technology) to assess groundwater conditions on the off-site property. Three borings (SGWI-1, SGWI-2 and SGWI-3) were advanced on January 18 and 19, 2017 to depths of 65 feet, 65 feet and 70 feet below ground surface (bgs), respectively. The locations of the temporary groundwater sampling points are depicted on Figure 1. Groundwater samples were collected at five-foot intervals beginning at the water table, which was encountered at approximately 40 to 45 feet bgs at SGWI-1 and 35 to 40 feet bgs at SGWI-2 and SGWI-3. The groundwater samples at each 5-foot interval were field screened using Color-Tec® as requested by SCDHEC in a letter dated November 7, 2016. No detections of chlorinated solvents were noted during the field screening process. A groundwater Color-Tec® data form and the Color-Tec® Method Procedures Manual, which was utilized during field work are included in Appendix C. As a measure to confirm the Color-Tec® data, a groundwater sample from each 5-foot interval was submitted to Shealy Environmental Services, Inc. (SES) for analysis of volatile organic compounds (VOCs) by EPA Method 8260B. The SCDHEC water well records (Form 1903) for the temporary wells are included in Appendix D. The analytical laboratory report and a data assessment report for the temporary sampling points are included in Appendix E.

3.2 RotoSonic Drilling, Soil Sampling and Monitoring Well Installation

AECOM also retained Geologic Exploration to install intermediate monitoring well MW-23 using a track-mounted rotosonic drilling rig. The well, which was co-located with SGWI-2 following consensus with SCDHEC, was installed on February 1, 2017. Monitoring well locations are shown on Figure 1 and the monitoring well approval is included in Appendix B.

During drilling, soil was collected for field screening purposes and potential chemical analysis. The drill core was continuously logged to select the more permeable units for well screen placement and the soil was screened for VOCs using a photo-ionization detector

(PID). Soil descriptions and PID screening results are included on the monitoring well boring log. The boring log and the water well record for MW-23 are included in Appendix F.

Upon reaching the target drilling depth, as determined from the lithology encountered, a two-inch diameter polyvinyl chloride (PVC) monitoring well was installed. Construction information for the new well and the pre-existing wells is summarized in Table 3. It was predetermined this well would be screened in the intermediate zone of the regolith, similar to well MW-20 due to the concentration of PCE (380 µ/L) detected at the well in July 2015. As the lithology was characterized during the drilling process, the depth interval closest to that of MW-20 that had high sand content was selected for the screened interval of the well.

Subsequently, the location and measuring point elevation of the monitoring well were determined by a licensed surveyor. The locations of all monitoring wells are depicted on Figure 1 and the surveyor's data points for the newly installed well in addition to the temporary groundwater sampling points are included in Appendix G.

3.2 Monitoring Well Development

Monitoring well MW-23 was developed on February 2, 2017 by alternately pumping and surging the well. Development continued until the pump discharge was clear or until further improvement in the turbidity of the discharge water was no longer feasible. Due to the apparently low permeability of the soil across the screened interval, MW-23 pumped dry numerous times during the development process. Consequently, turbidity did not improve during the development, and the well did not produce a large amount of water. Groundwater quality parameters including pH, oxidation-reduction potential (ORP), specific conductivity, dissolved oxygen (DO), temperature and turbidity were measured and recorded on the well development log that is included in Appendix H.

3.3 Groundwater Monitoring

Groundwater monitoring was performed on February 7-9, 2017 and included collecting water samples from 17 monitoring wells MW-1, MW-2, MW-5D, MW-6, MW-7, MW-9, MW-10R, MW-10I, MW-11, MW-12, MW-15R, MW-17, MW-19, MW-20, MW-21, MW-22D and

the newly installed MW-23. The monitoring well locations are shown on Figure 1 and monitoring well construction details are summarized in Table 3. Prior to sample collection, water levels in all Site monitoring wells were measured with an electronic water level meter. Water levels measured in all Site wells on February 7, 2017 are summarized in Table 4.

In preparing for sampling, wells were purged following low-flow/minimal drawdown sampling procedures. A low-flow submersible pump fitted with new polyethylene tubing was utilized. The pump discharged to an in-line water quality meter that monitored field parameters until they stabilized indicating that sampling could commence. Groundwater sampling logs are included in Appendix I. Prior to collection of the samples, the dedicated tubing for each well was disconnected from the water quality meter. Samples were then collected in preserved, laboratory-provided bottles, labeled with unique sample identifiers, logged on a chain-of-custody record and stored on wet ice in a cooler until transported to SES. All groundwater samples were analyzed for VOCs by EPA Method 8260B.

3.4 Investigative Derived Waste (IDW) Management

Field activities conducted as part of the SRI resulted in the generation of IDW in the form of soil cuttings, decontamination fluids, monitoring well development and purge waters. All IDW was stored in 55-gallon drums, labeled with a “pending analysis” label including date of generation, generator name, monitoring well numbers, type of media and contact information for AECOM. All drums were staged at a designated location on site. A total of 3 drums (1 soil and 2 liquid) will be removed from the Site by a licensed transporter and disposed of offsite at permitted disposal facilities as hazardous waste. The waste manifests will be provided when available for inclusion in Appendix J.

4.0 SITE GEOLOGY AND HYDROGEOLOGY

Geological and hydrogeological conditions at the Site were previously described in detail in the RI Report (URS, 2014) and the SRI Report (URS, 2015b). The descriptions were based on borings and wells drilled during the RI and SRI as well as those drilled during earlier investigations. During the installation of well MW-23, the lithology of the borehole was characterized for comparison to conditions observed during the previous investigations. The boring log is included in Appendix F.

Geologic cross sections A-A' through D-D' were prepared following the completion of the RI and are included in the RI report and geologic cross sections E-E' through J-J' were prepared following the completion of the SRI and are included in the SRI report.

The location of the geologic cross-section line (K-K') prepared for this SRI Addendum is shown on Figure 2. The cross section shows the generalized lithology between monitoring wells MW-12, MW-20 and the newly installed well MW-23, which are all characterized as being screened within the intermediate regolith at the Site, on Figure 3.

As seen in Table 2, the water table is generally between 17 and 39 feet below land surface. Potentiometric surface contour maps based on February 7, 2017 depth-to-water measurements are depicted on Figures 4, 5 and 6, and illustrate the potentiometric surface in the upper , intermediate and lower parts of the regolith, respectively. Each map shows that groundwater flow across the Site is primarily to the east and southeast. The water-level contours also suggest a flow component toward the east in the area north of monitoring well MW-7. This interpretation is in general agreement with historical interpretations of groundwater flow. However, as discussed in the RI report, PCE migration also exhibits a southerly component suggesting that the actual groundwater flow direction may vary from that interpreted from the water-level measurements.

5.0 NATURE AND EXTENT OF CONTAMINATION

In past reports, the nature and extent of contamination detected in soil and groundwater at the Site has been described in detail. Groundwater screening criteria is revisited in this section and the groundwater sampling results from the most recent sampling event in February 2017 are discussed as well.

5.1 Groundwater Screening Levels

The screening levels for groundwater are based on the EPA's MCLs, which are based on National Primary Drinking Water Standards (EPA, 2016) and the RBSLs, established by SCDHEC and listed in the risk-based corrective action (RBCA) guidance document (SCDHEC, 2001). Based on a comparison of the groundwater analytical results to the MCLs and RBSLs, the following COCs have been identified in groundwater at the Site:

- PCE
- TCE
- cDCE
- Benzene
- Naphthalene
- 1,2-Dichloropropane
- Vinyl Chloride

5.2 Groundwater Results

For this SRI Report Addendum, groundwater samples were collected from monitoring wells MW-1, MW-2, MW-5D, MW-6, MW-7, MW-9, MW-10R, MW-10I, MW-11, MW-12, MW-15R, MW-17, MW-19, MW-20, MW-21, MW-22D and the newly installed MW-23. All samples were analyzed for VOCs per EPA Method 8260B. Groundwater analytical results are summarized in Table 5 and on Figures 7, 8 and 9. Groundwater results on the figures are broken out into the upper, intermediate and lower portions of the regolith. Field and QA/QC samples submitted for fixed laboratory chemical analysis, the specific analyses

requested, and the analytical methods used are identified in a data assessment report. The data assessment report and the analytical data report for the permanent wells identified above are included in Appendix K.

VOCs were detected in 11 of the 17 groundwater monitoring wells sampled. Detected compounds included PCE, TCE and cDCE. Results exceeding the MCL and RBSL per each zone of the regolith are listed below:

Upper Regolith:

- Concentrations of PCE exceeding the EPA MCL of 5 µg/l were detected in wells MW-6 (8,700 µg/L), MW-7 (91,000 µg/L), MW-10R (5,900 µg/L), MW-17 (380 µg/L) and MW-21 (9.2 µg/L).
- The TCE concentrations in monitoring wells MW-1 (14 µg/L) and MW-2 (17 µg/L) exceeded the MCL of 5 µg/L.

Intermediate Regolith:

- Concentrations of PCE exceeding the EPA MCL of 5 µg/l were detected in wells MW-10I (19,000 µg /L), MW-12 (6,300 µg/L), MW-17 and MW-20 (590 µg/L).

Lower Regolith:

- The cDCE concentrations in monitoring well MW-5D (88 µg/L) exceeded the MCL of 70 µg/L.

Concentrations of the COCs appear to decrease with depth across the Site and the isoconcentration contours suggest contamination is still confined within the property boundaries below the applicable screening levels.

6.0 CONCLUSIONS

Presented below are conclusions based on an evaluation of data collected during previous investigations and the recently conducted SRI field activities.

Groundwater analytical data indicates that the MCL of 5 µg/L for PCE was exceeded in 8 of the 17 groundwater monitoring wells sampled during recent SRI field activities in February 2017. PCE degradation products including TCE, cDCE were detected at concentrations exceeding MCLs in 3 of the 17 wells.

The steel sump source area had the most significant impact of PCE in the upper regolith with a concentration of 91,000 µg/L at MW-7. Nearby well MW-6 had a PCE concentration of 8,700 µg/L. Monitoring wells MW-10I and MW-10R , both located more than 400 feet south of the steel sump area, had PCE concentrations of 19,000 µg/L, and 5,900 µg/L, respectively. PCE was not detected above the reporting limit in well MW-15R, located near the south property boundary of the Site and PCE was not detected above the reporting limit in well MW-19 near the southwest corner of the Site, indicating the plume is well defined in this direction. The western edge of the PCE plume also appears to be well defined with detections in wells MW-11 and MW-18 below the MCL and a PCE detection of 9.2 µg/L in well MW-21, which is slightly above the MCL for the constituent.

Based on the detected PCE concentrations in monitoring wells MW-5 (July 2015), MW-12 and MW-20 of 4,000 µg/L, 6,300 µg/L and 590 µg/L, respectively, the impacts in the upper and intermediate zones are migrating from the cardboard storage room area and potentially the steel sump source area toward the east property boundary. Monitoring well MW-20 is located approximately 50 feet from the east property boundary. Analytical results from newly installed monitoring well MW-23 indicated no VOCs were detected.. Well MW-23 is located off-site and approximately 100 feet downgradient of MW-20. Monitoring well MW-17, located beneath the Building on the Site had a PCE concentration of 380 µg/L, which is likely attributable to releases at the cardboard storage room source area.

Based on groundwater data collected from the five lower-regolith monitoring wells in July 2015 and February 2017, PCE impacts are primarily confined to the wells screened in the upper and intermediate zones of the regolith. Monitoring well MW-16D, located approximately 150 feet south of the steel sump source area, had a PCE concentration of 30 µg/L in July 2015, which exceeded the MCL. Monitoring well MW-5D had a detection of cDCE at 88 µg/L during the February 2017 sampling event and MW-9D and MW-10D had slight detections of PCE below the MCL as reported in July 2015. And finally, PCE was not detected above the reporting limit in well MW-22D in February 2017.

7.0 REFERENCES

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US EPA (Environmental Protection Agency), 2016. *Region IV Regional Screening Level (RSL) Table*. November.

Tables

Table 1 - Previous Investigations

Itron, Inc.,
Greenwood, South Carolina

Previous Investigation	Date	Investigation Activities and Qualitative Results
Phase I Environmental Site Assessment (ESA)	December 2011	A Phase I ESA was performed to identify Recognized Environmental Conditions (RECs). The ESA included a reconnaissance of the site, a drive-by survey of the surrounding area, review of company records and publicly available information, and interviews with plant personnel and representatives of regulatory and other public agencies. URS reviewed information in the radius map report provided by Environmental Data Resources (EDR), a previous Phase I ESA conducted by URS France in 2007, an underground storage tank (UST) removal report from Jones & Frank of Greenville, South Carolina documenting removal of four (4) USTs in September 1987 and a hazardous material spill incident report from Actaris US Liquid Measurement from January 31, 2004. <u>Three RECs were identified:</u> 1) Four former petroleum USTs that were removed from the northeast side of the on-site building (Building) in 1987. 2) An oil-water separator (OWS) and associated piping located near the southwest corner of the plant building. 3) An area near the paint booth where facility personnel reportedly used tetrachloroethene (PCE) to clean paint guns in 1978. Based on these findings, a Phase II ESA was recommended. <u>Four Historic RECs were identified:</u> 1) Leaking Underground Storage Tank (LUST) incident reported August 28, 2009. 2) A 10-gallon waste oil/coolant release on July 17, 1992. 3) A spill of approximately 13 gallons of mineral spirits outside the test room on the east side of the building on April 29, 2009. 4) A spill of approximately 5,162 gallons of mineral spirits 66 in a test room on site on January 31, 2004. The Historic RECs appeared to have all been resolved with the appropriate agencies.

Table 1 - Previous Investigations

Itron, Inc.,
Greenwood, South Carolina

Previous Investigation	Date	Investigation Activities and Qualitative Results
Phase II Environmental Site Assessment	January 2012	A Phase II ESA was performed to address the RECs identified during the Phase I ESA to determine if soil and groundwater had been affected by historic activities at the site. The Phase II ESA included collecting 19 soil samples from 11 borings and collecting groundwater samples from nine temporary monitoring wells. PCE was detected in soil and groundwater along the eastern, southeastern and northeastern sides of the Building. Trichloroethene (TCE) and cis-1,2-dichloroethene (cDCE), degradation products of PCE, were also detected in the soil at concentrations exceeding preliminary screening levels. Benzene and naphthalene were detected in soil and/or groundwater near the former location of the USTs at concentrations exceeding preliminary screening levels. No impacts to soil and groundwater were detected near the OWS. Based on the results on the southeastern, eastern and northeastern sides of the plant building, further assessment of soil and groundwater was recommended.
Soil & Groundwater Site Assessment	March – April 2012	Soil and groundwater were sampled to assess the sources and extent of PCE in soil and shallow groundwater. The assessment included screening soil and groundwater with a membrane interface probe (MIP), drilling soil borings, installing monitoring wells, and collecting and analyzing soil and groundwater samples. Eleven soil borings were advanced and 23 soil samples were collected. Eleven monitoring wells were installed and sampled. Two potential source areas of PCE were identified: one along the northeast side of the plant building near boring SB-3 and the other near the steel sump located on the southeast side of the plant building. PCE in groundwater was found to extend at least 400 feet southeast of the suspected source areas. In addition, benzene was detected in groundwater along the northeast side of plant building at concentrations exceeding preliminary screening levels. Based on the results, further characterization was recommended.
Indoor Air Quality Investigation	March – April 2012	Indoor air quality samples were collected from the plant building during closed door and open door testing events. PCE and TCE exceeded screening levels at one location during the closed door test. No screening levels were exceeded during the open door test. Subsequent testing was performed by fitting employees with individual sampling devices. Based on these results, no further measures related to indoor air quality were considered necessary.
Groundwater Sampling	August 2012	Groundwater samples were collected from the 11 monitoring wells to confirm the results of sampling performed in April 2012. Results were comparable with PCE, cDCE, and benzene being reported at concentrations above preliminary screening levels.

Table 1 - Previous Investigations

Itron, Inc.,
Greenwood, South Carolina

Previous Investigation	Date	Investigation Activities and Qualitative Results
Remedial Investigation (RI)	March – July 2014	The Remedial Investigation (RI) included the advancement of soil borings located within and adjacent to the Building and near a debris pile located in a wooded area east of the Building, installation of shallow and deep groundwater monitoring wells and investigation of a suspected drain line associated with a steel sump on the south side of the Building. Soil and/or groundwater samples were collected from 41 soil borings, 7 shallow monitoring wells and 4 deep monitoring wells. Groundwater samples were also collected from 11 existing shallow monitoring wells. The drain line investigation was terminated when it was determined there was no drain line connected to the steel sump. The collective results of the previous investigations and the RI indicate the presence of three potential source areas including the steel sump area located near the southeast corner of the Building, the cardboard storage room area located east of the Building, and an area near the northeast corner of the Building where four USTs and a gasoline dispenser were formerly located. Results for soil samples collected beneath the Building and near the debris pile located east of the Building indicate that these areas are not significant sources. PCE is the primary chemical of concern (COC) at the Site while lower concentrations of degradation products (i.e., TCE and cDCE) were also detected. PCE exceeded preliminary screening levels (PSLs) in soil and groundwater samples collected from all three source areas, with the highest concentrations being detected in the vicinity of the steel sump and cardboard storage room areas. Field screening of soil samples using hydrophobic dye and gauging of wells with the highest concentrations of PCE with an interface probe did not detect dense non-aqueous phase liquid (DNAPL) at the Site. Petroleum hydrocarbons and polynuclear aromatic hydrocarbons (PAHs) were also detected at the Site. Benzene, naphthalene, ethylbenzene, xylenes, benzo(a)pyrene, and benzo(b)fluoranthene exceeded PSLs in soil and/or groundwater samples collected in the vicinity of the former UST and gasoline dispenser and cardboard storage room areas.

Table 1 - Previous Investigations

Itron, Inc.,
Greenwood, South Carolina

Previous Investigation	Date	Investigation Activities and Qualitative Results
Supplemental Remedial Investigation (SRI)	July 2015 – November 2015	The SRI included the installation of seven monitoring wells to further assess the distribution of COCs in groundwater at the site. Wells MW-19, MW-20, and MW-21 were installed to assess the horizontal distribution of PCE in groundwater near the property line, south, west, and east of the source areas, respectively. Intermediate depth well MW-10I was clustered with MW-10R and MW-10D to assess the groundwater chemistry in the interval between MW-10R and MW-10D. Deep monitoring well MW-22D was installed to assess the vertical distribution of PCE near the east property boundary of the Site. In addition, monitoring well MW-10R was installed to replace well MW-10, which was constructed differently than the other wells, and monitoring well MW-15R was installed to replace MW-15, which was determined to be too shallow. Other field activities conducted during the SRI included collecting groundwater samples from 27 monitoring wells and analyzing them for volatile organic compounds (VOCs). Futhermore, the groundwater sample collected from monitoring well MW-3 was also analyzed for polynuclear aromatic hydrocarbons (PAHs) due to past detections of naphthalene at concentrations above the PSL. Relatively low concentrations of PCE detected in the shallow downgradient wells, south and west of the source areas, indicated PCE had not migrated off-site in the upper regolith. PCE (360 µg/L) was detected in newly installed monitoring well MW-20, located near the east property boundary, at an intermediate depth within the regolith, which suggested offsite migration of COCs may have occurred in this case. PCE concentrations are significantly lower in the deeper portion of the regolith. Concentrations in the deeper wells were below the MCL for PCE with the exception of well MW-16D, which exhibited a PCE concentration of 30 µg/L.

Table 2
Chronological Summary of Continued Groundwater Investigation and Sampling

Itron, Inc.,
Greenwood, South Carolina

Date	Task	Purpose
1/18/17	Located underground utilities in the vicinity of all proposed drilling locations.	Prevent damage to underground utilities and avoid injury to personnel working onsite.
1/18/17 - 1/19/17	A Geoprobe® (direct-push technology) advanced three borings (SGWI-1, SGWI-2, and SGWI-3) to an approximate depth of 70 feet below ground surface (bgs). Groundwater samples were collected from varying intervals and analyzed for volatile organic compounds (VOCs) by EPA Method 8260B.	To assist with selecting an appropriate location and screen depth for a permanent monitoring well east of monitoring well MW-20.
2/1/17	Installed intermediate depth monitoring well MW-23, using a sonic drill rig. Containerize soil cuttings and water/fluids generated during the drilling process.	Classify soils, assess hydrogeologic conditions and further delineate the nature and extent of contaminants at the site.
2/2/17	Develop monitoring well 23.	Remove a sufficient amount of water to flush the filter pack and enhance groundwater flow into the well.
2/7/17 – 2/8/17	Measure water levels and collect groundwater samples from monitoring wells (MW-1, MW-2, MW-5D, MW-6, MW-7, MW-10R, MW-10I, MW-11, MW-12, MW-15R, MW-17, MW-19, MW-20, MW-21, MW-22D, and MW-23).	Obtain data to prepare potentiometric surface contour maps and determine latest groundwater quality conditions across the site.
2/8/17	Surveyed newly installed monitoring well MW-23.	Determine top of casing and ground surface elevations and horizontal coordinates for newly installed monitoring well MW-23
Pending	Three drums of IDW (one drum of soil cuttings and two drums of purge water, development water, and decontamination fluids) are staged onsite and awaiting transport for disposal.	Document proper disposal of IDW generated during continued groundwater investigation and sampling.

Table 3
Groundwater Monitoring Well Construction Details

Itron, Inc.
Greenwood, South Carolina

Monitoring Well	Well Diameter	Depth of Well	Screen Length	Screen Interval	Stratagraphic Unit	Top of Well Casing Elevation	Ground Surface Elevation	Screen Interval Elevation	Coordinates	
	inches	feet bgs	feet	feet bgs		feet above msl	feet above msl	feet above msl	Northing	Easting
MW-1	2	31.5	10	21.5 - 31.5	Shallow Regolith	557.74	558.15	526.6 - 536.6	869224.644	1667988.237
MW-2	2	34.8	10	24.8 - 34.8	Shallow Regolith	562.30	562.62	527.8 - 537.8	869207.038	1668204.679
MW-3	2	47.0	10	37.0 - 47.0	Shallow Regolith	561.84	562.14	515.1 - 525.1	869104.002	1668261.237
MW-4	2	46.8	10	36.8 - 46.8	Shallow Regolith	558.86	555.46	508.6 - 518.6	868958.364	1668477.977
MW-5	2	47.9	10	37.9 - 47.9	Shallow Regolith	552.86	549.36	501.4 - 511.4	868892.212	1668553.549
MW-6	2	38.0	10	28.0 - 38.0	Shallow Regolith	559.43	559.71	521.7 - 531.7	868936.457	1668319.405
MW-7	2	37.4	10	27.4 - 37.4	Shallow Regolith	560.33	560.62	523.2 - 533.2	868894.361	1668279.797
MW-8	2	55.6	10	45.6 - 55.6	Shallow Regolith	557.19	557.55	501.9 - 511.9	868870.317	1668410.386
MW-9	2	52.3	10	42.3 - 52.3	Shallow Regolith	553.65	553.90	501.6 - 511.6	868681.764	1668650.676
MW-10	1	35.1	5	30.1 - 35.1	Shallow Regolith	551.07	551.42	516.3 - 521.3	868593.655	1668484.530
MW-10R	2	35.1	10	25.1 - 35.1	Shallow Regolith	551.03	551.20	511.3 - 521.3	868588.385	1668490.999
MW-11	2	40.4	10	30.4 - 40.4	Shallow Regolith	560.17	560.45	520.0 - 530.0	868712.965	1668117.285
MW-12	2	68.3	10	58.3 - 68.3	Intermediate Regolith	565.93	562.93	494.6 - 504.6	869049.750	1668419.153
MW-13	2	40.0	10	30.0 - 40.0	Shallow Regolith	550.17	547.07	507.0 - 517.0	868815.677	1668779.111
MW-14	2	46.0	10	36.0 - 46.0	Shallow Regolith	549.95	550.36	504.3 - 514.3	868458.767	1668332.200
MW-15	2	38.0	10	28.0 - 38.0	Shallow Regolith	557.20	554.10	516.1 - 526.1	868370.465	1668655.810
MW-15R	2	49.5	10	39.5 - 49.5	Shallow Regolith	556.96	553.89	504.4 - 514.4	868379.662	1668655.571
MW-16	2	36.3	10	26.3 - 36.3	Shallow Regolith	556.51	556.92	520.6 - 530.6	868782.253	1668386.285
MW-17	2	45.3	15	35.3 - 45.3	Shallow Regolith	561.75	562.05	516.7 - 531.7	869005.623	1668192.860
MW-18	2	39.0	10	29.0 - 39.0	Shallow Regolith	556.76	556.96	517.9 - 527.9	869009.841	1667664.807
MW-19	2	49.2	10	39.2 - 49.2	Shallow Regolith	548.37	545.41	496.2 - 506.2	868198.167	1668401.225
MW-20	2	59.0	10	49.0 - 59.0	Intermediate Regolith	545.47	542.50	483.5 - 493.5	868910.129	1668743.381
MW-21	2	42.5	10	32.5 - 42.5	Shallow Regolith	548.80	548.90	506.4 - 516.4	868425.395	1668091.680
MW-10I	2	57.9	10	47.9 - 57.9	Intermediate Regolith	551.10	551.30	493.4 - 503.4	868601.768	1668468.066
MW-5D	2	74.0	5	69.0 - 74.0	Deep Regolith	554.14	551.24	477.2 - 482.2	868879.078	1668537.552
MW-9D	2	76.5	5	71.5 - 76.5	Deep Regolith	553.77	554.15	477.6 - 482.6	868671.574	1668643.253
MW-10D	2	76.0	5	71.0 - 76.0	Deep Regolith	550.85	549.95	473.9 - 478.9	868586.308	1668469.047
MW-16D	2	75.8	5	70.8 -75.8	Deep Regolith	556.78	557.25	481.4 - 486.4	868776.648	1668370.548
MW-22D	2	79.0	5	74.0 - 79.0	Deep Regolith	549.27	546.32	472.3 - 477.3	868855.353	1668766.548
MW-23	2	60	10	50.0 - 60.0	Intermediate Regolith	542.58	542.75	482.75 - 492.75	868856.2109	1668884.241

Notes:
1. bgs = below ground surface
2. msl = mean sea level
3. MW-15R - "R" indicates replacement well.

Table 4
Groundwater Monitoring Well Elevations
Current (February 2017) and Historical

Itron, Inc.
Greenwood, South Carolina

Monitoring Well	Well Diameter	Depth of Well	Screen Length	Screen Interval	Top of Well Casing Elevation	2/7/2017		7/28/2015		6/4/2014		8/23/2012		4/19/2012	
						Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
	inches	feet bgs	feet	feet bgs	feet above msl	feet below toc	feet above msl	feet below toc	feet above msl	feet below toc	feet above msl	feet below toc	feet above msl	feet below toc	feet above msl
MW-1	2	31.5	10	21.5 - 31.5	557.74	24.43	533.31	22.89	534.85	22.08	535.66	26.88	530.86	26.06	531.68
MW-2	2	34.8	10	24.8 - 34.8	562.30	31.07	531.23	29.49	532.81	28.63	533.67	33.42	528.88	32.62	529.68
MW-3	2	47.0	10	37.0 - 47.0	561.84	30.13	531.71	27.50	534.34	27.80	534.04	32.43	529.41	34.23	527.61
MW-4	2	46.8	10	36.8 - 46.8	558.86	30.43	528.43	30.14	528.72	27.90	530.96	30.50	524.63	28.93	526.20
MW-5	2	47.9	10	37.9 - 47.9	552.86	29.63	523.23	28.34	524.52	25.99	526.87	29.12	520.00	27.11	522.01
MW-6	2	38.0	10	28.0 - 38.0	559.43	27.19	532.24	25.56	533.87	25.33	534.10	29.45	529.98	28.52	530.91
MW-7	2	37.4	10	27.4 - 37.4	560.33	27.74	532.59	26.02	534.31	26.12	534.21	29.89	530.44	28.96	531.37
MW-8	2	55.6	10	45.6 - 55.6	557.19	28.99	528.20	27.41	529.78	25.18	532.01	31.94	525.25	30.37	526.82
MW-9	2	52.3	10	42.3 - 52.3	553.65	35.62	518.03	33.99	519.66	33.35	520.30	39.51	514.14	39.10	514.55
MW-10	1	35.1	5	30.1 - 35.1	551.07	26.11	524.96	25.28	525.79	22.59	528.48	30.60	520.47	27.56	523.51
MW-10R	2	35.1	10	25.1 - 35.1	551.03	28.50	522.53	25.55	525.48	--	--	--	--	--	--
MW-11	2	40.4	10	30.4 - 40.4	560.17	27.35	532.82	26.05	534.12	25.19	534.98	29.82	530.35	28.23	531.94
MW-12	2	68.3	10	58.3 - 68.3	565.93	39.11	526.82	38.19	527.74	36.50	529.43	--	--	--	--
MW-13	2	40.0	10	30.0 - 40.0	550.17	33.83	516.34	32.19	517.98	31.65	518.52	--	--	--	--
MW-14	2	46.0	10	36.0 - 46.0	549.95	24.77	525.18	22.25	527.70	20.43	529.52	--	--	--	--
MW-15	2	38.0	10	28.0 - 38.0	557.20	38.85	518.35	37.50	519.70	36.76	520.44	--	--	--	--
MW-15R	2	49.5	10	39.5 - 49.5	556.96	38.54	518.42	37.28	519.68	--	--	--	--	--	--
MW-16	2	36.3	10	26.3 - 36.3	556.51	25.19	531.32	24.44	532.07	22.79	533.72	--	--	--	--
MW-17	2	45.3	15	35.3 - 45.3	561.75	29.02	532.73	27.29	534.46	27.62	534.13	--	--	--	--
MW-18	2	39.0	10	29.0 - 39.0	556.76	21.09	535.67	21.15	535.61	20.49	536.27	--	--	--	--
MW-19	2	49.2	10	39.2 - 49.2	548.37	28.22	520.15	27.76	520.61	--	--	--	--	--	--
MW-20	2	59.0	10	49.0 - 59.0	545.47	28.64	516.83	28.02	517.45	--	--	--	--	--	--
MW-21	2	42.5	10	32.5 - 42.5	548.80	16.97	531.83	17.32	531.48	--	--	--	--	--	--
MW-10I	2	57.9	10	47.9 - 57.9	551.10	26.75	524.35	24.32	526.78	--	--	--	--	--	--
MW-5D	2	74.0	5	69.0 - 74.0	554.14	30.89	523.25	29.56	524.58	27.21	526.93	--	--	--	--
MW-9D	2	76.5	5	71.5 - 76.5	553.77	33.02	520.75	33.56	520.21	32.88	520.89	--	--	--	--
MW-10D	2	76.0	5	71.0 - 76.0	550.85	27.52	523.33	26.60	524.25	24.93	525.92	--	--	--	--
MW-16D	2	75.8	5	70.8 -75.8	556.78	31.38	525.40	28.96	527.82	26.30	530.48	--	--	--	--
MW-22D	2	79.0	5	74.0 - 79.0	549.27	33.39	515.88	32.27	517.00	--	--	--	--	--	--
MW-23	2	60	10	50.0 - 60.0	542.75	26.40	516.35	32.27	517.00	--	--	--	--	--	--

Notes:
1. bgs = below ground surface
2. msl = mean sea level
3. toc = top of casing
4. -- Well was not installed at time of gauging event.

Table 5
Groundwater Analytical Results
Current (February 2017) and Historical

Itron, Inc.
Greenwood, South Carolina

Compounds	MCLs	RBSLs	Monitoring Wells																	
			MW-1					MW-2					MW-3				MW-4			
			4/19/2012	8/23/2012	6/5/2014	7/28/2015	2/7/2017	4/19/2012	8/23/2012	6/4/2014	7/28/2015	2/7/2017	4/19/2012	8/23/2012	6/4/2014	7/29/2015	4/19/2012	8/23/2012	6/5/2014	7/29/2015
Volatile Organic Compounds (EPA Method 8260)																				
Benzene	5	5	<5.0	<5.0	<5.0	<5.0	<5.0	**8.2**	<5.0	<5.0	**0.54 J**	<5.0	**12**	**15.1**	**17 J**	**10 J**	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	80	NSL	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<25.0	<25.0	<5.0	<5.0	<5.0	<5.0
2-Butanone (MEK)	NSL	NSL	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	***30***	<20.0	***33 J***	<50.0	<10.0	<10.0	<10.0	<10.0
Chloroform	80	NSL	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<25.0	<25.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	5	NSL	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**1.2 J**	**1.2 J**	<5.0	<5.0	<10.0	<25.0	<25.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70	NSL	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**280**	**389**	**440**	**280**	<5.0	<5.0	**0.39 J**	**0.23 J**
1,2-Dichloropropane	5	NSL	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**11**	<5.0	<5.0	<5.0	<10.0	<25.0	<25.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	700	NSL	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**11**	<10.0	**16 J**	**6.9 J**	<5.0	<5.0	<5.0	<5.0
2-Hexanone	NSL	NSL	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	***11***	<20.0	***10 J***	***4.6 J***	<10.0	<10.0	<10.0	<10.0
Isopropylbenzene	NSL	NSL	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	***0.52J***	<5.0	***9.5***	***19.5***	***26***	***17 J***	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	NSL	NSL	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	***10***	<20.0	***6.9 J***	***2.6 J***	<10.0	<10.0	<10.0	<10.0
Methylcyclohexane	NSL	NSL	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	***5.1 J***	***4.5 J***	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5	NSL	<5.0	<5.0	**0.80 J**	**7.7**	<5.0	<5.0	<5.0	**0.86 J**	**1.1J**	<5.0	**50**	<10.0	**21 J**	**13 J**	<5.0	<5.0	**2.4 J**	**3.0 J**
Trichloroethene	5	NSL	<5.0	<5.0	<5.0	<5.0	**14**	<5.0	<5.0	<5.0	<5.0	**17**	**43**	<10.0	<25.0	**0.81 J**	**5.8**	<5.0	<5.0	<5.0
Vinyl Chloride	2	NSL	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<10.0	<10.0	<2.0	<2.0	**0.42 J**	<2.0
Xylenes (total)	10,000	10,000	<5.0	<5.0	<5.0	<5.0	<5.0	**10**	<5.0	<5.0	**3.4 J**	<5.0	**41**	**41.5**	**110**	**56**	<5.0	<5.0	<5.0	<5.0
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)																				
Benzo(a)anthracene	NSL	10	NA	NA	<0.20	NA	NA	NA	NA	**0.042 J**	NA	NA	NA	NA	<100	<40.0	NA	NA	<0.20	NA
Benzo(a)pyrene	0.20	NSL	NA	NA	<0.20	NA	NA	NA	NA	**0.050 J**	NA	NA	NA	NA	<100	<40.0	NA	NA	<0.20	NA
Benzo(b)fluoranthene	NSL	10	NA	NA	<0.20	NA	NA	NA	NA	**0.11 J**	NA	NA	NA	NA	<100	<40.0	NA	NA	<0.20	NA
Chrysene	NSL	10	NA	NA	<0.20	NA	NA	NA	NA	**0.077 J**	NA	NA	NA	NA	<100	<40.0	NA	NA	<0.20	NA
Fluoranthene	NSL	NSL	NA	NA	<0.20	NA	NA	NA	NA	***0.15 J***	NA	NA	NA	NA	<100	<40.0	NA	NA	<0.20	NA
Fluorene	NSL	NSL	NA	NA	<0.20	NA	NA	NA	NA	***0.063 J***	NA	NA	NA	NA	<100	<40.0	NA	NA	***0.028 J***	NA
Naphthalene	NSL	25	NA	NA	<0.20	NA	NA	NA	NA	**1.1**	NA	NA	NA	NA	**200**	**190**	NA	NA	**0.14 J**	NA
Phenathrene	NSL	NSL	NA	NA	<0.20	NA	NA	NA	NA	***0.15 J***	NA	NA	NA	NA	<100	<40.0	NA	NA	<0.20	NA
Pyrene	NSL	NSL	NA	NA	<0.20	NA	NA	NA	NA	***0.13 J***	NA	NA	NA	NA	<100	<40.0	NA	NA	<0.20	NA

Notes:
1. Sample analysis performed by Shealy Environmental Services, Inc. of West Columbia, South Carolina, except for August 2012.
2. Sample analysis for the August 2012 sampling event was performed by Gulf Coast Analytical Laboratories, Inc. of Baton Rouge, Louisiana.
3. RBSL - Risk Based Screening Level based on South Carolina Department of Health and Environmental Control (SCDHEC) Risk Based Corrective Action (RBCA) for Petroleum Releases (May 15, 2001).
4. MCL - Maximum Contaminant Level established by Environmental Protection Agency (EPA) Regional Screening Level (RSL) Summary Table (November 2016).
5. All concentrations are in micrograms per liter (ug/L).
6. Constituents not listed in this table, but analyzed as part of the analytical suite, were not detected in any of the samples.
7. A bold value indicates a detected concentration.
8. A bold and highlighted value indicates a detected concentration which exceeds the MCL or RBSL.
9. NSL = No Screening Level Listed.
10. A bold and italicized value indicates detected value with no established MCL or RBSL.
11. NA = Not analyzed or not applicable
12. J - Estimated Value
13. < - Indicates less than

Table 5
Groundwater Analytical Results
Current (February 2017) and Historical

Itron, Inc.
Greenwood, South Carolina

Compounds	MCLs	RBSLs	Monitoring Wells																
			MW-5				MW-5D			MW-6					MW-7				
			4/19/2012	8/23/2012	6/5/2014	7/29/2015	6/5/2014	7/28/2015	2/8/2017	4/19/2012	8/23/2012	6/4/2014	7/29/2015	2/7/2017	4/20/2012	8/23/2012	6/4/2014	7/29/2015	2/8/2017
Volatile Organic Compounds (EPA Method 8260)																			
Benzene	5	5	<100	<200	<250	<250	<5.0	**0.27 J**	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
Bromodichloromethane	80	NSL	<100	<200	<250	<250	<5.0	<5.0	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
2-Butanone (MEK)	NSL	NSL	<200	<400	<500	<500	<10.0	<10.0	<10.0	<2,000	<1,000	<2,000	<2,000	<1,000	<1,000	<8,000	<10,000	<20,000	<10,000
Chloroform	80	NSL	<100	<200	<250	<250	<5.0	<5.0	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
1,2-Dichloroethane	5	NSL	<100	<200	<250	<250	<5.0	<5.0	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
cis-1,2-Dichloroethene	70	NSL	<100	<200	**46 J**	**15 J**	<5.0	**130**	**88**	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
1,2-Dichloropropane	5	NSL	<100	<200	<250	<250	<5.0	<5.0	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
Ethylbenzene	700	NSL	<100	<200	<250	<250	<5.0	<5.0	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
2-Hexanone	NSL	NSL	<200	<400	<500	<500	<10.0	<10.0	<10.0	<2,000	<1,000	<2,000	<2,000	<1,000	<1,000	<8,000	<10,000	<20,000	<10,000
Isopropylbenzene	NSL	NSL	<100	<200	<250	<250	<5.0	<5.0	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
4-Methyl-2-pentanone	NSL	NSL	<100	<400	<500	<500	<10.0	<10.0	<10.0	<2,000	<1,000	<2,000	<2,000	<1,000	<1,000	<8,000	<10,000	<20,000	<10,000
Methylcyclohexane	NSL	NSL	<100	<200	<250	<250	<5.0	<5.0	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
Tetrachloroethene	5	NSL	**3,900**	**4,290**	**3,700**	**4,000**	**190**	**0.96 J**	<5.0	**12,000**	**14,400**	**14,000**	**9,600**	**8,700**	**7,000**	**56,900**	**97,000**	**100,000**	**91,000**
Trichloroethene	5	NSL	<100	<200	**15 J**	**10 J**	**0.56 J**	**0.22 J**	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
Vinyl Chloride	2	NSL	<40.0	<80.0	**38 J**	<100	<2.0	<2.0	<2.0	<400	<200	<400	<400	<200	<200	<1,600	<2,000	<4,000	<2,000
Xylenes (total)	10,000	10,000	<100	<200	<250	<250	<5.0	<5.0	<5.0	<1,000	<500	<1,000	<1,000	<500	<500	<4,000	<5,000	<10,000	<5,000
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)																			
Benzo(a)anthracene	NSL	10	NA	NA	<0.20	NA	<0.20	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.20	NSL	NA	NA	<0.20	NA	<0.20	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NSL	10	NA	NA	<0.20	NA	<0.20	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
Chrysene	NSL	10	NA	NA	<0.20	NA	<0.20	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NSL	NSL	NA	NA	<0.20	NA	<0.20	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
Fluorene	NSL	NSL	NA	NA	<0.20	NA	<0.20	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NSL	25	NA	NA	<0.20	NA	**0.10 J**	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
Phenathrene	NSL	NSL	NA	NA	<0.20	NA	<0.20	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
Pyrene	NSL	NSL	NA	NA	<0.20	NA	<0.20	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA

Notes:
1. Sample analysis performed by Shealy Environmental Services, Inc. of West Columbia, South Carolina, except for August 2012.
2. Sample analysis for the August 2012 sampling event was performed by Gulf Coast Analytical Laboratories, Inc. of Baton Rouge, Louisiana.
3. RBSL - Risk Based Screening Level based on South Carolina Department of Health and Environmental Control (SCDHEC) Risk Based Corrective Action (RBCA) for Petroleum Releases (May 15, 2001).
4. MCL - Maximum Contaminant Level established by Environmental Protection Agency (EPA) Regional Screening Level (RSL) Summary Table (November 2016).
5. All concentrations are in micrograms per liter (ug/L).
6. Constituents not listed in this table, but analyzed as part of the analytical suite, were not detected in any of the samples.
7. A bold value indicates a detected concentration.
8. A bold and highlighted value indicates a detected concentration which exceeds the MCL or RBSL.
9. NSL = No Screening Level Listed.
10. A bold and italicized value indicates detected value with no established MCL or RBSL.
11. NA = Not analyzed or not applicable
12. J - Estimated Value
13. < - Indicates less than

Table 5
Groundwater Analytical Results
Current (February 2017) and Historical

Itron, Inc.
Greenwood, South Carolina

Compounds	MCLs	RBSLs	Monitoring Wells																
			MW-8				MW-9					MW-9D		MW-10				MW-10R	
			4/19/2012	8/23/2012	6/4/2014	7/29/2015	4/19/2012	8/23/2012	6/4/2014	7/28/2015	2/8/2017	6/4/2014	7/28/2015	4/19/2012	8/23/2012	6/4/2014	7/28/2015	2/7/2017	
Volatile Organic Compounds (EPA Method 8260)																			
Benzene	5	5	<2,000	<1,000	<2500	<2500	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<500	<5.0	<100	<500	
Bromodichloromethane	80	NSL	<2,000	<1,000	<2500	<2500	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<500	<5.0	<100	<500	
2-Butanone (MEK)	NSL	NSL	<4,000	<2,000	<5000	<5000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1,000	<1,000	<10.0	<200	<1,000	
Chloroform	80	NSL	<2,000	<1,000	<2500	<2500	<5.0	<5.0	<5.0	<5.0	<5.0	**1.8 J**	<5.0	<500	<500	<5.0	**5.8 J**	<500	
1,2-Dichloroethane	5	NSL	<2,000	<1,000	<2500	<2500	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<500	<5.0	<100	<500	
cis-1,2-Dichloroethene	70	NSL	<2,000	<1,000	<2500	<2500	<5.0	<5.0	<5.0	<5.0	<5.0	**0.26 J**	<5.0	<500	<500	**0.46 J**	<100	<500	
1,2-Dichloropropane	5	NSL	<2,000	<1,000	<2500	<2500	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<500	<5.0	<100	<500	
Ethylbenzene	700	NSL	<2,000	<1,000	<2500	<2500	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<500	<5.0	<100	<500	
2-Hexanone	NSL	NSL	<4,000	<2,000	<5000	<5000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1,000	<1,000	<10.0	<200	<1,000	
Isopropylbenzene	NSL	NSL	<2,000	<1,000	<2500	<2500	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<500	<5.0	<100	<500	
4-Methyl-2-pentanone	NSL	NSL	<4,000	<2,000	<5000	<5000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1,000	<1,000	<10.0	<100	<1,000	
Methylcyclohexane	NSL	NSL	<2,000	<1,000	<2500	<2500	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<500	<5.0	<100	<500	
Tetrachloroethene	5	NSL	**19,000**	**25,200**	**21,000**	**20,000**	**10**	<5.0	**1.4 J**	**1.8 J**	<5.0	<5.0	**0.73 J**	**12,000**	**15,200**	**1,500**	**2,900**	**5,900**	
Trichloroethene	5	NSL	<2,000	<1,000	<2500	<2500	**54**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<500	**1.3 J**	**5.1 J**	<500	
Vinyl Chloride	2	NSL	<800	<400	<1000	<1000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<200	<200	<2.0	<40.0	<200	
Xylenes (total)	10,000	10,000	<2,000	<1,000	<2,500	<2,500	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<500	<5.0	<100	<500	
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)																			
Benzo(a)anthracene	NSL	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	0.20	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(b)fluoranthene	NSL	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chrysene	NSL	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Fluoranthene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Fluorene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Naphthalene	NSL	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Phenathrene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Pyrene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:
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4. MCL - Maximum Contaminant Level established by Environmental Protection Agency (EPA) Regional Screening Level (RSL) Summary Table (November 2016).
5. All concentrations are in micrograms per liter (ug/L).
6. Constituents not listed in this table, but analyzed as part of the analytical suite, were not detected in any of the samples.
7. A bold value indicates a detected concentration.
8. A bold and highlighted value indicates a detected concentration which exceeds the MCL or RBSL.
9. NSL = No Screening Level Listed.
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Table 5
Groundwater Analytical Results
Current (February 2017) and Historical

Itron, Inc.
Greenwood, South Carolina

Compounds	MCLs	RBSLs	Monitoring Wells											
			MW-10I		MW-10D		MW-11					MW-12		
			7/28/2015	2/7/2017	6/4/2014	7/28/2015	4/19/2012	8/23/2012	6/4/2014	7/29/2015	2/8/2017	6/5/2014	7/29/2015	2/8/2017
Volatile Organic Compounds (EPA Method 8260)														
Benzene	5	5	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
Bromodichloromethane	80	NSL	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
2-Butanone (MEK)	NSL	NSL	<2,000	<2,000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<500	<500	<1,000
Chloroform	80	NSL	<1,000	<1,000	**2.5 J**	**0.48 J**	<5.0	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
1,2-Dichloroethane	5	NSL	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
cis-1,2-Dichloroethene	70	NSL	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
1,2-Dichloropropane	5	NSL	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
Ethylbenzene	700	NSL	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
2-Hexanone	NSL	NSL	<2,000	<2,000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<500	<500	<1,000
Isopropylbenzene	NSL	NSL	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
4-Methyl-2-pentanone	NSL	NSL	<2,000	<2,000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<500	<500	<1,000
Methylcyclohexane	NSL	NSL	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
Tetrachloroethene	5	NSL	**15,000**	**19,000**	**1.8 J**	**2.2 J**	<5.0	<5.0	**37**	**2.8 J**	<5.0	**4,500**	**4,800**	**6,300**
Trichloroethene	5	NSL	<1,000	<1,000	<5.0	<5.0	**5.2**	<5.0	<5.0	<5.0	<5.0	<250	<250	<500
Vinyl Chloride	2	NSL	<400	<400	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<100	<100	<200
Xylenes (total)	10,000	10,000	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)														
Benzo(a)anthracene	NSL	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA
Benzo(a)pyrene	0.20	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA
Benzo(b)fluoranthene	NSL	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA
Chrysene	NSL	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA
Fluoranthene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA
Fluorene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA
Naphthalene	NSL	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.039 J**	NA	NA
Phenathrene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA
Pyrene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA

Notes:
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3. RBSL - Risk Based Screening Level based on South Carolina Department of Health and Environmental Control (SCDHEC) Risk Based Corrective Action (RBCA) for Petroleum Releases (May 15, 2001).
4. MCL - Maximum Contaminant Level established by Environmental Protection Agency (EPA) Regional Screening Level (RSL) Summary Table (November 2016).
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Table 5
Groundwater Analytical Results
Current (February 2017) and Historical

Itron, Inc.
Greenwood, South Carolina

Compounds	MCLs	RBSLs	Monitoring Wells										
			MW-13		MW-14		MW-15	MW-15 R		MW-16		MW-16D	
			6/5/2014	7/28/2015	6/4/2014	7/28/2015	6/5/2014	7/28/2015	2/8/2017	6/5/2014	7/28/2015	6/4/2014	7/28/2015
Volatile Organic Compounds (EPA Method 8260)													
Benzene	5	5	<5.0	<5.0	<5.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	80	NSL	<5.0	<5.0	<5.0	<25.0	<5.0	**2.9 J**	<5.0	<5.0	<5.0	<5.0	<5.0
2-Butanone (MEK)	NSL	NSL	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloroform	80	NSL	**2.8 J**	<5.0	**2.3 J**	<25.0	**3.9 J**	**5.5**	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	5	NSL	<5.0	<5.0	<5.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70	NSL	<5.0	<5.0	**0.24 J**	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	5	NSL	<5.0	<5.0	<5.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	700	NSL	<5.0	<5.0	<5.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Hexanone	NSL	NSL	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Isopropylbenzene	NSL	NSL	<5.0	<5.0	<5.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	NSL	NSL	<10.0	<10.0	<10.0	<50.0	<10.0	***0.84 J***	<10.0	<10.0	<10.0	<10.0	<10.0
Methylcyclohexane	NSL	NSL	<5.0	<5.0	<5.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5	NSL	**0.82 J**	<5.0	**78**	**150**	**0.60 J**	<5.0	<5.0	**160**	**110**	**18**	**30**
Trichloroethene	5	NSL	<5.0	<5.0	<5.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl Chloride	2	NSL	<2.0	<2.0	<2.0	<10.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Xylenes (total)	10,000	10,000	<5.0	<5.0	<5.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)													
Benzo(a)anthracene	NSL	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.20	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NSL	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NSL	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NSL	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenathrene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NSL	NSL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1. Sample analysis performed by Shealy Environmental Services, Inc. of West Columbia, South Carolina, except for August 2012.
2. Sample analysis for the August 2012 sampling event was performed by Gulf Coast Analytical Laboratories, Inc. of Baton Rouge, Louisiana.
3. RBSL - Risk Based Screening Level based on South Carolina Department of Health and Environmental Control (SCDHEC) Risk Based Corrective Action (RBCA) for Petroleum Releases (May 15, 2001).
4. MCL - Maximum Contaminant Level established by Environmental Protection Agency (EPA) Regional Screening Level (RSL) Summary Table (November 2016).
5. All concentrations are in micrograms per liter (ug/L).
6. Constituents not listed in this table, but analyzed as part of the analytical suite, were not detected in any of the samples.
7. A bold value indicates a detected concentration.
8. A bold and highlighted value indicates a detected concentration which exceeds the MCL or RBSL.
9. NSL = No Screening Level Listed.
10. An italicized value indicates detected value with no established MCL or RBSL.
11. NA = Not analyzed or not applicable
12. J - Estimated Value
13. < - Indicates less than

Table 5
Groundwater Analytical Results
Current (February 2017) and Historical

Itron, Inc.
Greenwood, South Carolina

Compounds	MCLs	RBSLs	Monitoring Wells													
			MW-17			MW-18		MW-19		MW-20		MW-21		MW-22D		MW-23
			6/5/2014	7/28/2015	2/7/2017	6/5/2014	7/28/2015	7/28/2015	2/8/2017	7/28/2015	2/8/2017	7/29/2015	2/8/2017	7/28/2015	2/8/2017	2/7/2017
Volatile Organic Compounds (EPA Method 8260)																
Benzene	5	5	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	80	NSL	**3.2 J**	<5.0	<25	<5.0	<5.0	**0.27 J**	<5.0	<5.0	<50	<5.0	<5.0	**0.31 J**	<5.0	<5.0
2-Butanone (MEK)	NSL	NSL	<10.0	<10.0	<50	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0	<10.0	<10.0	<10.0	<10.0
Chloroform	80	NSL	**8.6**	<5.0	<25	<5.0	<5.0	**0.77 J**	<5.0	**2.9 J**	<50	<5.0	<5.0	**1.3 J**	<5.0	<5.0
1,2-Dichloroethane	5	NSL	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70	NSL	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	**3.8 J**	<50	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	5	NSL	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	700	NSL	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0
2-Hexanone	NSL	NSL	<10.0	<10.0	<50	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0	<10.0	<10.0	<10.0	<10.0
Isopropylbenzene	NSL	NSL	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	NSL	NSL	<10.0	<10.0	<50	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0	<10.0	<10.0	<10.0	<10.0
Methylcyclohexane	NSL	NSL	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5	NSL	**75**	**690**	**380**	**0.78 J**	**0.90 J**	**1.2 J**	<5.0	**360**	**590**	**1.7 J**	**9.2**	<5.0	<5.0	<5.0
Trichloroethene	5	NSL	**0.79 J**	**8.3 J**	<25	<5.0	<5.0	<5.0	<5.0	**4.3 J**	<50	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl Chloride	2	NSL	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<20	<2.0	<2.0	<2.0	<2.0	<2.0
Xylenes (total)	10,000	10,000	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)																
Benzo(a)anthracene	NSL	10	<0.20	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.20	NSL	<0.20	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NSL	10	<0.20	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NSL	10	<0.20	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NSL	NSL	<0.20	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NSL	NSL	<0.20	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NSL	25	**0.033 J**	NA	NA	**0.038 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenathrene	NSL	NSL	***0.043 J***	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NSL	NSL	<0.20	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1. Sample analysis performed by Shealy Environmental Services, Inc. of West Columbia, South Carolina, except for August 2012.
2. Sample analysis for the August 2012 sampling event was performed by Gulf Coast Analytical Laboratories, Inc. of Baton Rouge, Louisiana.
3. RBSL - Risk Based Screening Level based on South Carolina Department of Health and Environmental Control (SCDHEC) Risk Based Corrective Action (RBCA) for Petroleum Releases (May 15, 2001).
4. MCL - Maximum Contaminant Level established by Environmental Protection Agency (EPA) Regional Screening Level (RSL) Summary Table (November 2016).
5. All concentrations are in micrograms per liter (ug/L).
6. Constituents not listed in this table, but analyzed as part of the analytical suite, were not detected in any of the samples.
7. A bold value indicates a detected concentration.
8. A bold and highlighted value indicates a detected concentration which exceeds the MCL or RBSL.
9. NSL = No Screening Level Listed.
10. An italicized value indicates detected value with no established MCL or RBSL.
11. NA = Not analyzed or not applicable
12. J - Estimated Value
13. < - Indicates less than

Figures

Legend

- Supplemental Groundwater Investigation Point
- Itron Property Line (Approximate)
- Shallow Monitoring Well
- Intermediate Monitoring Well
- Deep Monitoring Well
- Potential Source Area

N

South Carolina State Plane, NAD 83
Zone 3900, International Feet

0 200 400 Feet

AECOM

Itron

Figure 1
Monitoring Well Location Map

Legend

- Shallow Monitoring Well
- Intermediate Monitoring Well
- Deep Monitoring Well
- Trace K-K' (MW-12, 20, 23)
- Itron Property Line (Approximate)

Note:
Cross Secitons A-A' through D-D' were prepared during the RI and are included in the RI Report (URS, 2014).
Cross Sections E-E' through J-J' were prepared during the SRI and are included in the SRI Report (URS, 2015).

N

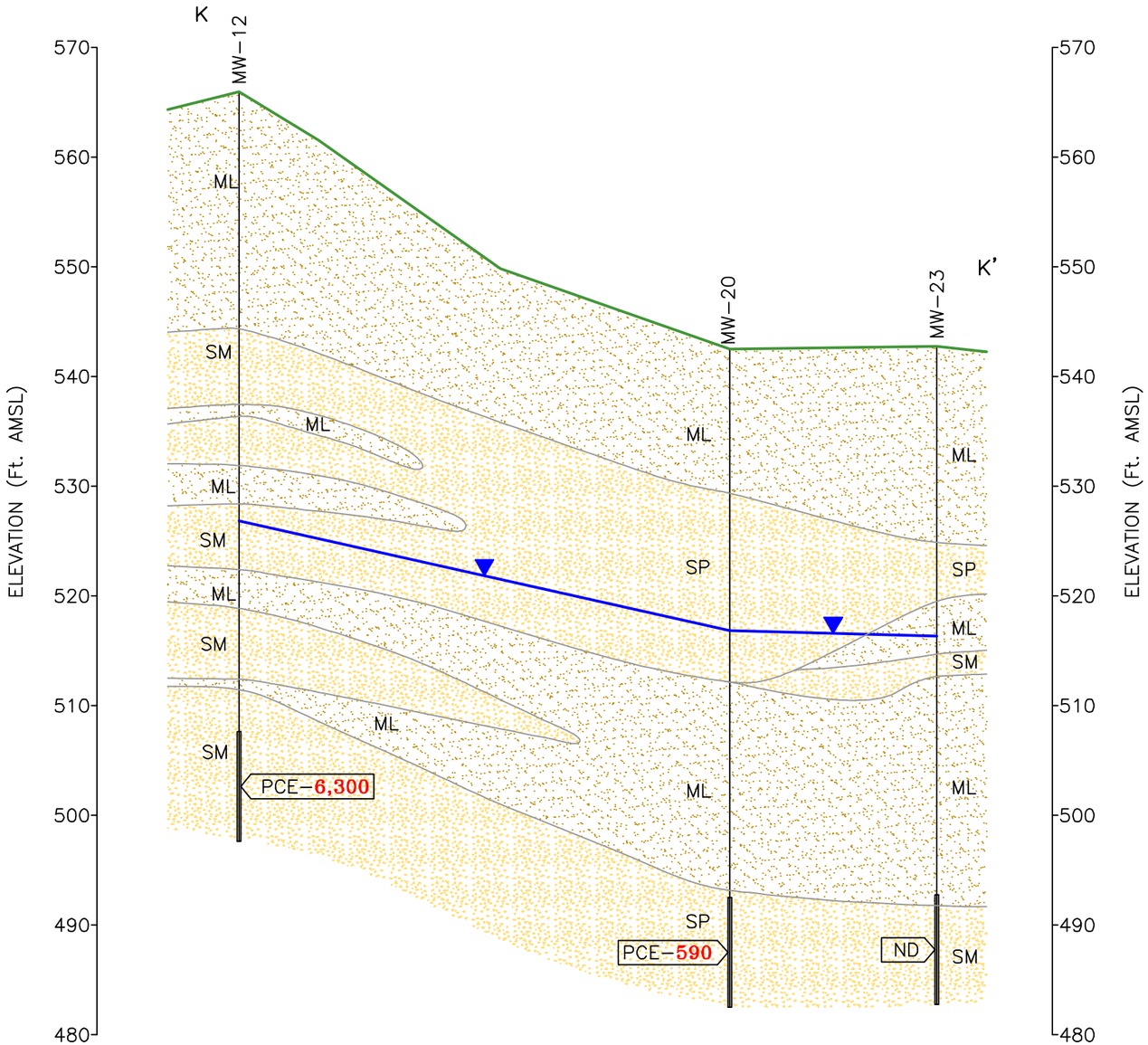
South Carolina State Plane, NAD 83
Zone 3900, International Feet

0 200 400 Feet

AECOM

Itron

Figure 2
Trace of Geologic Cross Section



KEY

SAPROLITE

- SILTY SAND TO SAND
- SANDY SILT TO SILT
- SANDY CLAY TO CLAY

RELATIVE PERMEABILITY OF UNITS

DECREASING

WELL SHOWING SCREENED INTERVAL

WATER TABLE (2/7/17)

WATER LEVEL IN DEEP WELLS

BOLD EXCEEDS MCL

0 100

APPROX. SCALE, ft.
VERT. EXAGGERATION = 8X

Legend

PCE - Tetrachloroethene
ND - Not Detected

All groundwater results reported in ug/L (micrograms per liter).

Samples collected February 2017.

SP - Sand, Poorly Graded
SM - Silty Sand
SC - Sandy Clay
ML - Sandy Silt
MH - Silt
CH - Clay

Red indicates concentrations above Maximum Contanminant Levels (MCLs).

Surface layer and thin seams within the predominant soil units are not differentiated.

AECOM Itron

Figure 3
Geologic Cross Section
K-K'

Legend

- Shallow Monitoring Well
- 522 Potentiometric Surface Contours (feet above MSL)
- Approximate Groundwater Flow Direction
- Itron Property Line (Approximate)

MSL - Mean Sea Level

532.82 - Water Elevation (feet above MSL)

Water levels measured February 7, 2017

N

0 200 400 Feet

South Carolina State Plane, NAD 83
Zone 3900, International Feet

AECOM

Itron

Figure 4
Potentiometric Surface Map (Upper Regolith) - February 2017

Legend

- Intermediate Monitoring Well
- 522 Potentiometric Surface Contours (feet above MSL)
- Approximate Groundwater Flow Direction
- Itron Property Line (Approximate)

MSL - Mean Sea Level

532.82 - Water Elevation (feet above MSL)

Water levels measured February 7, 2017

N

South Carolina State Plane, NAD 83
Zone 3900, International Feet

0 200 400 Feet

AECOM

Itron

Figure 5
Potentiometric Surface Map (Intermediate Regolith) - February 2017

Legend

- Deep Monitoring Well
- 522 Potentiometric Surface Contours (feet above MSL)
- Approximate Groundwater Flow Direction
- Itron Property Line (Approximate)

MSL - Mean Sea Level

523.25 - Water Elevation (feet above MSL)

Water levels measured February 7, 2017

N

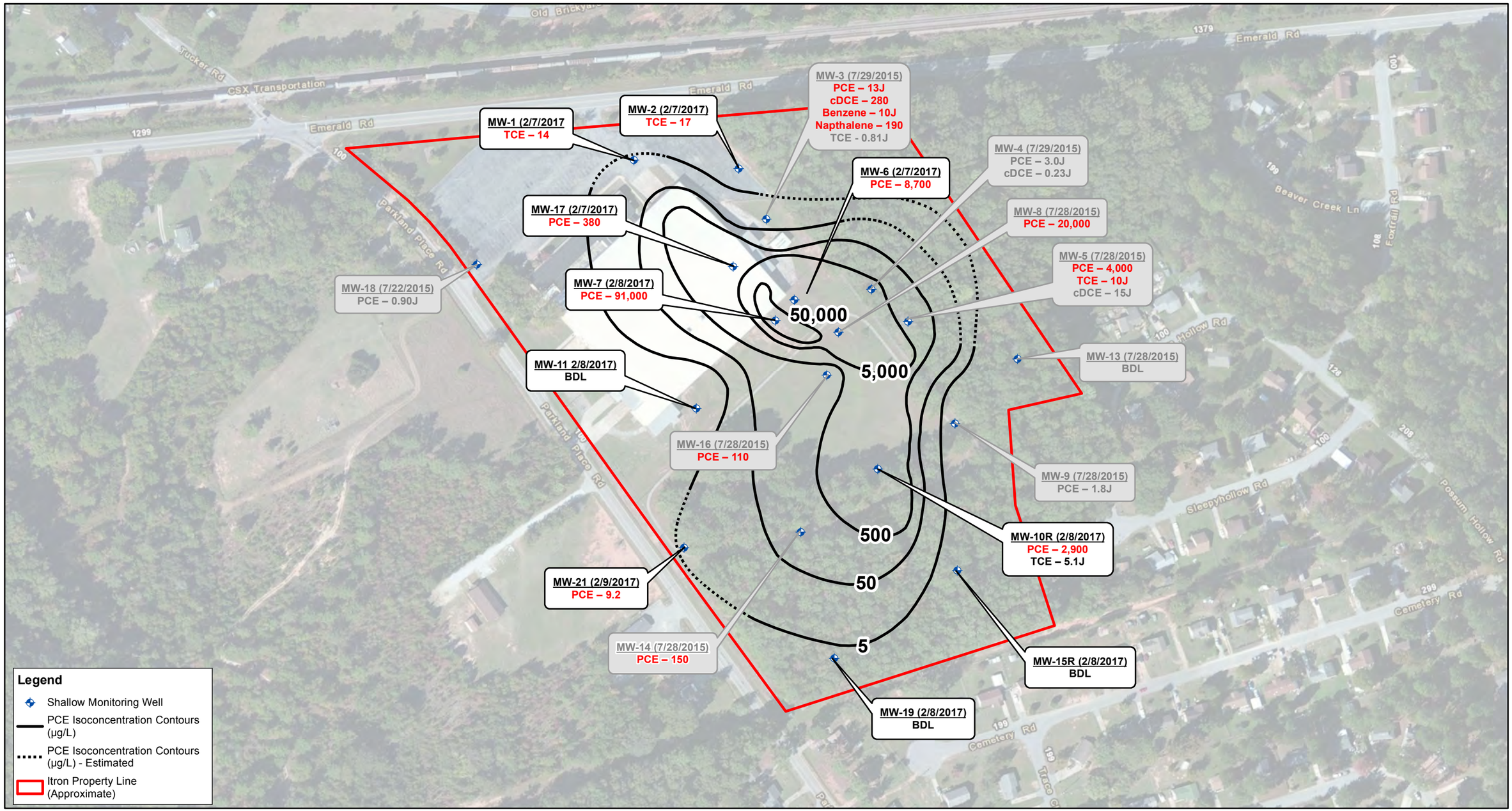
South Carolina State Plane, NAD 83 Zone 3900, International Feet

0 200 400 Feet

AECOM

Itron

Figure 6
Potentiometric Surface Map (Lower Regolith) - February 2017



NOTES:
Red indicates concentrations above Maximum Contaminant Levels (MCLs).

All results reported in µg/l (micrograms per liter).

Only Chemicals of Concern (COCs) detected above laboratory detection limit included. Other COCs included in Table 3 of the Supplemental Remedial Investigation (SRI) Report Addendum.

Isoconcentrations contours utilized data from past two groundwater sampling events (July 2015 & February 2017) as only select wells were recently sampled.

The result for MW-4 was anomalously low (due possibly to low permeability silt in which the screen was set) and, therefore, was not used in preparing the map.

- BDL – Below Detection Limits
- J – Estimated Value
- PCE – Tetrachloroethene
- TCE – Trichloroethene
- cDCE – cis-1,2-Dichloroethene

N

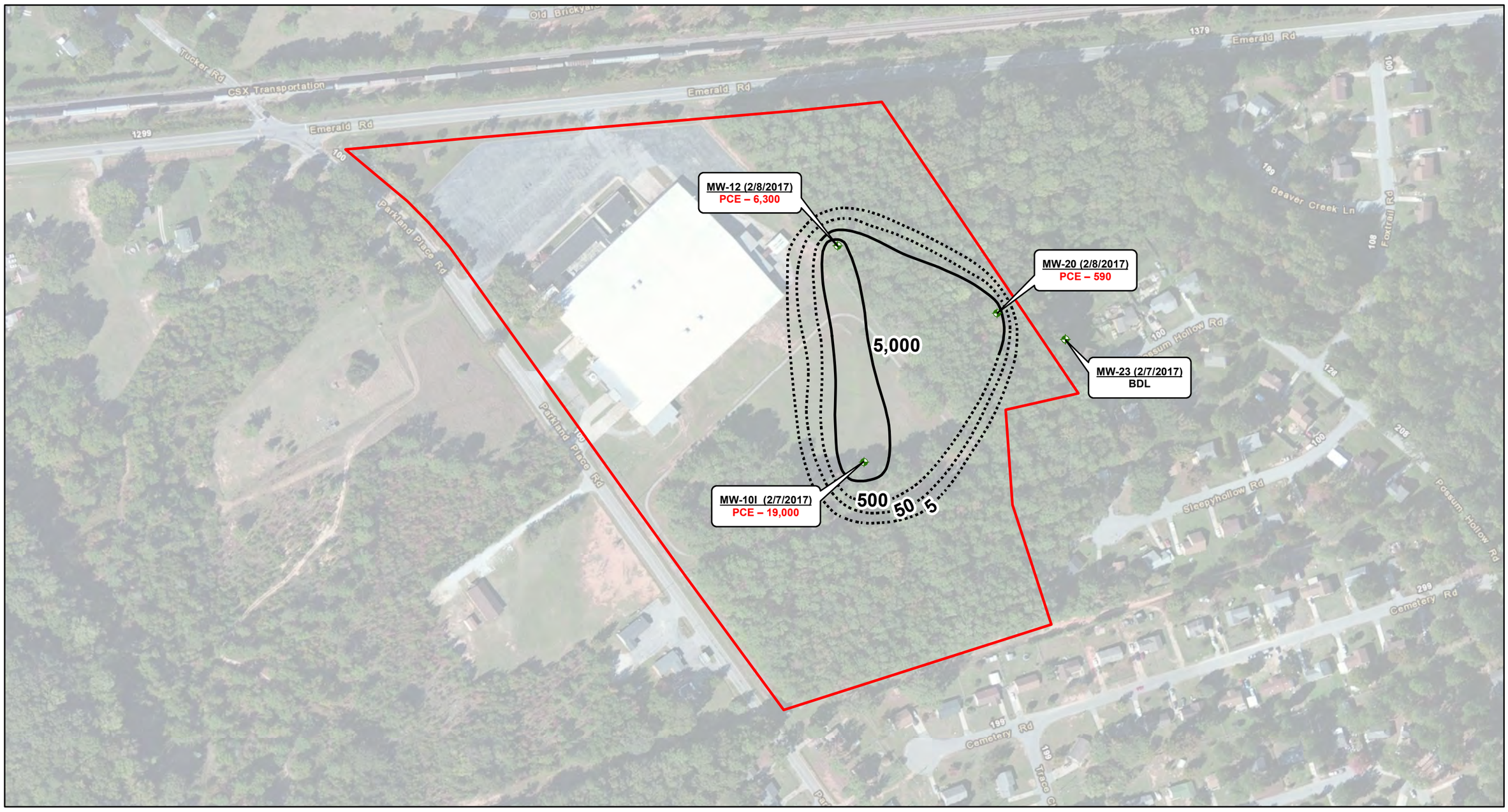
South Carolina State Plane, NAD 83 Zone 3900, International Feet

0 200 400 Feet

AECOM

Itron

Figure 7
Distribution of COCs in Upper Regolith - Groundwater
February 2017 and July 2015



Legend

- Intermediate Monitoring Well
- PCE Isoconcentration Contours (µg/L)
- PCE Isoconcentration Contours (µg/L) - Estimated
- Itron Property Line (Approximate)

NOTES:

Red indicates concentrations above Maximum Contaminant Levels (MCLs).

- BDL – Below Detection Limits

All results reported in µg/l (micrograms per liter).

Only Chemicals of Concern (COCs) detected above laboratory detection limit included. Other COCs included in Table 3 of the Supplemental Remedial Investigation (SRI) Report Addendum.

N

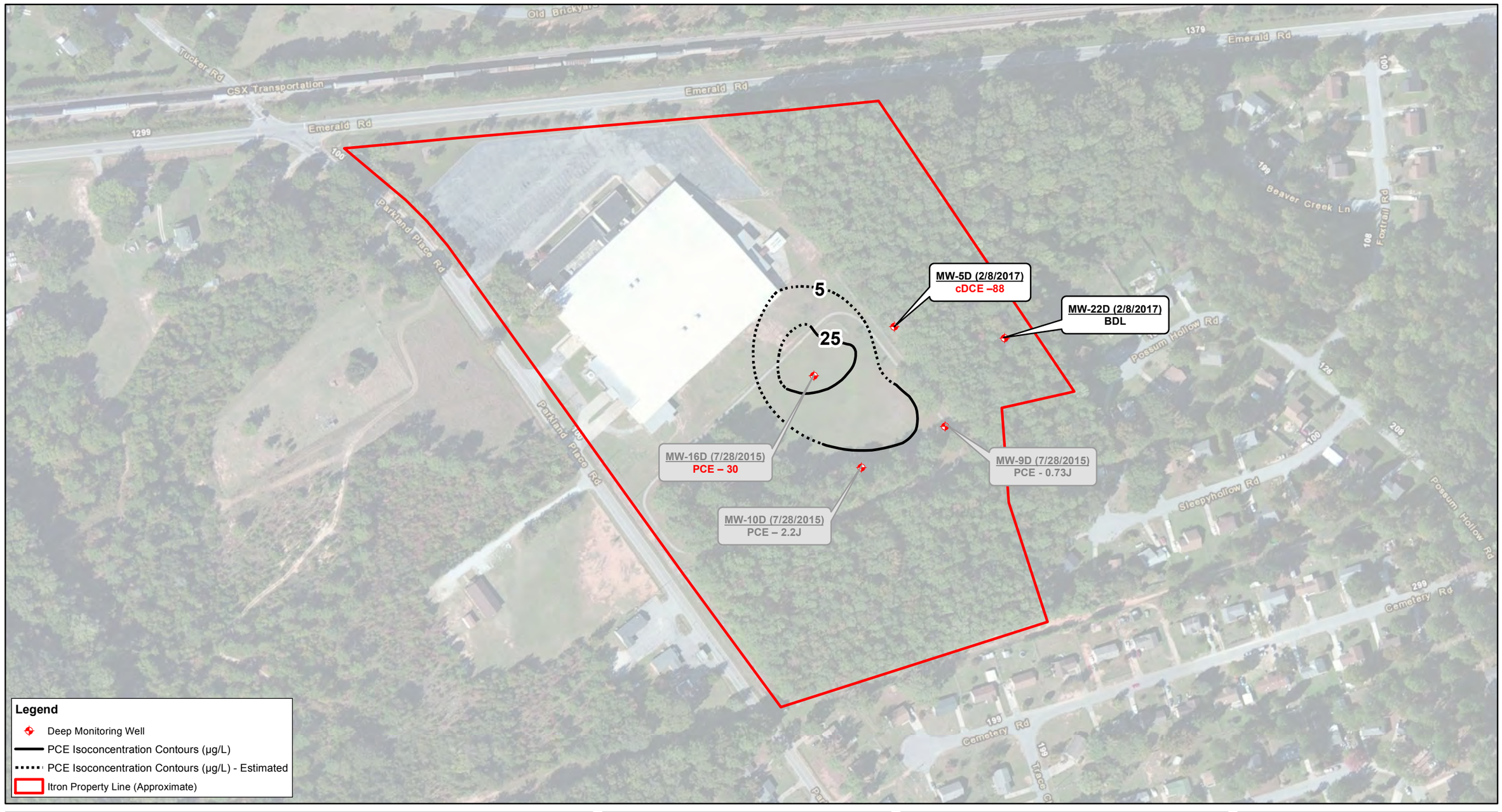
0 200 400 Feet

South Carolina State Plane, NAD 83 Zone 3900, International Feet

AECOM

Itron

Figure 8
Distribution of COCs in Intermediate Regolith - Groundwater
February 2017



NOTES:
Red indicates concentrations above Maximum Contaminant Levels (MCLs).

All results reported in µg/l (micrograms per liter).

Only Chemicals of Concern (COCs) detected above laboratory detection limit included. Other COCs included in Table 3 of the Supplemental Remedial Investigation (SRI) Report Addendum.

Isoconcentrations contours utilized data from past two groundwater sampling events (July 2015 & February 2017) as only select wells were recently sampled.

- BDL– Below Detection Limits
- J – Estimated Value
- PCE – Tetrachloroethene
- cDCE – cis-1,2-Dichloroethene

N

0 200 400 Feet

South Carolina State Plane, NAD 83 Zone 3900, International Feet

AECOM

Itron

Figure 9
Distribution of COCs in Lower Regolith - Groundwater
February 2017

Appendix A: Photo Log

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Itron, Inc.	1310 Emerald Road, Greenwood, South Carolina	60520033

Photo No. 1

View Direction of Photo: North

Date of Photo: 01/18/2017

Description:

View of Geoprobe® direct-push rig setup on location SGWI-1 on off-site property located to east the subject property.

Photo No. 2

View Direction of Photo: South

Date of Photo: 01/19/2017

Description:

View of Geoprobe® direct-push rig setup on location SGWI-2 on off-site property located to east the subject property.

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Itron, Inc.	1310 Emerald Road, Greenwood, South Carolina	60520033

Photo No. 3

View Direction of Photo: East

Date of Photo: 01/19/2017

Description:

View of Geoprobe® direct-push rig setup on location SGWI-2 on off-site property located to east the subject property.

Photo No. 4

View Direction of Photo: Northeast

Date of Photo: 02/01/2017

Description:

View of Geoprobe® sonic drilling rig setup on location MW-23 on off-site property located to east the subject property.

Appendix B: SCDHEC Monitoring Well Approval and Off-Site Access Agreement

dhec
Healthy People. Healthy Communities.

Monitoring Well Approval

Date of Issuance:	January 4, 2017	**Approval #:**	MW-10953
Effective Date:	January 4, 2017	**Expires:**	January 4, 2018

Approval is hereby granted to: Aaron Council, AECOM
10 Patewood Drive, Bldg. 6, Suite 500
Greenville, South Carolina 29615

Facility: Iron Inc. Site
VCC 13-6078-RP
Greenwood County, File # 57992

This approval is for the installation of three (3) temporary groundwater monitoring wells and one permanent groundwater monitoring well. The wells will be installed as illustrated in Figure 1 (temporary wells) and Figure 2 (permanent well) and per the construction details included in the Supplemental Remedial Investigation Plan. These wells are to be installed following all of the applicable requirements of R.61-71.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. All wells shall be properly developed per R.61-71.H.2.d. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

3. All analytical data and water levels obtained from each monitoring well shall be submitted to the Project Manager (Carol Crooks) within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

4. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

5. If any of the information provided to the Department changes, including the proposed drilling date, the Project Manager (Carol Crooks) shall be notified at least twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated May 27, 2016.

Carol L. Crooks
State Remediation Section
Bureau of Land and Waste Management

RIGHT OF ACCESS AGREEMENT

This Agreement (hereinafter "Agreement") is entered on this 5th day of December 2016 by and between Ms. Minnie Morse (hereinafter "OWNER"), in the County of Greenwood, State of South Carolina, with a property at 113 Possum Hollow Road, Greenwood, South Carolina 29646; [Itron, Inc.], located at 1310 Emerald Road, Greenwood, South Carolina 29646 (hereinafter "Itron"); and URS, dba AECOM, located at 10 Patewood Drive, Building 6, Suite 500, Greenville, South Carolina 29615 (hereinafter "AECOM").

WHEREAS, OWNER owns the Property located at 113 Possum Hollow Road, Greenwood, South Carolina, (hereinafter "the Property"); and

WHEREAS, Itron, in connection with work being performed under a Voluntary Cleanup Contract under the South Carolina Voluntary Cleanup Program, is involved in an investigation into the source(s) and extent of contamination in and around its property located at 1310 Emerald Road, Greenwood, South Carolina; and

WHEREAS, in accordance with South Carolina Department of Health and Environmental Control (SCDHEC) requirements under the Voluntary Cleanup Program, Itron has requested that AECOM perform an investigation which will include the *installation of three (3) groundwater sampling locations, one of which will be developed and converted to a groundwater monitoring well at the Property*; and

WHEREAS, OWNER is willing to permit such *installation and sampling* by AECOM provided that it receives assurance that Itron will indemnify, defend and hold OWNER harmless from AECOM's activities at the Property.

NOW THEREFORE, the parties agree as follows:

1. OWNER agrees to grant, or cause to be granted, to AECOM reasonable access to the Property, for the sole purpose of completing the *installation of groundwater sampling and monitoring well described above.* AECOM shall notify the OWNER, at least forty-eight (48) hours prior to the date(s) of such activities so that the OWNER can be present if desired.

2. OWNER agrees to make available, or cause to be made available (at Itron's sole cost and expense), to AECOM all information within its control which is necessary and is not privileged to allow AECOM to perform its services at the Property.

3. AECOM, its employees, contractors and subcontractors shall not use the Property in any manner whatsoever that would interfere with or cause harm to the Property or any other lawful activity being undertaken by OWNER on the Property. AECOM will use its reasonable best efforts to minimize any disruption or interference with the activities of OWNER at the Property.

4. AECOM shall carry at its expense, during the term of this Agreement, the minimum insurance coverages set forth below:

	Coverage	Limits
(1)	Worker's Compensation	Statutory
(2)	Employer's Liability	[$1,000,000] each occurrence
(3)	General Liability (Bodily Injury & Property Damage)	[$2,000,000] aggregate
(4)	Excess Liability (Bodily Injury & Property Damage)	[$5,000,000] aggregate

(5)	Automobile Liability (Bodily Injury & Property Damage)	[$1,000,000] combined single limit
(6)	Professional Liability Insurance	[$2,000,000] aggregate

5. AECOM agrees to use its professional judgment in the performance of its services under this Agreement and to use the degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants performing comparable services. The standard of care shall exclusively be judged as of the time the services are rendered and not according to later standards. AECOM and Itron agree that no other warranty or representation, either expressed or implied, is included or intended under this Agreement.

6. AECOM agrees to comply with appropriate local, state and federal health and safety procedures and policies during the sampling activities.

7. Nothing contained within this Agreement shall be construed or interpreted as requiring AECOM to assume the status of a generator, storer, treater or disposal facility as those terms appear within the Resource Conservation and Recovery Act, 42 USCA, Section 6901, et seq., as amended, (hereinafter "RCRA") or within any state statute governing the treatment, storage and disposal of waste.

8. Itron shall assume the responsibility for compliance with the provisions of RCRA and any local, municipal or state statute governing the treatment, storage and disposal of waste generated during the sampling activities.

9. AECOM shall defend and indemnify Itron and OWNER for direct damages that result from or are in any way related to AECOM's negligence or willful misconduct in the performance of its services. UNDER NO CIRCUMSTANCES SHALL AECOM BE LIABLE FOR INDIRECT, CONSEQUENTIAL, SPECIAL, OR EXEMPLARY DAMAGES, OR FOR DAMAGES CAUSED BY THE OWNER'S OR ITRON's NEGLIGENCE OR WILLFUL MISCONDUCT. The provisions of this paragraph 9 shall survive the termination of this transaction. Notwithstanding any other provision to the contrary in this Agreement and to the fullest extent permitted by law, except for third party claims for damages, losses and expenses for bodily injury, sickness, disease or death caused by the negligent acts or omissions of AECOM, in no event shall the total cumulative aggregate liability of AECOM, its subcontractors, and their respective partners, officers, directors, shareholders, employees, and agents (referred to collectively in this Article as "AECOM") whether in contract, warranty, tort, negligence, strict liability, delay, error, omission, indemnity, or otherwise and resulting from, arising out of or in connection with the performance or nonperformance of any or all services or other obligations under this Agreement, exceed the amount of ONE HUNDRED THOUSAND DOLLARS ($100,000.00).

10. OWNER also hereby agrees to reasonably cooperate with Itron in any further investigation (at Itron's sole cost and expense) as reasonably required to complete the site investigation activities and to reasonably preserve Itron's rights and remedies in connection with such further investigation.

11. This Agreement does not constitute, and shall not be interpreted as an admission of any liability by Itron, or its agents, and shall not be introduced as evidence in any action or proceeding against Itron, or its agents. Nothing in this Agreement shall create any rights, liabilities, or claim obligations in or for any person not a party to this Agreement.

12. This Agreement shall terminate upon completion of the services to be performed by AECOM in connection with this Agreement.

13. This agreement shall be construed according to the laws of the South Carolina.

ENTERED the date and year written above:

ITRON, INC.

By: [signature]

Name Pad Kemmanahalli

Title Sr. Director Global HSE&S

Ms. Minnie Morse

By: Minnie M. Morse

Name

Title

Phone Number 864-227-6258

URS Corporation (dba AECOM Technical Services, Inc.)

By: Scott A. Hartung

Name Scott A. Hartung

Title Vice President

Appendix C: Groundwater Color-Tec® Data Form and Method Procedures Manual

Groundwater Color-Tec® Data Form
Itron, Inc. Facility
Greenwood, South Carolina

Sample ID	Date	Time	Tube Type	Volume of Air Purged CCs	Tube Reading (unit-less)	Purge Volume Correction Factor for 133-Series Tubes Table 1 in the AQR Guidance	Corrected Tube Reading (unit-less)	Median Expected GC/MS CVOH Laboratory Concentration Table 2 in the AQR Guidance (µg/kg)
SGWI-1-45	1/18/17	1140	133L	200	0	1/2	0	
SGWI-1-50	1/18/17	1305	133LL	200	0	1/2	0	
SGWI-1-55	1/18/17	1340	133LL	200	0	1/2	0	
SGWI-1-60	1/18/17	1425	133LL	200	0	1/2	0	
SGWI-1-65	1/18/17	1520	133LL	200	0	1/2	0	
SGWI-2-40	1/18/17	1650	133LL	200	0	1/2	0	
SGWI-2-45	1/18/17	1700	133LL	200	0	1/2	0	
SGWI-2-50	1/19/17	0945	133LL	200	0	1/2	0	
SGWI-2-55	1/19/17	0955	133LL	200	0	1/2	0	
SGWI-2-60	1/19/17	1005	133LL	200	0	1/2	0	
SGWI-2-65	1/19/17	1015	133LL	200	0	1/2	0	
SGWI-3-40	1/19/17	1120	133LL	200	0	1/2	0	
SGWI-3-45	1/19/17	1150	133LL	200	0	1/2	0	
SGWI-3-50	1/19/17	1215	133LL	200	0	1/2	0	
SGWI-3-55	1/19/17	1340	133LL	200	0	1/2	0	
SGWI-3-60	1/19/17	1350	133LL	200	0	1/2	0	
SGWI-3-65	1/19/17	1420	133LL	200	0	1/2	0	
SGWI-3-70	1/19/17	1440	133LL	200	0	1/2	0	

AQR Color-Tec®

Method Procedures Manual

Field-Based Analysis of Chlorinated Volatile Organic Halocarbons

- **AQR Color-Tec combines sample purging with direct-read gas detector tubes to quickly detect low-levels of chlorinated compounds in liquid and solid samples.**
- **AQR Color-Tec detects concentrations of total chlorinated volatile organic halocarbons (CVOHs) below 3 µg/L in water and 3 µg/Kg in soil samples.**
- **AQR Color-Tec provides fast, low-level, economical, decision-quality data which maximizes sampling frequency and sampling coverage to locate source areas and delineate dissolved-phase contaminant plumes.**
- **Samples are analyzed by purging the volatile compounds from either liquid or solid samples through a colorimetric detector tube, which produces a distinct color change when exposed to any chlorinated compound.**

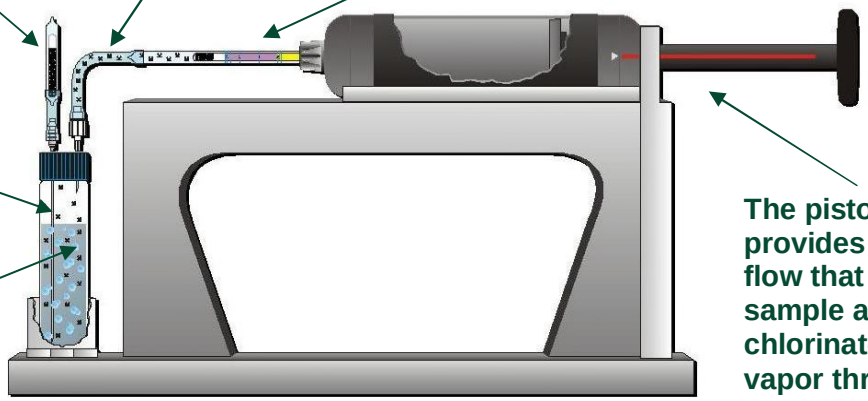
2 Ambient air enters the sample through a carbon filter

3 Filtered ambient air flows through the long purge needle to the bottom of the VOA vial

4 Ambient air purges and strips volatile compounds from the sample

5 The purged chlorinated volatile compounds are directed into the gas detector tube

6 A measured color change in the colorimetric tube is used to estimate the expected concentration of CVOHs in the sample



1 The piston-pump provides vacuum air flow that purges the sample and pulls the chlorinated volatile vapor through the tube

AQR Color-Tec® Contact and Ordering Information

- **For more information visit www.aqrcolor-tec.com**
- **For kit orders contact Phil Pecevich at 919-918-7191**

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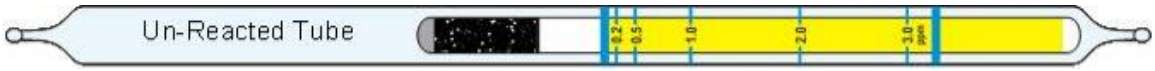
1.0 Method History and Principles

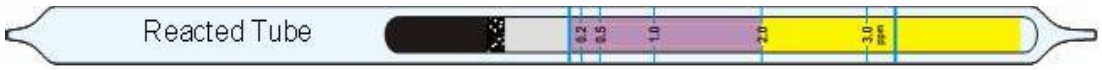
The Color-Tec method was developed during 1997 by the environmental professionals at Ecology and Environment, Inc. while assessing/remediating the earliest sites addressed under the Florida Department of Environmental Protection's (FDEP) Drycleaning Solvent Cleanup Program. Since its development, the method has been used extensively at EPA, DOD, and various state regulatory agency sites to provide real-time, decision quality data at thousands of chlorinated solvent sites.

Color-Tec is a field-based analytical method which combines the use of colorimetric gas detector tubes (originally designed for occupational breathing-zone monitoring) with sample purging to detect very low (<3 µg/L or µg/Kg) concentrations of total chlorinated volatile organic halocarbons (CVOHs) in liquid and solid samples. Samples are analyzed by purging the volatile compounds from a groundwater or soil sample directly through the colorimetric tube, which is designed to produce a distinct color change when exposed to chlorinated compounds. Estimated sample concentrations are obtained by comparing the tube readings to a conversion table, which was developed based on comparison of Color-Tec readings to GC/MS analysis of split samples.

Each colorimetric tube contains an oxidizer (PbO_2) and a catalyst (H_2SO_4) which decomposes and converts the chlorinated compounds to hydrogen chloride, which discolors a reagent (4-phenylazodiphenylamine) in the tube from yellow to purple. The reaction formula provided by Gastec® for the PCE tube is as follows:



$Cl_2C{:}CCl_2 + PbO_2 + H_2SO_4 \rightarrow HCl$
HCl + (4-Phenolazo) Diphenylamine → Chloride



The colorimetric tubes react positively to all chlorinated volatile organic halocarbons, including saturated and unsaturated chlorinated alkenes and alkanes. The total response indicated by the detector tube (the distance that the color change travels through the tube) reflects the sum of the concentration of each individual chlorinated compound present in the sample. The method is primarily qualitative (detects the presence/absence of a compound or class of compounds).

The colorimetric gas detector tubes used in the method are designed to detect CVOHs in ambient air. **Color-Tec is an alternate use of these tubes**, which purges CVOHs from a water or soil sample and concentrates them into the colorimetric tube. When using colorimetric tubes for the Color-Tec method, the units (ppmV) printed on the tubes do not directly reflect the quantity of CVOHs present in the water or soil sample being analyzed. The Color-Tec tube reading (the distance that the color change travels through the tube) is a **relative response** to the amount of chlorinated-compound molecules that have been purged from the sample and directed into the tube. Therefore, the Color-Tec tube reading is a **unit-less** value used only to record the **relative response** for each analysis in order to facilitate comparison of that response to laboratory GC/MS analysis.

THE COLOR-TEC TUBE READING IS NOT THE SAMPLE CONCENTRATION!

The tube reading is a unit-less value which must be compared to laboratory results from split samples in order to yield an estimate of the actual concentration present in the sample.

This manual provides a conversion table, developed using comparison of Color-Tec tube responses to split-sample GC/MS analyses conducted on thousands of samples, which can be used to provide an estimate of the expected sample concentration based on the tube reading (See Table 2 on page 15).

2.0 AQR Color-Tec Test Kit Description and Set-up

The Color-Tec Chlorinated VOH Soil/Water Test Kit System consists of two primary components:

1. A hardware kit which contains all **reusable equipment** needed to conduct the method, plus a carrying case; and
2. Expendables kits containing all **disposable components** needed for analysis of 20 water or soil samples using the following ranges of Gastec® 133-series tubes:
   a. Ultra low range 133-LL tubes (expected detection range ~ 3 to 1200 µg/L or µg/Kg)
   b. Low range 133-L tubes (expected detection range ~ 75 to 25,000 µg/L or µg/Kg)
   c. Medium range 133-M tubes (expected detection range ~ 500 to 130,000 µg/L or µg/Kg)

2.1 Materials Provided

2.1.1 Color-Tec Hardware KIT (See Figure 1)

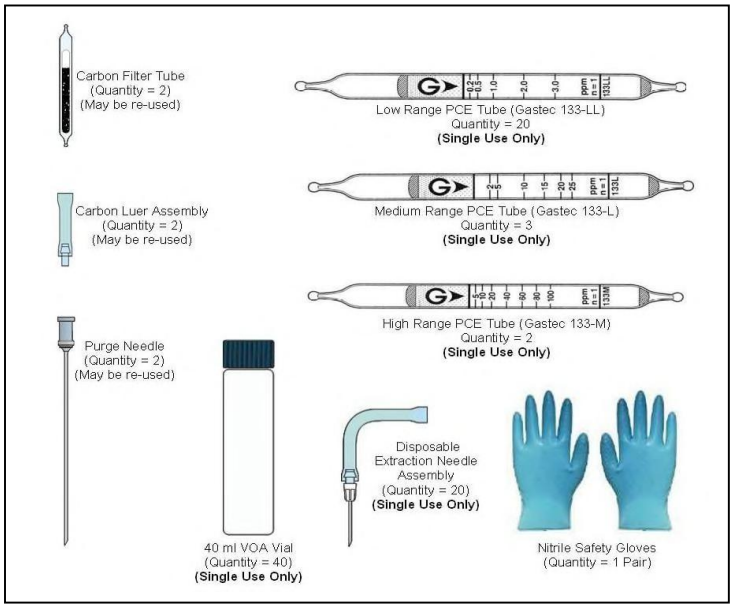
Item	Quantity
Piston pump	1
Color-Tec Pump Stand	1
Hot Plate	1
Stainless Steel Heating Pan	1
VOA Heating Rack	1
Thermometer	1
Decontamination Syringe	1
Pelican® hard case	1

2.1.2 Color-Tec 20-Sample Expendables Pack (See Figure 2) (Analyzes 20 samples)

Item	Quantity
Low-Range (133LL) Colorimetric Detector Tubes	20
Medium-Range (133L) Colorimetric Detector Tubes	3
High-Range (133M) Colorimetric Detector Tubes	2
Disposable Extraction Needle Assemblies **(single use only)**	25
40 Milliliter VOA Vials – empty (for samples)	40
Carbon Filter (may be re-used)	2
Carbon Filter Luer Assembly (may be re-used)	2
Purge Needle (may be re-used)	2
Nitrile Safety Gloves (pair)	1

Figure 1
Hardware Kit

Figure 2
Expendables Kit



2.2 Accessories Supplied by User

The following items (not provided in the AQR Color-Tec kit) are suggested for use with the Color-Tec method to perform the listed functions.

Item	Purpose
Organic-free water	for soil sample extraction and equipment decontamination
Safety gloves	personal protection
Safety glasses	personal protection
120V AC power source	for hot plate
Permanent marker	labeling sample bottles

Performance of the Color-Tec method requires the use of two standard, unpreserved VOA vials per sample. These VOA vials are not included in the standard expendables kits, but may be added as an option. The user may wish to collect a quantity of split samples for laboratory analysis to provide comparison data which may be used to determine site-specific method detection limits and/or to tentatively quantify Color-Tec results. Split sampling will likely require three pre-preserved VOA vials per sample. Pre-preserved VOA vials for split samples are not available in the Color-Tec expendables kits.

2.3 Storage & Stability of Colorimetric Tubes

The Gastec® colorimetric tubes have a shelf-life of two years with refrigeration. Tubes should be stored at or below a temperature of 10°C/50°F when not in use. Colorimetric detector tubes are single-use (one tube per analysis) and should be used immediately after the tips are broken. Tube readings should be recorded immediately following analysis because the intensity of the color-change fades over time. Each box of tubes has an expiration date printed in red ink on the top of each box. When heating the tubes for use with the Color-Tec method, it is recommended that the tube temperature does not exceed 40°C/104° F.

Other procedures and guidelines associated with the use of the tubes for their designed purpose (gas detection in ambient air) are included in the tube manufactures data sheets and tube instructions included in the tube packaging.

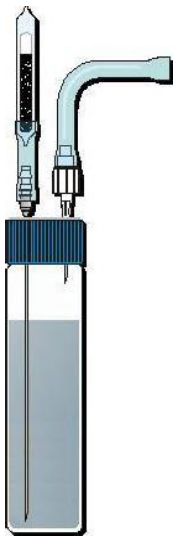
2.4 Heating Colorimetric Tubes and Samples

The colorimetric gas detector tubes used in the Color-Tec method were designed for the purpose of detecting volatile organic compounds (CVOHs) in ambient air. When using the tubes for analysis of ambient air, the calibrated operating temperature is 20°C/68°F. Using the tubes at temperatures above or below 20°C/68°F, for the purpose of testing ambient air, introduces error into the measurements requiring application of correction factors to correct that error. Because Color-Tec is an alternate use of the colorimetric tubes which concentrates CVOHs from water or soil samples into the tubes, the units (ppmV) printed on the tubes have no direct relationship to the quantity of CVOHs dissolved in the water/soil sample being analyzed and the temperature correction factors used for analysis of ambient air are not required when using the colorimetric tubes as part of the Color-Tec method. However, since the colorimetric tubes are more sensitive to the presence of chlorinated compounds at 40°C/104°F, and the purpose of the Color-Tec method is to detect the presence/absence of CVOHs in water at concentrations at the lowest concentrations possible, the tubes are heated to their optimum sensitivity (40°C/104°F) to maximize their detection capability.

The samples are also heated (in the VOA vials) to maximize contaminant volatilization and transfer of CVOHs from the water sample to the colorimetric tube. To heat the samples and colorimetric tubes, a hot plate is used to heat a water bath containing a test tube rack to hold the sample-filled VOA vials and unbroken colorimetric tubes. Special attention must be paid to the temperature of the water to avoid prolonged overheating the samples and tubes. The samples and colorimetric tubes should not be heated in excess of 40°C/104°F.

Given the size of the heating pan and VOA rack, generally only 3 sets of samples are heated at the same time. When a pair of VOAs is removed from the heating rack and placed on the pump stand, it can be replaced with a new pair for heating. After collection, samples should remain in a cool place until ready to be heated and analyzed. It is recommended to avoid heating the samples for more than about 2 minutes to avoid loss of CVOCs. Section 2.6 below, provides detailed water bath set-up and heating procedures.

2.5 Carbon Pre-Filter



Because ambient air is used to purge the samples, a carbon pre-filter is provided for attachment to the purge needle to prevent volatile airborne contaminants from passing through the sample and entering the detector tube during the purging process. To use the carbon pre-filter, break both tips of a carbon filter tube and insert the end of the tube onto the carbon lure assembly (make sure the air-flow arrows on the carbon tube point toward the carbon lure assembly), then tightly insert the male lure fitting on the carbon lure assembly into the female lure fitting on the purge needle (see Figure 2). At sites where little or no ambient air contamination is expected, a single pre-filter tube may be reused for several days. However, at sites where high concentrations of airborne chlorinated compounds are suspected or have been confirmed in the ambient air, the pre-filter tubes may need to be replaced more frequently. For most situations, one carbon filter per 10 samples is more than sufficient. Section 2.6 below, provides detailed carbon filter set-up and use procedures.

2.6 Color-Tec Work-Station Set-up

Pump Stand Set-up

1. Place the pump stand up-right on a flat stable surface.
2. Place the piston-pump into the curved tray on the top of the pump stand as shown.

Corning® Hot Plate Set-up

1. Connect the AC power cord to the back of the hot plate.
2. Connect the other end of the AC power cord to a USA 120VAC electric outlet.
3. Place the hot plate on a flat stable surface.
4. Set the hot plate thermostat control to between dial setting 4 and 5.

Hot Water Bath Set-up

1. Fill the stainless-steel water bath pan with tap water to approximately 1.5-inches from the rim.

2. Insert the VOA rack into the water-filled, stainless-steel, water bath pan.

3. Remove the cap from a 40ml VOA vial, fill the VOA vial with tap water and place it into the VOA Rack as shown. *Note: The bottom of the water-filled VOA vial should be slightly submersed in the water in the stainless-steel pan.*

4. Place the stainless-steel water bath pan onto the heating surface of the hot-plate.

5. Open a box of low-level (133LL) Gastec® tubes and place several tubes into the water-filled VOA vial. Insert the yellow reagent end of the tubes into the bottom of the VOA vial. Note: Do not place tubes with broken tips in the water bath – heating must be accomplished before breaking the tube tips.

6. Turn on the digital thermometer and place the steel probe into the water-filled VOA vial with the colorimetric tubes.

7. Once the water bath reaches a temperature of approximately 100ºF, the colorimetric tubes and VOA vials containing samples can be heated. *Note: The temperature of the water bath should not exceed 100ºF.*

Heating Samples

1. Place both VOA vials containing the sample into the hot water bath for approximately 1 to 2 minutes.

2. Be sure that the VOA vials are tightly sealed before heating. *Note: When properly heated, the VOA vials should feel warm in the hand – DO NOT OPEN VOA VIALS AFTER HEATING.*

Carbon Filter/Purge Needle Set-up

1. Break both ends of a carbon filter tube using the tip breaker on the piston pump.

2. Connect a carbon filter luer assembly to the carbon filter tube by sliding the open end of the vinyl tubing over the broken end of the carbon filter tube. Note: The carbon filter is re-used for multiple purge cycles.

3. Attach the carbon filter assembly to a purge needle by inserting the carbon filter assembly luer fitting into the purge needle luer fitting.

4. The purge needles are re-used after decontamination. Thoroughly clean and rinse the purge needle between each sample analysis to avoid contaminant carryover.

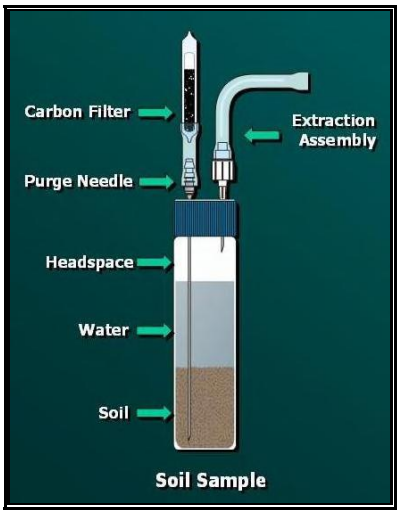
3.0 Sample Collection and Preparation

3.1 Liquid Sample Media

Collect the water or other liquid sample media directly from your sampling device into two 40 ml VOA vials by filling each vial to ~75% capacity (i.e. to about 1-inch below the shoulder of each vial). Tightly secure the caps onto the partially-filled VOA vials. The VOA vials containing the liquid sample to be tested must contain an air-filled headspace to accommodate purging. The caps must be tightened sufficiently to prevent loss of CVOHs during the time between sample collection and analysis (which includes the heating process) and to prevent air leakage during the purging process.

3.2 Solid Sample Media

Place about 1.5 inches of soil (or other solid sample media) into the bottom of each of two VOA vials (i.e. approximately 30 grams in each vial). Immediately after inserting the soil (or other solid sample media) into the two vials, add organic-free or other "clean" water to each VOA vial until they are both ~70 % full (i.e. to approximately 1-inch below the shoulder of each vial). Tightly secure the caps onto the partially-filled VOA vials. Once the caps are secure, shake the VOA vials vigorously for approximately for 5 to 10 seconds to thoroughly mix the soil and water. Additional mixing may be necessary for soil matrices comprised of clay-sized particles. The purpose of the mixing is to transfer any chlorinated compounds suspended in the soil matrix to the water to facilitate more effective purging.



IMPORTANT NOTE: The VOA vials containing the solid sample media and "clean" water must contain an air-filled headspace to accommodate purging. The caps must be tightened sufficiently to prevent loss of CVOHs during the time between sample collection and analysis (which includes the heating process) and to prevent air leakage during the purging process.

3.3 Purpose of the Second VOA Vial

The Color-Tec method is designed for use with two VOA vials (an original and a duplicate) for each sample collected. In certain situations, the duplicate sample may not be used in the performance of the method. However, the duplicate sample should always be collected in the event that it is needed to complete the analysis process. The duplicate sample may be used in either of the following situations:

- When the initial test does not induce a color change in the colorimetric tube, the second VOA vial containing the duplicate sample, may be purged (using the same colorimetric tube) to increase the probability of detecting very low (< 10 µg/L) concentrations.

- When the initial test induces a color change that exceeds the upper limit of the LL tube (a tube reading > 3), the extra VOA vial can be used to analyze the sample using higher range colorimetric tubes (133L or 133M) to tentatively quantify the higher concentration of chlorinated compounds in the sample.

4.0 Sample Analysis Procedure

1. Place both heated VOA vials (original & duplicate sample) into the two VOA holders on the pump-stand.

2. Remove a low-level tube from the hot water bath and wipe it dry.

3. Break both ends of the colorimetric tube using the tip breaker on the piston pump.

4. Insert the colorimetric tube into the pump inlet with the flow arrow (printed on the tube) toward the pump. ***Note:*** *Tube orientation is critical – the yellow reagent end of the tube is inserted in the pump.*

5. Connect a new extraction needle assembly to the colorimetric tube by sliding the open end of the vinyl tubing over the broken end of the colorimetric tube. This step must be completed before inserting the needle into the VOA (Prior to step 6).

6. Remove the protective cap from the extraction needle and insert the needle into the septa of the first VOA vial. ***Note:*** *Be sure that the tip of the extraction needle is positioned within the headspace of the VOA vial (above the water level). Do not insert the extraction needle as far as it will go into the headspace of the VOA vial, but rather only to a point slightly beneath the inside of the septa to reduce the possibility of sample water entering the extraction needle assembly and colorimetric tube during the purging process.*

7. Insert the purge needle (with carbon filter assembly) into the septa of the first VOA vial and push the tip of the needle to the bottom of the VOA vial.
IMPORTANT NOTE: Do not insert the purge needle before completing steps 5 and 6.

8. Align the 50ml label and red dot on the pump handle with the red dot on the pump shaft.

9. Pull the handle sharply until it locks in the 50ml (half pull) position.

10. Confirm that air is purging through the sample in the VOA vial.

11. Purge for approximately 30 seconds.

12. Check the yellow reagent in the tube for a color-change.

13. If no color-change reaction is visible or if the color reading is less than 1.5, rotate the pump handle ½ turn and pull the handle out to lock in the 100ml position.

14. Continue the 100ml purge until the flow cycle is complete. Note: Flow is complete when the end-of-flow indicator (located on the back of the pump handle) returns to its full brightness.

15. Check the yellow reagent phase in the tube for a color change.

16. If no color-change is visible, remove the extraction needle from the VOA with the vinyl tubing still attached to the low-level tube, rotate the pump handle ¼ turn and push the plunger back into the pump, remove the extraction needle from the first VOA vial and inject it into the septa of the second VOA (duplicate sample), then remove the purge needle from the first VOA vial and inject it into the septa of the second VOA (duplicate sample) - now re-pull the pump handle to lock into the 100ml position.

17. When the second 100ml purge cycle is complete, read and record the results.

For samples containing high concentrations (>150 µg/L) the resulting color-change may exceed the calibrated limit of the low-level tube, requiring the second VOA vial (duplicate sample) to be purged and analyzed by repeating steps 3 through 13 using a medium range (133L) or a high range (133M) tube.

For samples containing low (<5 µg/L) concentrations the color change does not usually begin until 100 CCs of air have purged through the sample. Furthermore, the color change induced at these low concentrations is very slight (below 0.5 on the tube scale) and appears as a slight darkening or light purple hue at the entrance of yellow reagent layer in the LL tube. When the sample contains higher concentrations (>10 µg/L) of chlorinated compounds, the resulting color change is an obvious light to dark purple, which propagates through the yellow reagent layer toward the pump end of the colorimetric tube. The tube reading (Color-Tec response) is obtained by matching the linear extent of the discolored reagent inside the tube to the calibration scale printed on the outside of the tube. Table 1 presents a troubleshooting matrix with causes and solutions potential problems.

Important Procedural Notes:

The disposable extraction needle assembly is intended for one use only. Decontamination and re-use of this part is highly discouraged because of the risk of contaminant carryover from the tubing and other plastic parts which can harbor contaminants from the previous analysis. Purge needles may be reused following decontamination using water and isopropanol.

Carbon filters should be discarded if they become wet from contact with sample water.

Never insert the purge needle into the VOA before the extraction needle assembly has first been connected to the colorimetric tube and inserted into the VOA headspace. If the purge needle is inserted first, the pressure inside the sealed VOA may force sample water up though the purge needle and into the carbon filter. Sample volatiles may be lost if the extraction needle assembly is inserted into the VOA headspace before connecting the tubing to the colorimetric tube.

To prevent clogging of the purge needle when inserting the purge needle into VOA vials containing soil samples, do not immediately push the bottom of the needle through the soil to the bottom of the vial; but rather temporarily position the base of the purge needle in the water above the soil until the pump handle has been pulled to begin air flow through the sample. Once air flow has been initiated, slowly extent the purge needle through the soil to the base of the vial. The air flow from the tip of the purge needle should reduce the potential for clogging as the needle moves through the soil. This procedure is especially helpful when working with clayey soils.

Troubleshooting Guide

Problem	Possible Cause	Solution
Sample does not appear to be purging (bubbling) after the pump handle has been pulled.	Clogged/blocked purge (long) needle.	Use the decontamination syringe to check the purge needle for clogs. If clogged, clean the needle or use a new purge needle.
	Clogged/blocked extraction (short) needle.	Use decontamination syringe to check the extraction needle for clogs. Use decontamination syringe to clean the needle or use a new extraction needle.
	Colorimetric tube is not securely connected to hand pump.	Remove and re-insert the colorimetric tube from the hand pump. If the fit seems loose, replace the hand pump inlet gasket.
	Colorimetric tube is not securely connected to extraction needle tubing.	Check the connection between the extraction needle tubing and the colorimetric tube. If loose, insert the colorimetric tube further into the extraction needle tubing.
	VOA cap is not tightly sealed.	Check the tightness of the VOA cap. Tighten if necessary.
	Colorimetric tube tips were not broken before connecting to hand pump and tubing.	Break both tips of the colorimetric tube before connecting to hand pump and tubing.
	Broken/bad plunger seal in hand pump.	Check the pump seal by holding your finger over the hand pump inlet while pulling the pump handle and lock into the 50cc position. If no vacuum is apparent, open the pump, remove the plunger, replace the plunger seal, and grease the new seal. Re-assemble the pump.
The colorimetric tube shows no reaction after purging a sample that contains chlorinated compounds. (False Negative)	Colorimetric tube is below the optimum operating temperature.	Heat the colorimetric tube to 40°C/104° F before using. It is also recommended to heat the sample. The recommended temperature for tubes and samples when using the Color-Tec Method is 40°C/104° F.
	Colorimetric tube was connected using reversed flow direction.	Use the flow direction arrows to properly align the tube. The purged air must pass through the black oxidizer phase and the white catalyst phase before entering the yellow reagent phase.
	The sample also contains a detectable concentration of xylenes or toluene.	Samples can be tested for the presence of xylenes and toluene using the **Gastec® 122L** colorimetric tube. The detection of chlorinated compounds may be diminished when xylenes or toluene are present in a sample.
The colorimetric tube indicates a reaction after purging a sample that contains no chlorinated compounds. (False Positive)	Chlorinated compounds are present at detectable concentrations the ambient air.	Test the ambient air using an LL tube to determine if chlorinated compounds are present at detectable concentrations. Attach the charcoal filter to the purge needle prior to purging samples.
	HCl vapor is present in the sample VOA or in the ambient air.	Avoid use of HCl in the area where Color-Tec is in use. Use only unpreserved VOAs for samples to be screened with Color-Tec.
	Water vapor has entered the yellow reagent phase of the tube indicating a positive reaction	Avoid purging more that 200 CCs through any sample. Stop purging before condensation inside the tube reaches the end of the black oxidizer phase. Avoid drawing any water from the sample VOA into the colorimetric tube.

5.0 Sample Purging and Detection Methodology

Samples may be purged using 50 cubic centimeters (cc), 100cc, or 200cc purge volumes. These various purge volumes are used in succession to maximize the low-level detection capability and detection range of each tube, thereby reducing the number of tubes needed to tentatively quantify the concentration of total chlorinated compounds in the sample. The pump stand is equipped with two VOA-vial holders to accommodate a second (duplicate) sample to be collected from each sampling location. This duplicate sample (collected and prepared in the same manner as the original sample) serves the following two potential purposes:

1. When purging the initial VOA vial does not induce a color change in the colorimetric tube, the second VOA vial containing the duplicate sample, may be purged (using the same colorimetric tube) to increase the probability of detecting very low (< 10 µg/L) concentrations.
2. When the initial test induces a color change that exceeds the upper limit of the LL tube (a tube reading > 3), the extra VOA vial can be used to analyze the sample using higher range colorimetric tubes (133L or 133M) to tentatively quantify the higher concentration of chlorinated compounds in the sample.

5.1 50cc Purge Volume

Initially, all samples are analyzed using a Gastec® 133-LL tube with a 50cc purge cycle. If the 50cc purge induces a color change reading of 1.5 to 3.0, read the calibration scale value aligned with the stained/unstained interface in the tube and use the pump stroke correction factors provided on Table 1 to determine the correct reading for a 50cc purge volume. If the concentration in the sample exceeds the upper detection limit of the tube (i.e. the color change moves beyond the upper limit of the calibration scale printed on the tube), repeat the analysis using duplicate samples and higher range tubes (133-L, 133-M, and 133-HA) until the color change reaction stops within the calibration scale on the tube. If the color change reaction exceeds the upper limit of the calibration scale of the HA tube, the sample contains a concentration of chlorinated compounds above the upper detection capability of the Color-Tec Method.

5.2 100cc Purge Volume

Following completion of the 50cc purge cycle, if the concentration in the sample has induced a color change in the tube which traveled less than half the distance of the calibrated portion of the reagent phase of the tube (less than a reading of approximately 1.5), pull the pump handle outward and lock it into the 100cc position to complete a full purge cycle. Record the value aligned with the stained/unstained interface on the tube. No correction factor is needed for a 100cc purge.

5.3 200cc Purge Volume

Following completion of the 100cc purge cycle, if the concentration in the sample has induced no color change reaction, remove the purge needle and extraction needle assembly from the VOA vial containing the original sample and insert them into the VOA vial containing the duplicate sample (which has also been pre-heating) and perform another 100cc purge cycle **using the same colorimetric tube**. To perform the transfer to the second vial, remove both needles from the original VOA vial and immediately insert both needles into the septa of the duplicate sample VOA vial. Before re-inserting the pump handle, temporarily remove the colorimetric tube from the tip of the hand pump and re-insert the pump handle completely into the pump while the tube is un-attached. Re-attach the colorimetric tube into the pump tip and pull the pump handle and lock it into the 100cc position. Following the complete second purge cycle, read the calibration scale value aligned with the stained/unstained interface in the tube and use the pump stroke correction factors provided on Table 1 to determine the correct reading for a 200cc purge volume.

Table 1
Purge Volume Correction Factors for 133-Series Tubes

Colorimetric Tube	Purge Volume	Quantity of Pump Pulls	Correction Factor
133-LL	50cc	Half Pull	Tube Reading x 3
133-LL	100cc	Full Pull	Tube Reading x 1
133-LL	200cc	Two Pulls	Tube Reading x 0.5
133-L	50cc	Half Pull	Tube Reading x 3
133-L	100cc	Full Pull	Tube Reading x 1
133-L	200cc	Two Pulls	Tube Reading x 0.5
133-M	50cc	Half Pull	Tube Reading x 2.5
133-M	100cc	Full Pull	Tube Reading x 1
133-M	200cc	Two Pulls	Tube Reading x 0.4
133-HA	50cc	Half Pull	Tube Reading x 3
133-HA	100cc	Full Pull	Tube Reading x 1
133-HA	200cc	Two Pulls	Tube Reading x 0.3∞

6.0 Reading the Tubes

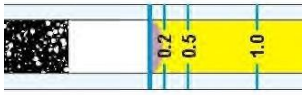
The basic Color-Tec method procedures are simple and intuitive; however, contaminant detection and semi-quantitative values are obtained through visual observation of the colorimetric reaction in the tubes, which is inherently subjective (especially in samples containing very low [<5 µg/L] total CVOHs). These low-level samples induce only a slight color change (i.e. slight darkening or light purple hue) prior to the 0.5ppm line on the tube scale at the entrance of yellow reagent layer in the LL tube. Samples containing concentrations of total chlorinated compounds above 5 µg/L usually induce a more apparent reaction within the LL tube.

6.1 Very Low Concentrations

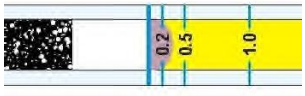
When a sample contains very low concentrations (<10µg/L) of chlorinated compounds, the resulting color change is not immediate or distinct. At these low concentrations the color change does not usually begin until between 100 and 200 CCs of air have purged through the sample into the tube. Furthermore, the color change induced at these low concentrations is very slight (below 0.5 on the tube scale) and appears as a slight darkening or light purple hue at the entrance of yellow reagent layer in the LL tube.

6.2 Low to Medium Concentrations

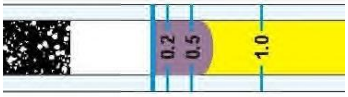
When the sample contains higher concentrations (>10 µg/L) of chlorinated compounds, the resulting color change is an obvious light to dark purple, which propagates through the yellow reagent layer toward the pump end of the colorimetric tube. The detected concentration level is obtained by matching the linear extent of the discolored reagent inside the tube to the calibration scale printed on the outside of the tube.



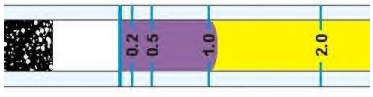
Tube Reading = 0.1
Estimated Concentration = 3 µg/L



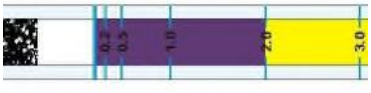
Tube Reading = 0.2
Estimated Concentration = 15 µg/L



Tube Reading = 0.6
Estimated Concentration = 45 µg/L



Tube Reading = 1.0
Estimated Concentration = 70 µg/L



Tube Reading = 2.0
Estimated Concentration = 145 µg/L

6.3 High Concentrations

When the sample contains high concentrations (>100 µg/L) of chlorinated compounds, the color change reaction occurs quickly and usually exceeds the upper detection level of the Gastec® 133LL tube. The higher the concentration of chlorinated compounds in the sample, the faster the color change reaction occurs and the further it propagates through colorimetric tube. Samples containing very high concentrations (>1000 µg/L) of chlorinated compounds, often discolor the entire yellow reagent layer in the LL tube before the pump handle has been fully extended. In these cases, the purging can be discontinued to allow for the current sample bottle to be re-tested using a higher range detector tube. There is no need to continue purging the sample when the detection level of the tube is exceeded. Each subsequently higher range tube (133L, 133M, or 133HA) is used to purge each new duplicate sample in succession until the color change reaction does not exceed the calibration range of the tube being used.

6.4 Recording Tube Readings

It is recommended to record the observed concentration value (tube reading), the range of the colorimetric tube (LL, L, M, or HA) and the final purge volume when logging Color-Tec results. For example, a reading of 2.5 observed on an LL tube using a 100 ml purge should be recorded as **2.5/LL/100**. Purge volume correction factors must be applied for Color-Tec values which were obtained using any purge volume other than 100cc. For example, a reading of 0.2 observed on an LL tube using a 200 ml purge should be recorded as **0.1/LL/200**. A reading of 60 observed on an M tube using a 50 ml purge should be recorded as **150/M/50.**

7.0 Estimating Sample Concentrations (Conversion Table)

The Color-Tec reading (the distance that the color change travels through the tube) is a **relative response** to the amount of chlorinated-compound molecules that have been purged from the sample and directed into the tube. Therefore, the units printed on the tubes are used only to record the **relative response** for each analysis in order to facilitate comparison to laboratory GC/MS methods.

To provide a field-ready estimate of the total chlorinated solvent concentration in liquid and solid samples based on the colorimetric tube reading, The developer of the Color-Tec method created a conversion table (see Table 2) based on statistical comparison of water samples collected from chlorinated solvent sites in which the Color-Tec and GC/MS methods were used to analyze split samples. An estimated concentration may be obtained by matching the Color-Tec tube response to either the *median expected GC/MS concentration* or the *range of expected GC/MS concentrations* provided on the comparison table. The potential range of corresponding analytical values associated with each positive tube reading increases significantly as the sample concentration increases. The estimated concentrations presented on Table 2 represent the central tendency of the comparison data. The actual analytical values obtained by laboratory analysis of split samples may differ substantially from this estimate and may fall outside of the corresponding ranges provided on Table 2.

The expected GC/MS concentrations presented in Table 2 are based on comparison of water sample data only. These conversion values may also be used for soil data; however, the potential range in expected GC/MS concentrations may be increased as a result of the difference in soil volumes used in the two methods and in the inherent heterogeneity of most soil matrices. However, the potential deviation factors included in the *range of expected GC/MS concentrations* column should be sufficient to account for the intrinsic analytical variability of most soil sample results.

THE COLOR-TEC TUBE READING IS NOT THE SAMPLE CONCENTRATION!

The tube reading is a unit-less value which must be compared to laboratory results from split samples in order to yield an estimate of the actual concentration present in the sample. This conversion table provides a reasonable estimate of the expected sample concentration based on the tube reading.

Table 2
Conversion of AQR Color-Tec Readings (Relative Responses) to Expected GC/MS Total Chlorinated Volatile Organic Halocarbon Concentrations

Gastec® Colorimetric Tube	Color-Tec Tube Reading (relative response) (unit-less)	Median Expected GC/MS (Laboratory) Concentration (µg/L or µg/kg)	Range of Expected GC/MS Concentrations (µg/L or µg/kg)	
			Low	High
133-LL	0	3	>0	5
	0.1	7	5	10
	0.2	15	10	20
	0.5	35	25	45
	0.8	55	40	75
	1	70	50	95
	1.5	110	75	140
	2	145	105	190
	2.5	190	130	245
	3	230	160	290
	5	380	260	490
	9	900	630	1,160
133-L	25	2,500	1,250	3,750
	35	4,400	2,200	6,600
	45	7,700	3,850	11,550
	55	15,000	7,500	22,500
	75	17,200	8,600	25,800
133-M	100	21,100	10,500	31,600
	200	46,000	23,000	69,000
	300	85,000	42,500	127,500
133-HA	500	225,500	112,800	338,300
	700	598,300	299,200	897,500
	900	1,587,500	793,800	2,381,300

Notes:

The **Color-Tec Tube Reading** (Color-Tec units) is the value printed on the colorimetric tube at the interface between the reacted and un-reacted reagent (the extent of the color change in the tube for a positive result).

The **Median Expected GC/MS Concentration** is the estimated concentration in micrograms per liter (µg/L) of total chlorinated volatile organic halocarbons (CVOHs) present in the sample for the corresponding Color-Tec tube response.

The **Range of Expected GC/MS Concentrations** is an estimated range of potential concentrations (µg/L or µg/kg) of total chlorinated volatile organic halocarbons (CVOHs) for the for the corresponding Color-Tec tube response.

The **Median Expected GC/MS Concentration** was obtained using statistical comparison of Color-Tec Method data and GC/MS (EPA Method 8260B) data. Comparison data were obtained from 5348 water samples collected from 152 chlorinated solvent (primarily PCE) sites in which the Color-Tec Method was used to analyze the samples in the field and either a laboratory-based or mobile GC/MS was used to analyze split samples.

The **Range of Expected GC/MS Concentrations** reflects the potential deviation in the **Median Expected GC/MS Concentration** based on Color-Tec Method/EPA Method 8260B comparison results. The potential error increases as the concentration increases. The initial deviation factor used for a Color-Tec Reading of zero is +/- 30% and increases to +/- 400% at a Color-Tec Reading of 900 units.

The **Median Expected GC/MS Concentrations** presented in this table are based on comparison of water sample data only. These conversion values may also be used for soil data; however, the potential error or range in expected GC/MS concentrations may be increased as a result in the difference in soil volumes used in the two methods and in the inherent heterogeneity of many soil matrices. The potential deviation factors included in the **Range of Expected GC/MS Concentrations** data should be sufficient to account for the intrinsic analytical variability of most soil sample results.

The expected GC/MS concentrations in this table are provided only to give Color-Tec Method users an approximate concentration for the Color-Tec Tube Response. Actual GC/MS results on split samples may be outside of the stated range for a given Color-Tec Tube Response.

Refer to the **AQR Color-Tec Manual** for detailed information regarding general method principals and potential analytical variables.

8.0 Proposed QA/QC Procedures

As with any analytical method, standard sample preparation and quality assurance/quality control (QA/QC) procedures tailored to the specific project goals should be developed and followed precisely and consistently throughout the sampling and analysis program to insure consistent results and the lowest possible detection levels for all samples analyzed using the Color-Tec method. This section is intended to provide the Color-Tec user with a basic methodology for conducting QA/QC procedures which address various potential operational and procedural issues, such as analytical confidence, method performance, false positives/negatives, replicate accuracy, and contaminant carryover. Users of the Color-Tec method are encouraged to use the information provided in this section to develop project-specific QA/QC and sample handling procedures that insure the level of consistency and accuracy required for the user's sampling program.

8.1 Analytical Confidence and Method Performance

Using Color-Tec to analyze prepared sample spikes containing known concentrations of chlorinated compounds provides confidence that the method procedures are being performed properly performed and may provide a basis for estimating concentrations based on the low-range (133LL) colorimetric tube responses. Spiked sample concentrations should range between 10 µg/L and 200 µg/L to cover the detection range of the low-range (133LL) colorimetric tube. Most analytical laboratories will prepare spiked samples in VOA vials with specified compounds at specified concentrations. Conduct Color-Tec analyses on the spiked samples using the same procedures described in Sections 3 and 4 and record the results in your field log as described in Section 5.3. A 200cc purge using two VOA vials (as described in Section 4.3) may be required to produce a positive Color-Tec reading when testing spiked samples containing 10 µg/L or less of total CVOHs may require a 200cc purge to produce a positive Color-Tec reading.

Performance/confidence testing of the higher range tubes (133L, 133M, and 133HA) using high-concentration spiked samples is unnecessary because the high range tubes are usually not used unless the sample being tested has already exceeded the upper range of the low range tube, thus revealing that the sample being tested contains a sufficient quantity of chlorinated compounds to evoke a positive reaction from the next higher range tube. Given the inherent extreme variability of estimating high concentrations based on tube responses on the high range tubes (133L, 133M, and 133HA), comparison of high concentration (>500 µg/L) spiked samples generally

8.2 Chemical Inhibitors (False Negatives)

The presence of Toluene and Xylenes inhibits/diminishes the ability of the colorimetric tubes to detect CVOHs. At sites where the presence of these compounds is suspected to be present in the soil or water samples, QA procedures may include periodic testing of groundwater or soil samples and ambient air for the presence of toluene and xylenes using a Gastec® Toluene tube (the Toluene tube also detects xylenes). To conduct a test for the presence of compounds which could inhibit the detection of CVOHs use the Toluene (122L) tube to analyze a duplicate soil or water sample using the procedures described in Sections 2 through 4.

8.3 Positive Interference (False Positives)

Chlorinated Volatile Organic Halocarbons. The Gastec® 133-series colorimetric tubes used to perform the Color-Tec method detect all chlorinated volatile organic halocarbons (CVOHs) present in each sample. Thus, individual CVOH compounds cannot be identified/isolated using this method. But rather, each positive tube reading represents the sum total of all CVOH compounds present in the sample as "total CVOHs". This detection of the entire class of compounds is an inherent effect of the colorimetric tube design and thus may not be avoided by any alteration of method procedures.

Water Vapor. A build-up of water vapor in the colorimetric tube in the oxidizer stage (black portion of the tube) and through the catalyst stage (white portion of the tube) can induce a subtle color change similar to that of a low-level positive result if the moisture reaches the reagent stage (yellow portion of the tube). This problem is easily avoided by observing the build-up of condensation inside the tube in the oxidizer stage during purging, and stopping the airflow before the condensation reaches the white catalyst stage. This condition rarely occurs before the maximum required purge volume of 200 CCs is achieved and contaminant presence or absence has been determined.

Hydrogen Chloride Vapor. Hydrogen chloride vapor is the reactant that causes the color change in the yellow reagent used in the PCE colorimetric tubes. The HCl vapor is formed when chlorinated halocarbons pass through the oxidizer and catalyst stages of the tube. Free HCl vapor can also be formed when strong hydrochloric acid comes into contact with air or calcium carbonate. Any source of free hydrogen chloride vapor which enters the colorimetric tube will cause a strong positive reaction. To minimize the risk of false positives from hydrogen chloride vapor, avoid the use of pre-preserved VOAs when using the Color-Tec method. Natural sources of hydrogen chloride vapor are rare.

Free Chlorine. Very high (>20,000 ppm) concentrations of free chlorine can cause a low-level positive reaction in the 133LL colorimetric tube. The conditions necessary for this positive interference rarely occur in groundwater or soil samples.

Contaminant Carryover. It is highly recommended that VOA vials and extraction needle assemblies be discarded following each test. Re-use of these expendable items may cause sufficient carryover of contaminants to cause a false positive result in subsequent samples.

8.4 Ambient Air Interference

Because the Color-Tec method uses ambient air as the purge gas, airborne chlorinated compounds at low concentrations can enter the sample and cause a positive reaction in the detector tube. Conversely, low concentrations of either toluene or xylenes present in the ambient air may enter the colorimetric tube and inhibit/diminish the tube's ability to detect CVOHs. To prevent airborne contaminants from entering the sample and detector tube during sample purging and analysis, the method is used with a carbon pre-filter attached to the purge needle. To determine whether airborne chlorinated contaminants are present, a PCE (133LL) colorimetric tube may be used periodically to test the ambient air at the location where the field testing is being performed. If airborne contaminants are present and the carbon filter is being used, the carbon filters can also be tested periodically using a colorimetric tube to determine if breakthrough is occurring. The ambient air may be similarly tested for the presence of xylenes or toluene using the PCE (133LL) colorimetric tube.

To conduct a test for the presence of chlorinated VOHs in the ambient air, break the tips of a PCE (133LL) or PCE (133LL) colorimetric tube and properly insert it into the hand pump. Pull and lock the pump handle into the 100cc position allowing ambient air to enter the colorimetric tube. *Note: Do not attach an extraction needle assembly to the colorimetric tube while performing this test.* Once the 100cc flow cycle is completed, carefully read the tube and record the results. A positive result indicates the presence of CVOCs in the ambient air at concentrations detectable by Color-Tec which would affect sample results unless the carbon filter assembly is attached to the purge needle (see Section 9). A negative result indicates that CVOCs are not present in the ambient air at concentrations detectable by Color-Tec and therefore will not affect sample results. It is recommended that the carbon filter assembly is used regardless of the ambient air testing results.

8.5 Duplicate Sample Testing Procedure

Duplicate or replicate samples are collected from the same sampling location, at the same time, using the same collection methods, and analyzed using the same procedures as the original samples for the purpose of determining both sampling and analytical method variability. Since a second (duplicate) VOA vial is always collected for the Color-Tec method, a duplicate or replicate analysis may be performed on the second (duplicate) VOA vial any time that a positive result (color change) is evoked by the original sample (first VOA vial) without exceeding the upper limit of the low-level colorimetric tube. In those cases, the duplicate or replicate analysis is simply performed by using a new low-level colorimetric tube to analyze the duplicate sample in the second (unused) VOA vial. If sampling and method variability is low, the result of the duplicate test will be the same or similar to the results obtained from the original test. The relative percent difference (RPD) may be calculated to quantify any variability in the results.

8.6 Collection of Split Samples for Laboratory Analysis

It is recommended that sample splits be collected for laboratory comparison analysis from 5 to 20 percent of the total quantity of samples analyzed using the Color-Tec method. Given a sufficient quantity of split sample pairs and sufficient range of concentration values, the GC/MS-to-Color-Tec comparison data may be used to obtain estimated concentrations for samples in the data set which were analyzed only using the Color-Tec method. This can be achieved using linear regression analysis of the comparison data. Statistical analysis of the comparison data can also be performed to determine site-specific Color-Tec method performance data.

9.0 Safety Precautions

As with the use of any product, it is recommended that the user carefully review all product manuals and Material Safety Data Sheets (MSDS) provided with this product prior to use. Several components of the Color-Tec kit are products obtained from other manufacturers which have manuals including safety precautions. Users of the Color-Tec method should carefully review the manuals and safety precautions and should become familiar with the proper use of all components included in the Color-Tec kit. It is recommended that the procedures involved with the method be incorporated into the user's Site-specific Safety and Health Plan (SSHP). MSDSs for all chemicals provided as part of the Color-Tec kit are available upon request. The following precautions should be considered to reduce potential user safety risks associated with the performance of the Color-Tec method.

Activity	Potential Risk	Precaution
Breaking tube tips	eye injury, dermal puncture	safety glasses
Accidental tube breakage	dermal cuts, exposure to reagent	safety gloves
Use of purge/extraction needles	dermal puncture	use caution
Use of the hot plate	dermal burns, electric shock	limited setting
Use of PCE standards	dermal contact, dermal cuts	safety gloves

Additional Safety Notes:

- Use skin and eye protection while breaking colorimetric and carbon filter tubes;
- The thermostat dial setting of the Corning® Hot Plate should never be set above 5 for any heating purposes required by the Color-Tec method;
- Do not over-fill the water bath pan while heating the samples and tubes;
- Always conduct sample and tube heating activities on a flat, stabile, surface.
- Keep all flammable or combustible materials away from the Corning® Hot Plate during sample and tube heating activities.

- Always use the stainless-steel water-bath pan properly filled with water for heating the samples and tubes – do not heat samples or tubes directly on the surface of the Corning® Hot Plate;
- Do not use any heat source to heat the water-bath, tubes, or samples other than the Corning® Hot Plate provided in the hardware kit.

Disposal of Expendable Materials:

- Re-cap all needles before disposal;
- After re-capping each extraction needle, dispose of the extraction needle assembly while leaving the vinyl tubing attached to the colorimetric tube – Do not attempt to remove the extraction needle assembly from the tip of the colorimetric tube for disposal;
- Dispose of all sharps (needles and broken glassware) in accordance with any and all applicable local and/or federal rules or guidance.
- Dispose of all colorimetric tubes as specified in the Gastec® MSDS and/or in accordance with any and all applicable local and/or federal rules or guidance.
- Dispose of all VOA vials used to contain sample materials in accordance with any and all applicable local and/or federal rules or guidance.

Product Warranty
AQR warrants that the goods sold herein will be free from defects in material and workmanship. This warranty shall be limited to the replacement of defective parts. It is expressly agreed that this warranty shall be in lieu of all warranties of fitness and in lieu of the warrant of merchantability.

EPA Guidance Document References

Using Dynamic Field Activities for On-Site Decision Making
May 2003; OSWER No. 9200.1-40 EPA/540/R03/002; Chapter 5;
http://www.epa.gov/superfund/programs/dfa/download/guidance/40r03002.pdf

Site Characterization Technologies for DNAPL Investigations September 2004; EPA 542-R-04-017;
http://www.clu-in.org/download/char/542r04017.pdf

Understanding Procurement for Sampling and Analytical Services under a Triad Approach June 2005, EPA 542-R-05-022;
http://www.epa.gov/swertio1/download/char/procurement.pdf

Conducting Contamination Assessments at Drycleaning Sites EPA Technology Innovation Program; State Coalition for Remediation of Drycleaners; http://www.drycleancoalition.org/download/assessment.pdf

EPA Triad Implementation References

Using AQR Color-Tec for Source Identification and Delineation
Naval Construction Battalion Center Davisville North Kingstown, RI - 2008 Triad Conference;
http://www.umass.edu/tei/conferences/Triad_PDF/Anderson.pdf

Fast Track to Reducing Conceptual Site Model Uncertainty CH2MHill; Storage Tank Site ST-123 POL Fuel Yard;
http://www.Triadcentral.org/user/includes/dsp_profile.cfm?Project_ID=25

Best Practices in Triad Approach to Characterize TCE, National Laboratory Environmental Sciences Division Argonne, IL;
http://www.triadcentral.org/user/doc/TPP-Hurlburt-BestPractices.pdf

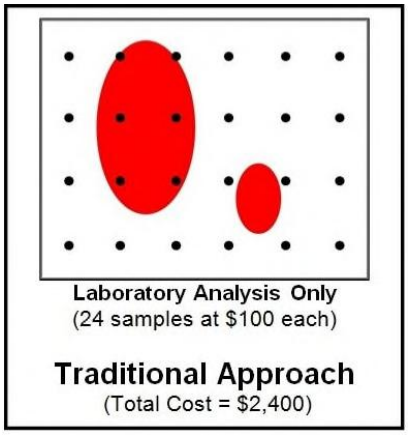
Adaptations to Triad as a Basis for Exit Strategy Development Decision Logic Flow Chart 2006 Triad Poster Session;
CH2MHill; http://www.triadcentral.org/user/doc/TPP-Hurlburt-TriadAdaptations.pdf

Successful Triad Implementations at Federal Sites AQR Color-Tec Method locates source areas at Calloway Drum Recycling Site, Auburndale, Florida http://www.triadcentral.org/user/doc/TPP-Callaway-Field_Based_Decision_Approach.pdf

Color-Tec Method Applications

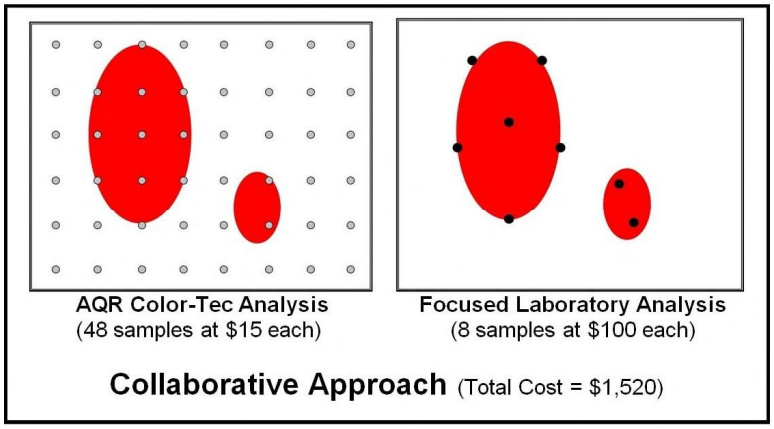
Source Area Identification at chlorinated solvent sites is highly complex given the low solubility of these compounds in water. Chlorinated solvent source zones often persist as suspended residual in unsaturated and saturated subsurface sediments for many decades. Surface water infiltration and groundwater flowing through the source zones slowly dissolves the suspended residual solvent leading to substantial aqueous phase contaminant plumes. Given the high volatility of most chlorinated compounds, residual solvents suspended in the unsaturated soil often leads to significant vapor phase contamination. The Color-Tec method is ideal for locating chlorinated solvent source areas by combining low level detection of all chlorinated compounds with low per sample cost to allow for significant expansion of sampling coverage compared to assessment approaches where only definitive analytical (laboratory) methods are employed to locate source areas. Definitive laboratory analysis provides high analytical accuracy, but sampling quantity is often limited to control costs, resulting in data gaps, sampling uncertainty, and low overall data quality. The low per-sample cost of Color-Tec method offers a 6:1 increase in analysis volume over laboratory methods, allowing for five times the sampling coverage for the same cost.

The illustrations below compare the traditional approach of source identification which uses only definitive laboratory analysis, to a collaborative approach which uses a high volume of Color-Tec data combined with a low quantity of definitive laboratory data. This collaborative approach combines high volume/low accuracy with low volume/high accuracy to achieve higher overall data quality than either method alone.



The diagram to the left shows the traditional site investigation scenario in which all samples collected are analyzed using only definitive analytical methods. The red areas represent previously unidentified source areas and black dots represent sampling locations intended to locate and delineate the contaminant plumes. Although this definitive-analysis only approach provides high analytical accuracy, the sampling quantity is often limited in order to control costs, resulting in data gaps, sampling uncertainty, and low overall data quality – and in this example the smaller source area remains undetected.

The two diagrams to the right show an investigation scenario in which a real-time measurement method, such as Color-Tec, is used to increase the overall sampling coverage, resulting in reduced sampling uncertainty and increased overall data quality. In this example, the smaller source area is identified and the Color-Tec data is verified and confirmed by focusing a reduced quantity of definitive, laboratory-based, analysis of split-samples onto the most critical areas of the site. Combining Color-Tec with focused laboratory analysis in this manner provides increased overall data quality and analytical accuracy at significantly lower costs than conventional approaches which rely only on definitive laboratory-based analysis.



Groundwater Profiling is the collection of discrete samples at multiple depths and locations working outward from known source areas to define the lateral and vertical extent of a dissolved groundwater contaminant plume. The technique is used in conjunction with the Color-Tec method at chlorinated solvent sites to allow for immediate decisions regarding subsequent vertical and lateral sampling locations.

Soil Matrix Profiling is similar to groundwater profiling, but uses sampling of the unsaturated soil to define the lateral and vertical extent of the vapor phase contamination.

Groundwater Matrix Profiling (Residual Zone Mapping) is similar to groundwater or soil profiling, but uses sampling of saturated unconsolidated aquifer matrix to define the lateral and vertical extent of suspended residual DNAPL.

Surface Water/Sediment/Pore Water Impact Evaluation is the collection and analysis of sediment, sediment pore water, and surface water to locate and characterize groundwater impacts on surface water.

AQR Color-Tec®

Contact and Ordering Information

- **For more information visit http://www.aqrcolor-tec.com/**
- **For kit orders contact Phil Pecevich at 919-918-7191**
  Email: pecevica@bellsouth.net

Equipment and Expendables

- **Hardware kit includes piston pump, pump stand, and heating equipment in a Pelican® hard case**
- **Expendables provided in 20-sample packs**
- **Expendables for QA/QC tests sold separately**
- **Cost per sample is $19.95**
- **Volume discounts available**
- **Professional technical support is included with every purchase**
- **Professional in-house or web-based training is available**

Hardware Kit

20-Sample Pack

Appendix D: SCDHEC Water Well Records – Temporary Wells

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: PAD KEMMANAHALLI, ITRON INC (last) (first)
Address: 1111 BROADWAY, SUITE 1800
City: OAKLAND State: CA Zip: 94607
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** GREENWOOD
Name: MINNIE MORSE
Street Address: 113 POSSUM HOLLOW ROAD
City: GREENWOOD Zip: 29646
Latitude: 34° 12' 59.27" Longitude: 82° 05' 37.96"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:** SGWI-1

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0.0 ft. to 65.0 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
WATER SAMPLE ABANDONED BY		
GEOLOGIC EXPLORATION ON		
01/18/17 VIA PROBE ROD		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		
5. REMARKS:		

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☑ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: MW-10953

8. USE: WATER SAMPLE
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 01/18/17
65.0 ft. Date Completed: 01/18/17

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: PAUL MCVEY **CERT. NO.:** 02171
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A B C D (circle one) ☐ ☑ ☐ ☐
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 02/07/17
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: PAD KEMMANAHALLI, ITRON INC (last) (first)
Address: 1111 BROADWAY, SUITE 1800
City: OAKLAND State: CA Zip: 94607
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** GREENWOOD
Name: MINNIE MORSE
Street Address: 113 POSSUM HOLLOW ROAD
City: GREENWOOD Zip: 29646
Latitude: 34° 12' 59.27" Longitude: 82° 05' 37.96"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:** SGWI-2

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0.0 ft. to 70.0 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
WATER SAMPLE ABANDONED BY		
GEOLOGIC EXPLORATION ON		
01/19/17 VIA PROBE ROD		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		
5. REMARKS:		

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☑ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: MW-10953

8. USE: WATER SAMPLE
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 01/19/17
70.0 ft. Date Completed: 01/19/17

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: PAUL MCVEY **CERT. NO.:** 02171
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☑ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 02/07/17
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: PAD KEMMANAHALLI, ITRON INC (last) (first)
Address: 1111 BROADWAY, SUITE 1800
City: OAKLAND State: CA Zip: 94607
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** GREENWOOD
Name: MINNIE MORSE
Street Address: 113 POSSUM HOLLOW ROAD
City: GREENWOOD Zip: 29646
Latitude: 34° 12' 59.27" Longitude: 82° 05' 37.96"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:** SGWI-3

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0.0 ft. to 70.0 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
WATER SAMPLE ABANDONED BY		
GEOLOGIC EXPLORATION ON		
01/19/17 VIA PROBE ROD		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		
5. REMARKS:		

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☑ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: MW-10953

8. USE: WATER SAMPLE
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 01/19/17
70.0 ft. Date Completed: 01/19/17

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: PAUL MCVEY **CERT. NO.:** 02171
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☑ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 02/07/17
Well Driller

If D Level Driller, provide supervising driller's name:

Appendix E: Analytical Data and Data Assessment Reports – Temporary Wells

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

AECOM
10 Patewood Drive
Building 6, Suite 500
Greenville, SC 29615
Attention: Aaron Council

Project Name: **Itron Greenwood**

Project Number: **60520033.20000**

Lot Number: **SA20108**

Date Completed: **01/25/2017**

Lucas Odom
Project Manager

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative

AECOM

Lot Number: SA20108

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary

AECOM

Lot Number: SA20108

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	SGWI-1(45-50')	Aqueous	01/18/2017 1310	01/20/2017
002	SGWI-1(50-55')	Aqueous	01/18/2017 1330	01/20/2017
003	SGWI-1(55-60')	Aqueous	01/18/2017 1400	01/20/2017
004	SGWI-1(60-65')	Aqueous	01/18/2017 1505	01/20/2017
005	SGWI-2(35-40')	Aqueous	01/18/2017 1620	01/20/2017
006	SGWI-2(40-45')	Aqueous	01/18/2017 1645	01/20/2017
007	SGWI-2(45-50')	Aqueous	01/19/2017 0830	01/20/2017
008	SGWI-2(50-55')	Aqueous	01/19/2017 0900	01/20/2017
009	SGWI-2(55-60')	Aqueous	01/19/2017 0940	01/20/2017
010	SGWI-2(60-65')	Aqueous	01/19/2017 1000	01/20/2017
011	SGWI-2(65-70')	Aqueous	01/19/2017 1030	01/20/2017
012	SGWI-3(35-40')	Aqueous	01/19/2017 1120	01/20/2017
013	SGWI-3(40-45')	Aqueous	01/19/2017 1150	01/20/2017
014	SGWI-3(45-50')	Aqueous	01/19/2017 1200	01/20/2017
015	SGWI-3(50-55')	Aqueous	01/19/2017 1320	01/20/2017
016	SGWI-3(55-60')	Aqueous	01/19/2017 1345	01/20/2017
017	SGWI-3(60-65')	Aqueous	01/19/2017 1405	01/20/2017
018	SGWI-3(65-70')	Aqueous	01/19/2017 1430	01/20/2017

(18 samples)

Executive Summary

AECOM

Lot Number: SA20108

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
003	SGWI-1(55-60')	Aqueous	Acetone	8260B	37		ug/L	9
012	SGWI-3(35-40')	Aqueous	Acetone	8260B	23		ug/L	27

(2 detections)

Client: AECOM
Description: SGWI-1(45-50')
Date Sampled: 01/18/2017 1310
Date Received: 01/20/2017

Laboratory ID: SA20108-001
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1403	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-1(45-50')
Date Sampled: 01/18/2017 1310
Date Received: 01/20/2017

Laboratory ID: SA20108-001
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1403	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-1(50-55')
Date Sampled: 01/18/2017 1330
Date Received: 01/20/2017

Laboratory ID: SA20108-002
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1426	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-1(50-55')
Date Sampled: 01/18/2017 1330
Date Received: 01/20/2017

Laboratory ID: SA20108-002
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1426	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-1(55-60')
Date Sampled: 01/18/2017 1400
Date Received: 01/20/2017

Laboratory ID: SA20108-003
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1450	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	37		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-1(55-60')
Date Sampled: 01/18/2017 1400
Date Received: 01/20/2017

Laboratory ID: SA20108-003
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1450	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-1(60-65')
Date Sampled: 01/18/2017 1505
Date Received: 01/20/2017

Laboratory ID: SA20108-004
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1513	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-1(60-65')
Date Sampled: 01/18/2017 1505
Date Received: 01/20/2017

Laboratory ID: SA20108-004
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1513	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(35-40')
Date Sampled: 01/18/2017 1620
Date Received: 01/20/2017

Laboratory ID: SA20108-005
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1537	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(35-40')
Date Sampled: 01/18/2017 1620
Date Received: 01/20/2017

Laboratory ID: SA20108-005
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1537	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(40-45')
Date Sampled: 01/18/2017 1645
Date Received: 01/20/2017

Laboratory ID: SA20108-006
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1600	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(40-45')
Date Sampled: 01/18/2017 1645
Date Received: 01/20/2017

Laboratory ID: SA20108-006
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1600	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(45-50')
Date Sampled: 01/19/2017 0830
Date Received: 01/20/2017

Laboratory ID: SA20108-007
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1624	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(45-50')
Date Sampled: 01/19/2017 0830
Date Received: 01/20/2017

Laboratory ID: SA20108-007
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1624	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(50-55')
Date Sampled: 01/19/2017 0900
Date Received: 01/20/2017

Laboratory ID: SA20108-008
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1647	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(50-55')
Date Sampled: 01/19/2017 0900
Date Received: 01/20/2017

Laboratory ID: SA20108-008
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1647	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(55-60')
Date Sampled: 01/19/2017 0940
Date Received: 01/20/2017

Laboratory ID: SA20108-009
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1711	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(55-60')
Date Sampled: 01/19/2017 0940
Date Received: 01/20/2017

Laboratory ID: SA20108-009
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1711	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(60-65')
Date Sampled: 01/19/2017 1000
Date Received: 01/20/2017

Laboratory ID: SA20108-010
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1735	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(60-65')
Date Sampled: 01/19/2017 1000
Date Received: 01/20/2017

Laboratory ID: SA20108-010
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1735	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(65-70')
Date Sampled: 01/19/2017 1030
Date Received: 01/20/2017

Laboratory ID: SA20108-011
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1757	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-2(65-70')
Date Sampled: 01/19/2017 1030
Date Received: 01/20/2017

Laboratory ID: SA20108-011
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1757	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(35-40')
Date Sampled: 01/19/2017 1120
Date Received: 01/20/2017

Laboratory ID: SA20108-012
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1821	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	23		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(35-40')
Date Sampled: 01/19/2017 1120
Date Received: 01/20/2017

Laboratory ID: SA20108-012
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1821	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(40-45')
Date Sampled: 01/19/2017 1150
Date Received: 01/20/2017

Laboratory ID: SA20108-013
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1845	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(40-45')
Date Sampled: 01/19/2017 1150
Date Received: 01/20/2017

Laboratory ID: SA20108-013
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/21/2017 1845	TML		32240

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(45-50')
Date Sampled: 01/19/2017 1200
Date Received: 01/20/2017

Laboratory ID: SA20108-014
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1538	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(45-50')
Date Sampled: 01/19/2017 1200
Date Received: 01/20/2017

Laboratory ID: SA20108-014
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1538	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		109	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(50-55')
Date Sampled: 01/19/2017 1320
Date Received: 01/20/2017

Laboratory ID: SA20108-015
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1601	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(50-55')
Date Sampled: 01/19/2017 1320
Date Received: 01/20/2017

Laboratory ID: SA20108-015
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1601	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(55-60')
Date Sampled: 01/19/2017 1345
Date Received: 01/20/2017

Laboratory ID: SA20108-016
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1624	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(55-60')
Date Sampled: 01/19/2017 1345
Date Received: 01/20/2017

Laboratory ID: SA20108-016
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1624	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		112	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		109	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(60-65')
Date Sampled: 01/19/2017 1405
Date Received: 01/20/2017

Laboratory ID: SA20108-017
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1648	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(60-65')
Date Sampled: 01/19/2017 1405
Date Received: 01/20/2017

Laboratory ID: SA20108-017
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1648	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(65-70')
Date Sampled: 01/19/2017 1430
Date Received: 01/20/2017

Laboratory ID: SA20108-018
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1711	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: SGWI-3(65-70')
Date Sampled: 01/19/2017 1430
Date Received: 01/20/2017

Laboratory ID: SA20108-018
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/23/2017 1711	PAP		32280

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ32240-001
Batch: 32240
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Acetone	ND		1	20	ug/L	01/21/2017 1327
Benzene	ND		1	5.0	ug/L	01/21/2017 1327
Bromodichloromethane	ND		1	5.0	ug/L	01/21/2017 1327
Bromoform	ND		1	5.0	ug/L	01/21/2017 1327
Bromomethane (Methyl bromide)	ND		1	5.0	ug/L	01/21/2017 1327
2-Butanone (MEK)	ND		1	10	ug/L	01/21/2017 1327
Carbon disulfide	ND		1	5.0	ug/L	01/21/2017 1327
Carbon tetrachloride	ND		1	5.0	ug/L	01/21/2017 1327
Chlorobenzene	ND		1	5.0	ug/L	01/21/2017 1327
Chloroethane	ND		1	5.0	ug/L	01/21/2017 1327
Chloroform	ND		1	5.0	ug/L	01/21/2017 1327
Chloromethane (Methyl chloride)	ND		1	5.0	ug/L	01/21/2017 1327
Cyclohexane	ND		1	5.0	ug/L	01/21/2017 1327
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	ug/L	01/21/2017 1327
Dibromochloromethane	ND		1	5.0	ug/L	01/21/2017 1327
1,2-Dibromoethane (EDB)	ND		1	5.0	ug/L	01/21/2017 1327
1,2-Dichlorobenzene	ND		1	5.0	ug/L	01/21/2017 1327
1,3-Dichlorobenzene	ND		1	5.0	ug/L	01/21/2017 1327
1,4-Dichlorobenzene	ND		1	5.0	ug/L	01/21/2017 1327
Dichlorodifluoromethane	ND		1	5.0	ug/L	01/21/2017 1327
1,2-Dichloroethane	ND		1	5.0	ug/L	01/21/2017 1327
1,1-Dichloroethane	ND		1	5.0	ug/L	01/21/2017 1327
trans-1,2-Dichloroethene	ND		1	5.0	ug/L	01/21/2017 1327
1,1-Dichloroethene	ND		1	5.0	ug/L	01/21/2017 1327
cis-1,2-Dichloroethene	ND		1	5.0	ug/L	01/21/2017 1327
1,2-Dichloropropane	ND		1	5.0	ug/L	01/21/2017 1327
trans-1,3-Dichloropropene	ND		1	5.0	ug/L	01/21/2017 1327
cis-1,3-Dichloropropene	ND		1	5.0	ug/L	01/21/2017 1327
Ethylbenzene	ND		1	5.0	ug/L	01/21/2017 1327
2-Hexanone	ND		1	10	ug/L	01/21/2017 1327
Isopropylbenzene	ND		1	5.0	ug/L	01/21/2017 1327
Methyl acetate	ND		1	5.0	ug/L	01/21/2017 1327
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	ug/L	01/21/2017 1327
4-Methyl-2-pentanone	ND		1	10	ug/L	01/21/2017 1327
Methylcyclohexane	ND		1	5.0	ug/L	01/21/2017 1327
Methylene chloride	ND		1	5.0	ug/L	01/21/2017 1327
Styrene	ND		1	5.0	ug/L	01/21/2017 1327
1,1,2,2-Tetrachloroethane	ND		1	5.0	ug/L	01/21/2017 1327
Tetrachloroethene	ND		1	5.0	ug/L	01/21/2017 1327
Toluene	ND		1	5.0	ug/L	01/21/2017 1327
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	ug/L	01/21/2017 1327
1,2,4-Trichlorobenzene	ND		1	5.0	ug/L	01/21/2017 1327
1,1,2-Trichloroethane	ND		1	5.0	ug/L	01/21/2017 1327
1,1,1-Trichloroethane	ND		1	5.0	ug/L	01/21/2017 1327

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ32240-001
Batch: 32240
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Trichloroethene	ND		1	5.0	ug/L	01/21/2017 1327
Trichlorofluoromethane	ND		1	5.0	ug/L	01/21/2017 1327
Vinyl chloride	ND		1	2.0	ug/L	01/21/2017 1327
Xylenes (total)	ND		1	5.0	ug/L	01/21/2017 1327

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		92	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ32240-002
Batch: 32240
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	83		1	83	60-140	01/21/2017 1229
Benzene	50	42		1	84	70-130	01/21/2017 1229
Bromodichloromethane	50	47		1	93	70-130	01/21/2017 1229
Bromoform	50	41		1	82	70-130	01/21/2017 1229
Bromomethane (Methyl bromide)	50	46		1	92	60-140	01/21/2017 1229
2-Butanone (MEK)	100	91		1	91	60-140	01/21/2017 1229
Carbon disulfide	50	41		1	82	60-140	01/21/2017 1229
Carbon tetrachloride	50	44		1	88	70-130	01/21/2017 1229
Chlorobenzene	50	46		1	91	70-130	01/21/2017 1229
Chloroethane	50	45		1	90	60-140	01/21/2017 1229
Chloroform	50	42		1	84	70-130	01/21/2017 1229
Chloromethane (Methyl chloride)	50	44		1	89	60-140	01/21/2017 1229
Cyclohexane	50	39		1	79	70-130	01/21/2017 1229
1,2-Dibromo-3-chloropropane (DBCP)	50	47		1	93	70-130	01/21/2017 1229
Dibromochloromethane	50	49		1	97	70-130	01/21/2017 1229
1,2-Dibromoethane (EDB)	50	44		1	87	70-130	01/21/2017 1229
1,2-Dichlorobenzene	50	47		1	94	70-130	01/21/2017 1229
1,3-Dichlorobenzene	50	46		1	92	70-130	01/21/2017 1229
1,4-Dichlorobenzene	50	44		1	89	70-130	01/21/2017 1229
Dichlorodifluoromethane	50	51		1	101	60-140	01/21/2017 1229
1,2-Dichloroethane	50	44		1	87	70-130	01/21/2017 1229
1,1-Dichloroethane	50	43		1	85	70-130	01/21/2017 1229
trans-1,2-Dichloroethene	50	40		1	81	70-130	01/21/2017 1229
1,1-Dichloroethene	50	39		1	79	70-130	01/21/2017 1229
cis-1,2-Dichloroethene	50	41		1	83	70-130	01/21/2017 1229
1,2-Dichloropropane	50	45		1	90	70-130	01/21/2017 1229
trans-1,3-Dichloropropene	50	43		1	87	70-130	01/21/2017 1229
cis-1,3-Dichloropropene	50	44		1	87	70-130	01/21/2017 1229
Ethylbenzene	50	47		1	94	70-130	01/21/2017 1229
2-Hexanone	100	96		1	96	60-140	01/21/2017 1229
Isopropylbenzene	50	45		1	90	70-130	01/21/2017 1229
Methyl acetate	50	46		1	91	60-140	01/21/2017 1229
Methyl tertiary butyl ether (MTBE)	50	41		1	83	70-130	01/21/2017 1229
4-Methyl-2-pentanone	100	93		1	93	60-140	01/21/2017 1229
Methylcyclohexane	50	42		1	84	70-130	01/21/2017 1229
Methylene chloride	50	38		1	77	70-130	01/21/2017 1229
Styrene	50	43		1	86	70-130	01/21/2017 1229
1,1,2,2-Tetrachloroethane	50	47		1	95	70-130	01/21/2017 1229
Tetrachloroethene	50	46		1	92	70-130	01/21/2017 1229
Toluene	50	46		1	92	70-130	01/21/2017 1229
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	40		1	81	70-130	01/21/2017 1229
1,2,4-Trichlorobenzene	50	47		1	93	70-130	01/21/2017 1229
1,1,2-Trichloroethane	50	45		1	90	70-130	01/21/2017 1229
1,1,1-Trichloroethane	50	42		1	85	70-130	01/21/2017 1229

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ32240-002
Batch: 32240
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	42		1	84	70-130	01/21/2017 1229
Trichlorofluoromethane	50	52		1	105	70-130	01/21/2017 1229
Vinyl chloride	50	48		1	96	70-130	01/21/2017 1229
Xylenes (total)	100	91		1	91	70-130	01/21/2017 1229

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ32280-001
Batch: 32280
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Acetone	ND		1	20	ug/L	01/23/2017 1000
Benzene	ND		1	5.0	ug/L	01/23/2017 1000
Bromodichloromethane	ND		1	5.0	ug/L	01/23/2017 1000
Bromoform	ND		1	5.0	ug/L	01/23/2017 1000
Bromomethane (Methyl bromide)	ND		1	5.0	ug/L	01/23/2017 1000
2-Butanone (MEK)	ND		1	10	ug/L	01/23/2017 1000
Carbon disulfide	ND		1	5.0	ug/L	01/23/2017 1000
Carbon tetrachloride	ND		1	5.0	ug/L	01/23/2017 1000
Chlorobenzene	ND		1	5.0	ug/L	01/23/2017 1000
Chloroethane	ND		1	5.0	ug/L	01/23/2017 1000
Chloroform	ND		1	5.0	ug/L	01/23/2017 1000
Chloromethane (Methyl chloride)	ND		1	5.0	ug/L	01/23/2017 1000
Cyclohexane	ND		1	5.0	ug/L	01/23/2017 1000
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	ug/L	01/23/2017 1000
Dibromochloromethane	ND		1	5.0	ug/L	01/23/2017 1000
1,2-Dibromoethane (EDB)	ND		1	5.0	ug/L	01/23/2017 1000
1,3-Dichlorobenzene	ND		1	5.0	ug/L	01/23/2017 1000
1,2-Dichlorobenzene	ND		1	5.0	ug/L	01/23/2017 1000
1,4-Dichlorobenzene	ND		1	5.0	ug/L	01/23/2017 1000
Dichlorodifluoromethane	ND		1	5.0	ug/L	01/23/2017 1000
1,1-Dichloroethane	ND		1	5.0	ug/L	01/23/2017 1000
1,2-Dichloroethane	ND		1	5.0	ug/L	01/23/2017 1000
cis-1,2-Dichloroethene	ND		1	5.0	ug/L	01/23/2017 1000
1,1-Dichloroethene	ND		1	5.0	ug/L	01/23/2017 1000
trans-1,2-Dichloroethene	ND		1	5.0	ug/L	01/23/2017 1000
1,2-Dichloropropane	ND		1	5.0	ug/L	01/23/2017 1000
cis-1,3-Dichloropropene	ND		1	5.0	ug/L	01/23/2017 1000
trans-1,3-Dichloropropene	ND		1	5.0	ug/L	01/23/2017 1000
Ethylbenzene	ND		1	5.0	ug/L	01/23/2017 1000
2-Hexanone	ND		1	10	ug/L	01/23/2017 1000
Isopropylbenzene	ND		1	5.0	ug/L	01/23/2017 1000
Methyl acetate	ND		1	5.0	ug/L	01/23/2017 1000
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	ug/L	01/23/2017 1000
4-Methyl-2-pentanone	ND		1	10	ug/L	01/23/2017 1000
Methylcyclohexane	ND		1	5.0	ug/L	01/23/2017 1000
Methylene chloride	ND		1	5.0	ug/L	01/23/2017 1000
Styrene	ND		1	5.0	ug/L	01/23/2017 1000
1,1,2,2-Tetrachloroethane	ND		1	5.0	ug/L	01/23/2017 1000
Tetrachloroethene	ND		1	5.0	ug/L	01/23/2017 1000
Toluene	ND		1	5.0	ug/L	01/23/2017 1000
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	ug/L	01/23/2017 1000
1,2,4-Trichlorobenzene	ND		1	5.0	ug/L	01/23/2017 1000
1,1,2-Trichloroethane	ND		1	5.0	ug/L	01/23/2017 1000
1,1,1-Trichloroethane	ND		1	5.0	ug/L	01/23/2017 1000

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ32280-001
Batch: 32280
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Trichloroethene	ND		1	5.0	ug/L	01/23/2017 1000
Trichlorofluoromethane	ND		1	5.0	ug/L	01/23/2017 1000
Vinyl chloride	ND		1	2.0	ug/L	01/23/2017 1000
Xylenes (total)	ND		1	5.0	ug/L	01/23/2017 1000

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ32280-002
Batch: 32280
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	98		1	98	60-140	01/23/2017 0907
Benzene	50	55		1	109	70-130	01/23/2017 0907
Bromodichloromethane	50	57		1	115	70-130	01/23/2017 0907
Bromoform	50	48		1	97	70-130	01/23/2017 0907
Bromomethane (Methyl bromide)	50	49		1	98	60-140	01/23/2017 0907
2-Butanone (MEK)	100	110		1	106	60-140	01/23/2017 0907
Carbon disulfide	50	58		1	116	60-140	01/23/2017 0907
Carbon tetrachloride	50	55		1	110	70-130	01/23/2017 0907
Chlorobenzene	50	56		1	111	70-130	01/23/2017 0907
Chloroethane	50	49		1	98	60-140	01/23/2017 0907
Chloroform	50	54		1	108	70-130	01/23/2017 0907
Chloromethane (Methyl chloride)	50	70		1	140	60-140	01/23/2017 0907
Cyclohexane	50	56		1	112	70-130	01/23/2017 0907
1,2-Dibromo-3-chloropropane (DBCP)	50	50		1	100	70-130	01/23/2017 0907
Dibromochloromethane	50	55		1	111	70-130	01/23/2017 0907
1,2-Dibromoethane (EDB)	50	51		1	103	70-130	01/23/2017 0907
1,3-Dichlorobenzene	50	55		1	110	70-130	01/23/2017 0907
1,2-Dichlorobenzene	50	54		1	107	70-130	01/23/2017 0907
1,4-Dichlorobenzene	50	54		1	109	70-130	01/23/2017 0907
Dichlorodifluoromethane	50	65		1	130	60-140	01/23/2017 0907
1,1-Dichloroethane	50	57		1	113	70-130	01/23/2017 0907
1,2-Dichloroethane	50	54		1	108	70-130	01/23/2017 0907
cis-1,2-Dichloroethene	50	53		1	107	70-130	01/23/2017 0907
1,1-Dichloroethene	50	55		1	110	70-130	01/23/2017 0907
trans-1,2-Dichloroethene	50	54		1	108	70-130	01/23/2017 0907
1,2-Dichloropropane	50	58		1	115	70-130	01/23/2017 0907
cis-1,3-Dichloropropene	50	59		1	118	70-130	01/23/2017 0907
trans-1,3-Dichloropropene	50	59		1	118	70-130	01/23/2017 0907
Ethylbenzene	50	55		1	110	70-130	01/23/2017 0907
2-Hexanone	100	100		1	103	60-140	01/23/2017 0907
Isopropylbenzene	50	55		1	110	70-130	01/23/2017 0907
Methyl acetate	50	52		1	103	60-140	01/23/2017 0907
Methyl tertiary butyl ether (MTBE)	50	50		1	99	70-130	01/23/2017 0907
4-Methyl-2-pentanone	100	110		1	106	60-140	01/23/2017 0907
Methylcyclohexane	50	54		1	109	70-130	01/23/2017 0907
Methylene chloride	50	55		1	111	70-130	01/23/2017 0907
Styrene	50	55		1	110	70-130	01/23/2017 0907
1,1,2,2-Tetrachloroethane	50	57		1	114	70-130	01/23/2017 0907
Tetrachloroethene	50	55		1	111	70-130	01/23/2017 0907
Toluene	50	55		1	110	70-130	01/23/2017 0907
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	53		1	107	70-130	01/23/2017 0907
1,2,4-Trichlorobenzene	50	44		1	88	70-130	01/23/2017 0907
1,1,2-Trichloroethane	50	55		1	111	70-130	01/23/2017 0907
1,1,1-Trichloroethane	50	54		1	107	70-130	01/23/2017 0907

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ32280-002
Batch: 32280
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	54		1	108	70-130	01/23/2017 0907
Trichlorofluoromethane	50	47		1	93	70-130	01/23/2017 0907
Vinyl chloride	50	58		1	117	70-130	01/23/2017 0907
Xylenes (total)	100	110		1	113	70-130	01/23/2017 0907

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		99	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Chain of Custody Record

Number 53329

Client: AECOM	Report to Contact: Aaron Council	Telephone No. / E-mail: 864-234-3032 aaron.council@aecom.com
Address: 10 Patewood Drive, Bldg Suite 500	Sampler's Signature: x Aaron Council	Quote No.
City: Greenville / State: SC / Zip Code: 29615	Printed Name: Aaron Council	Page 1 of 2
Project Name: Itron - Greenwood		SA20108
Project No.: 60520033.20000	P.O. No.	

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Ultrapure	HASCH	HNO3	HCl	NaOH	Soda Lime	VOC 8260B	Remarks / Cooler I.D.
SGWI-1 (45-50')	1/18/17	1310	G	✓						3			✓	
SGWI-1 (50-55')	1/18/17	1330	G	✓						3			✓	
SGWI-1 (55-60')	1/18/17	1400	G	✓						3			✓	
SGWI-1 (60-65')	1/18/17	1505	G	✓						3			✓	
SGWI-2 (35-40')	1/18/17	1620	G	✓						3			✓	
SGWI-2 (40-45')	1/18/17	1645	G	✓						3			✓	
SGWI-2 (45-50')	1/19/17	0830	G	✓						3			✓	
SGWI-2 (50-55')	1/19/17	0900	G	✓						3			✓	
SGWI-2 (55-60')	1/19/17	0940	G	✓						3			✓	
SGWI-2 (60-65')	1/19/17	1000	G	✓						3			✓	

Turn Around Time Required (Prior lab approval required for expedited TAT.): ✓ Standard ☐ Rush (Specify)

Sample Disposal: ☐ Return to Client ✓ Disposal by Lab

Possible Hazard Identification: ✓ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: Aaron D. Council	1/20/17	0950	1. Received by: Seyre Arey	1.20.17	0950
2. Relinquished by: Seyre Arey	1.20.17	1027	2. Received by: Edward Henry	1.20.17	027
3. Relinquished by: Edward Henry	1.20.17	1437	3. Received by:	Date	Time
4. Relinquished by	Date	Time	4. Laboratory received by:	1/20/17	1437

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Circle) (Yes) No Ice Pack Receipt Temp. 3.1 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 09-01-2014

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Chain of Custody Record

Number 53330

Client: AECOM	Report to Contact: Aaron Council	Telephone No. / E-mail: 864-234-3032 aaron.council@aecom.com	Quote No.
Address: 10 Patewood Drive, Bld. 6, Suite 500	Sampler's Signature: X Aaron Council	Analysis (Attach list if more space is needed)	Page 2 of 2
City: Greenville / State: SC / Zip Code: 29615	Printed Name: Aaron Council		SA20108
Project Name: Itron - Greenwood			
Project No.: 60520033.20000	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab / Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-aqueous	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	Na2S2O3	VOCs 8260B	Remarks / Cooler I.D.
SGWI-2 (65-70')	1/19/17	1030	G	✓						3			✓	
SGWI-3 (35-40')	1/19/17	1120	G	✓						3			✓	
SGWI-3 (40-45')	1/19/17	1150	G	✓						3			✓	
SGWI-3 (45-50')	1/19/17	1200	G	✓						3			✓	
SGWI-3 (50-55')	1/19/17	1320	G	✓						3			✓	
SGWI-3 (55-60')	1/19/17	1345	G	✓						3			✓	
SGWI-3 (60-65')	1/19/17	1405	G	✓						3			✓	
SGWI-3 (65-70')	1/19/17	1430	G	✓						3			✓	

Turn Around Time Required (Prior lab approval required for expedited TAT.): ✓ Standard ☐ Rush (Specify)

Sample Disposal: ☐ Return to Client ✓ Disposal by Lab

Possible Hazard Identification: ✓ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: Aaron A. Council	1/20/17	0950	1. Received by: Secure Area	1.20.17	0950
2. Relinquished by: Secure Area	1.20.17	1027	2. Received by: Edward Hamby	1.20.17	1027
3. Relinquished by: Edward Hamby	1.20.17	1437	3. Received by:	Date	Time
4. Relinquished by	Date	Time	4. Laboratory received by:	1/20/17	1437

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Circle) (Yes) No Ice Pack

Receipt Temp 3.1 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: ME0018C-07

Page 1 of 1
Effective Date: 11/29/2016
Expiry Date: 11/29/2021

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: mam /1/2017 Lot #: 580108

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Other _____

Yes ☐	No ☑		1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

pH strip ID: _____ Cl strip ID: _____

Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:

3.1/3.1 °C ___/___/___ °C ___/___/___ °C ___/___/___ °C

Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐		6. Were sample IDs listed on the COC?
Yes ☑	No ☐		7. Were sample IDs listed on all sample containers?
Yes ☑	No ☐		8. Was collection date & time listed on the COC?
Yes ☑	No ☐		9. Was collection date & time listed on all sample containers?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with the COC?
Yes ☑	No ☐		11. Were tests to be performed listed on the COC?
Yes ☑	No ☐		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)? _____
Yes ☑	No ☐		13. Was adequate sample volume available?
Yes ☐	No ☑		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (<0.5mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?
Yes ☐	No ☑		22. Was the quote number used taken from the container label?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4, HNO_3, HCl, NaOH) using SR # _____.

Sample(s) _____ were received with bubbles >6 mm in diameter.

Samples(s) _____ were received with TRC >0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: _____.

SC Drinking Water Project Sample(s) pH verified to be < 2 by _____ Date: _____

Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR# _____

Sample labels applied by: mam Verified by: _____ Date: 1/2017

Comments: _____

DATA ASSESSMENT REPORT

Data assessment is a systematic process for reviewing a body of data against a predefined set of criteria to provide assurance that the data meet project Data Quality Objective (DQO) requirements. The purpose of the data assessment process is to determine if and how the usability of the analytical data is affected by the overall analytical processes and sample collection and handling procedures. If specific DQOs are not met, the data are qualified (i.e., data flags are assigned to sample results) in accordance with guidelines established by the United States Environmental Protection Agency (USEPA). Data assessment allows the data user to adequately determine if the data can be used for its intended purpose. The data acceptance criteria are established according to Standard Operating Procedures (SOPs) and Statements of Work (SOWs) provided to the contracted analytical laboratory. The assessment of data quality and usability involves five components, as described below.

1) **Field Sampling Check** is a process to ensure that all samples were collected and the laboratory analyses were performed as stipulated in the applicable site-specific Work Plan or Field Sampling Plan (FSP). Inspection of sample preservation procedures, sample handling, analysis requested, sample description and identification (ID), cooler receipt forms, holding time evaluation, and Chain of Custody procedures are all evaluated to ensure that the evidentiary nature of the samples and the resulting analytical data have not been compromised.

2) **Data Verification** is a process for determining the completeness, correctness, consistency, and compliance of a data package in accordance with requirements contained in the applicable SOW and/or contract-specific requirements. This is a review of the data package, electronic data deliverable (EDD), and invoice received from the contract laboratory to ensure that the contract required information is present and complete prior to data validation.

3) **Data Review** is a process of reviewing the primary quality control (QC) data provided by the laboratory and the results of any internal quality assurance (QA)/QC samples, such as field blanks, trip blanks, equipment blanks or ambient blanks, field split samples, and duplicate samples, to ascertain any effect the laboratory's procedures or the sample collection process has on the data.

4) **Data Evaluation** is a process to determine if the data meet project-specific DQOs and contract requirements. This evaluation may involve a review of field sampling and sample management procedures, laboratory audits, Performance Evaluation (PE) sample results, and any other data quality indicators that are available.

5) **Data Validation** is a process to determine the accuracy and precision of analytical data generated and to identify any anomalies encountered. The validation process is performed in accordance with USEPA regional or national functional guidelines, project-specific guidelines, and

compliance with the requirements of each analytical method. Two major components of data validation are laboratory performance and matrix interferences. Evaluation of laboratory performance is a check for compliance for each analytical method to determine if the samples were analyzed within the prescribed acceptance criteria of the method. Evaluation of matrix interferences involves the analysis of surrogate spike recoveries, matrix spike recoveries, and duplicate sample results. Data not meeting project-specific DQOs or the requirements of the analytical method are qualified with data flags according to referenced guidelines.

Data Assessment Procedures

AECOM performed independent QC checks of field and laboratory procedures that were used in collecting and analyzing the data. The QC checks verify that the data collected are of appropriate quality for the intended data use and that the DQOs were met. The steps and guidelines followed during the data validation process were modeled on the *USEPA National Functional Guidelines for Superfund Organic Data Review* (USEPA, August 2014). In addition, method-specific criteria set forth in the compendium of analytical methods found in the *Test Methods for Evaluation Solid Waste (SW-846*), *Update IV* (USEPA, February 2007) are also evaluated during the validation process. This validation process has been adapted to meet the DQO requirements for generation of definitive critical data.

Data Validation Results

The analytical data associated with analytical data package SA20108 (see chains of custody) were collected on January 18-19, 2017 for Itron located in Greenwood, South Carolina. The analytical data were validated according to the procedures outlined above. Where data flags have been applied to this data set, they are separated by a slash "/" and presented in the following format:

Laboratory Flag / Result Flags / Analysis Flags

- Laboratory Flag: This flag precedes the first slash and is added by the laboratory as a result of QC excursions from the analytical method. These flags are laboratory-specific and are described in the associated laboratory report.

- Result Flags: These are presented after the first slash and are added by AECOM based on data validation procedures and guidelines. They tell how and if the data should be used.

- Analysis Flags: These flags are presented after the second slash and are added by AECOM to inform the data user of any specific QA/QC problems that were encountered.

Any data requiring qualification as a result of the validation process were assigned data flags, as discussed below. The validation flags indicate how any QC excursions may have impacted the usability of the data.

Volatile Organic Compounds by Method 8260B

Results of the validation process indicate that the data analyzed for this method are acceptable for their intended use and no data flags are required.

Data Summary and Usability

No QC excursions were encountered during the validation of this data set. Therefore, the data associated with this laboratory batch should be considered compliant and adequate for its intended use.

References

United States Environmental Protection Agency (USEPA), August 2014. *USEPA National Functional Guidelines for Superfund Organic Data Review*. Publication #EPA540-R-014-002.

United States Environmental Protection Agency (USEPA), February 2007. *Test Methods for Evaluating Solid Waste (SW-846)*, Update IV.

Appendix F: MW-23 SCDHEC Water Well Record and Boring Log

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: PAD KEMMANAHALLI, ITRON INC (last) (first)
Address: 1111 BROADWAY, SUITE 1800
City: OAKLAND State: CA Zip: 94607
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** GREENWOOD
Name: MINNIE MORSE
Street Address: 113 POSSUM HOLLOW ROAD
City: GREENWOOD Zip: 29646
Latitude: 34° 12' 59.27" Longitude: 82° 05' 37.96"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:** MW-23

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
RED SILT	60.0	60.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: BENTONITE SEAL FROM 45.0 TO 48.0 FEET

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other SONIC

7. PERMIT NUMBER: MW-10953

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 02/01/17
60.0 ft. Date Completed: 02/01/17

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 18.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 50.0 ft. and 60.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 10.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 48.0 ft. to 60.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 45.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: ANDREW GLOEGE **CERT. NO.:** 02150
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ (Well Driller) Date: 02/07/17

If D Level Driller, provide supervising driller's name:
JASON MANTAK

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Project: Supplemental RI
Project Location: Greenwood, SC
Project Number: 60520033

Log of Boring MW-23

Sheet 1 of 2

Date(s) Drilled	**2/1/17**	Logged By	**AC**	Checked By	**JN**
Drilling Method	**Rotosonic**	Drilling Contractor	**Geologic Exploration**	Total Depth of Borehole	**60 feet bgs**
Drill Rig Type	**Geoprobe 8150LS**	Drill Bit Size/Type	**4"**	Ground Surface Elevation (feet MSL)	**542.75**
Groundwater Level	**26.4 ft bgs on 2/7/17**	Sampling Method	**Sonic Coring**	Hammer Data	**NA**
Borehole Backfill	**NA**	Location	**Back yard at 113 Possum Hollow Road/east of site**		

Elevation, feet	Downhole Depth, feet	SAMPLES Type	SAMPLES Number	Blows/ 6in.	Recovery (%)	PID/OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS AND WELL DETAILS
	0					0.0		SM	Grassed area (TOPSOIL)		
						0.0		ML	Moderate reddish brown, SILT, trace sand (dry to moist) (medium stiff) (low plasticity) SAPROLITE (no odor)		
540						0.0					
						0.0					
	5				50	0.0					
						0.0					
535						0.0					
						0.0					
	10					0.0					
						0.0					
530						0.0					
						0.0					
	15				75	0.0					
						0.0					
525						0.0					
						0.0		SP	Yellowish gray with light brown banding silty fine SAND (moist) (loose) SAPROLITE (no odor)		
	20					0.0					
520											
								ML	Moderate reddish brown fine sandy SILT (moist) (loose) (low plasticity) SAPROLITE (no odor)		
	25				70				26.4 ft ▼		
515											
								SM	Yellowish gray with light brown banding, silty fine to coarse SAND (moist) (loose) SAPROLITE (no odor)		
	30										

ENV2 WITH WELL C:\USERS\ANN_CAMPBELL\DESKTOP\ANN WORK\FEB 10\ITRON\60520033LOGS.GPJ URSSEA3B AECOM.GLB URSSEA3.GDT 2/11/17

AECOM

Project: Supplemental RI
Project Location: Greenwood, SC
Project Number: 60520033

Log of Boring MW-23

Sheet 2 of 2

Elevation, feet	Downhole Depth, feet	SAMPLES Type Number	Blows/ 6in.	Recovery (%)	PID/OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION		REMARKS AND WELL DETAILS
	30						ML	Moderate reddish brown, fine sandy SILT (moist) (loose) (low plasticity) saprolite (no odor)		
510										
	35			85						
505							ML	Dark olive with dark orange mottling and white quartz subangular, medium to coarse gravel seams, fine sandy SILT (wet) (soft) (low plasticity) SAPROLITE		
	40									
500										
	45			100				Grading to dark yellowish orange with black banding fine sandy SILT, massive, little mica (wet) (stiff) (low plasticity) SAPROLITE (no odor) (greasy texture)		
495										
	50									
490							SM	Dark olive with black banding silty fine to coarse SAND with white quartz medium to coarse subangular (wet)		
	55			100						
485										
	60							Boring was completed to 60' bgs. Groundwater was encountered at 26.40 ft bgs. Boring was completed as monitoring well: 0-50 ft bgs 2" schedule 40 flush threaded PVC casing 50-60 ft bgs 2" schedule 40 PVC screen #10 slot 0.010" 0-45 ft bgs Neat cement grout 45-48 ft bgs Bentonite seal 48-60 ft bgs Filter pack Surface manhole		
480										
	65									

Appendix G: Survey Data Points

1	1668884.2918	868856.1578	542.7500	MW-23
2	1668884.2413	868856.2109	542.5800	TOP PVC
3	1668861.5992	868928.2958	538.1600	SGWI-1
4	1668884.2918	868856.1578	542.7500	SGWI-2
5	1668880.9460	868797.6234	544.7900	SGWI-3

Appendix H: Well Development Log

AECOM

Monitoring Well Development Log

Date Started: 2-2-17 **Date Completed:** 2-2-17

Field Personnel: Marc McFarland/Aaron Council

Site Name: ITRON Former Greenwood SC Facility

Project Number: 60520033.40000

Well ID #:MW-23

☐Upgradient ☒Downgradient

Weather Conditions: Sunny, cool

Air Temperature: 70 °F

Total Well Depth (TWD): 60 (1/100 ft)

Depth to Groundwater (DGW): 24.18 (1/100 ft)

Length of Water Column (LWC) = TWD – DGW = 35.82 (1/100 ft)

1 Casing Volume (OCV) = LWC x .163 = 5.84 gallons

5 Casing Volumes = 29.2 gallons

Method of Well Development Monsoon Pump

Total Volume of Water Removed: 20 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Level (btoc)	Water Temp. (C)	pH	ORP Eh (mV)	Specific Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)
2-2-17 1012	0	0	24.18	20.29	5.59	189	0.215	>1000	12.78
2-2-17 1017	0.9	4.5	50.65	20.91	5.83	158	0.199	>1000	9.67
2-2-17 1022	0.4	6.5	51.80	21.97	6.10	136	0.199	>1000	8.96
2-2-17 1027	0.5	9	54.64	21.11	5.99	77	0.169	>1000	11.35
2-2-17 1032	0.1	9.5	56.76	20.86	5.93	86	0.149	>1000	7.72
2-2-17 1037	0.1	10	57.14	20.87	6.07	73	0.147	875	5.84
2-2-17 1042	0.2	11	57.17	21.47	6.05	75	0.146	661	8.67
2-2-17 1047	0.2	12	58.67	21.29	6.10	74	0.117	539	5.48
2-2-17 1052	0.2	13	59.24	21.42	5.98	78	0.123	482	6.14
2-2-17 1057	0.1	13.5	--	21.76	6.04	91	0.117	>1000	6.00
2-2-17 1130	0.1	14	54.47	23.04	5.98	100	0.114	>1000	7.25
2-2-17 1150	0.125	16.5	56.51	22.72	6.01	100	0.093	>1000	6.93

COMMENTS/OBSERVATIONS: Dry at 13.5 gal., let recharge 30 min. Dry again at 16 gal., let recharge 15 min.

Appendix I: Groundwater Sampling Logs

AECOM

Page 1 of 1

Field Data Information Log for Groundwater Sampling

Well ID # MW-1
Site Name ITRON Greenwood, SC Facility
Date 2/7/17
Field Personnel Marc McFarland
Job # 60520033
Weather Conditions Sunny
Air Temperature 62° °F
Total Well Depth (TWD) 31.50 1/100 ft
Depth to Ground Water (DGW) 24.43 1/100 ft
Length of Water Column (LWC) = TWD – DGW 7.07 1/100 ft
1 Casing Volume = LWC x 0.163 = 1.15 gal
3 Casing Volumes 3.45 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic~~ Submersible Pump and Tubing
Method of Sample Collection ~~Peristaltic~~ Submersible Pump and Tubing
Total Volume of Water Removed 1.25 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ✓ MODERATE ____ HIGH ____
Remarks Sampled @ 1105

FIELD ANALYSES

VOLUME PURGED (gallons)	0	0.75	1.25				
TIME (military)	1046	1051	1058				
PH (S.U.)	5.14	4.93	5.05				
Sp. Cond. (units: Ms/cm)	0.007	0.006	0.007				
Water Temp. (°C)	22.01	23.10	24.07				
TURBIDITY (ntu)	>1000	137	78.96				
ORP (mV)	177	215	161				
Dissolved Oxygen (mg/L)	7.45	7.21	6.67				
Salinity	—	—	—				
Water Level	24.43	28.60	29.94				

COMMENTS/OBSERVATIONS: Well dry after purging 0.75 gallons. Let well recharge, took one more set of readings and sampled well.

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Page 1 of 1

Field Data Information Log for Groundwater Sampling

Well ID # MW-2
Site Name ITRON Greenwood, SC Facility
Date 2/7/17
Field Personnel Marc McFarland
Job # 60520033
Weather Conditions Sunny
Air Temperature 62° °F
Total Well Depth (TWD) 34.80 1/100 ft
Depth to Ground Water (DGW) 31.07 1/100 ft
Length of Water Column (LWC) = TWD – DGW 3.73 1/100 ft
1 Casing Volume = LWC x 0.163 = 0.60 gal
3 Casing Volumes 1.8 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic~~ Submersible Pump and Tubing
Method of Sample Collection ~~Peristaltic~~ Submersible Pump and Tubing
Total Volume of Water Removed 0.50 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ✓ MODERATE ____ HIGH ____
Remarks Sampled @ 1025

FIELD ANALYSES

VOLUME PURGED (gallons)	0	0.50					
TIME (military)	1008	1013					
PH (S.U.)	5.42	5.27					
Sp. Cond. (units: Ms/cm)	0.066	0.043					
Water Temp. (°C)	21.17	21.56					
TURBIDITY (ntu)	28.19	19.14					
ORP (mV)	219	159					
Dissolved Oxygen (mg/L)	10.28	9.46					
Salinity	—	—					
Water Level	31.07	33.26					

COMMENTS/OBSERVATIONS: Well dry after purging 0.50 gallons. Let well recharge, then sampled.

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-5D

Site Name ITRON Greenwood, SC Facility

Date 2-8-16

Field Personnel Marc McFarland

Job # 60520033

Weather Conditions Cloudy

Air Temperature 61 °F

Total Well Depth (TWD) 47.90 1/100 ft

Depth to Ground Water (DGW) 30.89 1/100 ft

Length of Water Column (LWC) = TWD – DGW 17.01 1/100 ft

1 Casing Volume = LWC x 0.163 = 2.77 gal

3 Casing Volumes 8.31 gal = Standard Evacuation Volume

Method of Well Excavation ~~Peristaltic Pump and Tubing~~ Submersible

Method of Sample Collection ~~Peristaltic~~ Pump and Tubing Submersible

Total Volume of Water Removed 2.5 gallons

Casing Diameter 2.0 Inches

Casing Material PVC

Measuring Point Elevation 1/100 ft

Land Surface Elevation 1/100 ft

Screened Interval 1/100 ft

Dedicated Pump or Bailer YES ____ NO X Type ____

Locking Cap YES X NO ____

Well Integrity Satisfactory YES ____ NO ____

Well Yield LOW ____ MODERATE ____ HIGH ____

Remarks Sampled @ 1100

FIELD ANALYSES

VOLUME PURGED (gallons)	0	0.5	1.0	1.5	2.0	2.5	
TIME (military)	1030	10.35	1040	1045	1050	1055	
PH (S.U.)	6.77	7.18	7.18	7.23	7.19	7.18	
Sp. Cond. (units: Ms/cm)	0.198	0.199	0.199	0.198	0.199	0.201	
Water Temp. (°C)	17.70	18.08	18.17	18.23	18.39	18.94	
TURBIDITY (ntu)	–	–	–	–	–	–	
ORP (mV)	-53	-100	-109	-122	-121	-123	
Dissolved Oxygen (mg/L)	11.43	10.07	3.04	9.90	9.09	9.65	
Salinity	–	–	–	–	–	–	
Water Level	30.89	39.49	43.30	47.44	48.80	52.18	

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

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Field Data Information Log for Groundwater Sampling

Well ID # MW-6
Site Name ITRON Greenwood, SC Facility
Date 2-7-17
Field Personnel Marc McFarland
Job # 60520033
Weather Conditions Sunny
Air Temperature 72° °F
Total Well Depth (TWD) 38.0 1/100 ft
Depth to Ground Water (DGW) 27.18 1/100 ft
Length of Water Column (LWC) = TWD – DGW 10.82 1/100 ft
1 Casing Volume = LWC x 0.163 = 1.76 gal
3 Casing Volumes 5.28 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic Pump~~ Submersible and Tubing
Method of Sample Collection ~~Peristaltic~~ Submersible Pump and Tubing
Total Volume of Water Removed 3 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1650

FIELD ANALYSES

VOLUME PURGED (gallons)	0	1.0	2.5	3.0			
TIME (military)	1630	1635	1640	1645			
PH (S.U.)	5.55	5.44	5.31	5.29			
Sp. Cond. (units: Ms/cm)	0.027	0.024	0.023	0.021			
Water Temp. (°C)	20.46	20.54	20.48	20.37			
TURBIDITY (ntu)	>1000	>1000	763	553			
ORP (mV)	236	235	233	228			
Dissolved Oxygen (mg/L)	10.58	9.93	6.00	7.0			
Salinity	–	–	–	–			
Water Level	27.18	29.88	32.46	32.55			

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

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Field Data Information Log for Groundwater Sampling

Well ID # MW-7
Site Name ITRON Greenwood, SC Facility
Date 2-8-17
Field Personnel Marc McFarland
Job # 60520033
Weather Conditions Cloudy
Air Temperature 61 °F
Total Well Depth (TWD) 47.0 1/100 ft
Depth to Ground Water (DGW) 27.74 1/100 ft
Length of Water Column (LWC) = TWD – DGW 19.26 1/100 ft
1 Casing Volume = LWC x 0.163 = 3.14 gal
3 Casing Volumes 9.42 gal = Standard Evacuation Volume
Method of Well Excavation Submersible ~~Peristaltic~~ Pump and Tubing
Method of Sample Collection Submersible ~~Peristaltic~~ Pump and Tubing
Total Volume of Water Removed 7.5 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ___ NO X Type ___
Locking Cap YES X NO ___
Well Integrity Satisfactory YES ___ NO ___
Well Yield LOW ___ MODERATE ___ HIGH ___
Remarks Sampled @ 1215

FIELD ANALYSES

VOLUME PURGED (gallons)	0	0.5	1.0	1.5	2.0	2.5	
TIME (military)	1145	1150	1155	1200	1205	1210	
PH (S.U.)	6.70	6.09	5.91	5.77	5.65	5.51	
Sp. Cond. (units: Ms/cm)	0.049	0.059	0.029	0.024	0.024	0.023	
Water Temp. (°C)	19.96	20.52	21.08	21.62	21.73	21.69	
TURBIDITY (ntu)	—	—	—	—	—	—	
ORP (mV)	-11	44	92	122	90	101	
Dissolved Oxygen (mg/L)	10.27	6.29	6.05	9.29	9.70	10.03	
Salinity	—	—	—	—	—	—	
Water Level	27.74	30.42	31.18	31.79	32.07	32.36	

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Page 1___ of 1___

Field Data Information Log for Groundwater Sampling

Well ID # MW-9

Site Name ITRON Greenwood, SC Facility

Date 2-8-17

Field Personnel Marc McFarland

Job # 60520033

Weather Conditions Sunny

Air Temperature 65° °F

Total Well Depth (TWD) 52.0 1/100 ft

Depth to Ground Water (DGW) 35.62 1/100 ft

Length of Water Column (LWC) = TWD – DGW 16.38 1/100 ft

1 Casing Volume = LWC x 0.163 = 2.67 gal

3 Casing Volumes (AC) ~~2.67~~ 8.01 gal = Standard Evacuation Volume

Method of Well Excavation ~~Peristaltic~~ Submersible Pump and Tubing

Method of Sample Collection ~~Peristaltic~~ Submersible Pump and Tubing

Total Volume of Water Removed (AC) 8.01 4 gallons

Casing Diameter 2.0 Inches

Casing Material PVC

Measuring Point Elevation 1/100 ft

Land Surface Elevation 1/100 ft

Screened Interval 1/100 ft

Dedicated Pump or Bailer YES ___ NO X Type ___

Locking Cap YES X NO ___

Well Integrity Satisfactory YES ___ NO ___

Well Yield LOW ___ MODERATE ___ HIGH ___

Remarks Sampled @ 1145

FIELD ANALYSES

VOLUME PURGED (gallons)	0	1.0	2.0	3.0	4.0		
TIME (military)	1122	1127	1132	1137	1142		
PH (S.U.)	5.58	5.15	5.14	5.06	5.00		
Sp. Cond. (units: Ms/cm)	0.007	0.005	6.007	0.005	0.004		
Water Temp. (°C)	18.85	19.21	17.50	19.84	20.20		
TURBIDITY (ntu)	>1000	>1000	>1000	>1000	>1000		
ORP (mV)	151	199	204	215	220		
Dissolved Oxygen (mg/L)	10.65	3.76	5.14	9.50	10.10		
Salinity	—	—	—	—	—		
Water Level	35.62	42.87	43.92	45.28	47.77		

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-10I
Site Name ITRON Greenwood, SC Facility
Date 2-7-17
Field Personnel Marc McFarland
Job # 60520033
Weather Conditions Sunny
Air Temperature 72° °F
Total Well Depth (TWD) 58.2 1/100 ft
Depth to Ground Water (DGW) 26.63 1/100 ft
Length of Water Column (LWC) = TWD – DGW 31.57 1/100 ft
1 Casing Volume = LWC x 0.163 = 5.15 gal
3 Casing Volumes 15.45 gal = Standard Evacuation Volume
Method of Well Excavation ~~Submersible~~ Peristaltic Pump and Tubing
Method of Sample Collection ~~Submersible~~ Peristaltic Pump and Tubing
Total Volume of Water Removed 3.5 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1520

FIELD ANALYSES

VOLUME PURGED (gallons)	0	1.5	2.5	3.5			
TIME (military)	1500	1505	1510	1515	~~1520~~		
PH (S.U.)	5.79	5.87	5.93	5.96			
Sp. Cond. (units: Ms/cm)	0.060	0.064	0.063	0.062			
Water Temp. (°C)	19.59	18.84	18.58	18.34			
TURBIDITY (ntu)	68.71	>1000	>1000	887			
ORP (mV)	75	87	86	86			
Dissolved Oxygen (mg/L)	11.21	10.57	10.31	10.28			
Salinity	–	–	–	–			
Water Level	26.63	30.90	33.95	35.31			

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-10R
Site Name ITRON Greenwood, SC Facility
Date 2-7-17
Field Personnel Marc McFarland
Job # 60520033
Weather Conditions Sunny
Air Temperature 72° °F
Total Well Depth (TWD) 35 1/100 ft
Depth to Ground Water (DGW) 28.50 1/100 ft
Length of Water Column (LWC) = TWD – DGW 6.5 1/100 ft
1 Casing Volume = LWC x 0.163 = 1.1 gal
3 Casing Volumes 3.3 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic~~ Submersible Pump and Tubing
Method of Sample Collection ~~Peristaltic~~ Submersible Pump and Tubing
Total Volume of Water Removed 3 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1450

FIELD ANALYSES

VOLUME PURGED (gallons)	0	1.0	2.0	3.0			
TIME (military)	1413	1418	1423	1428			
PH (S.U.)	5.76	5.57	5.50				
Sp. Cond. (units: Ms/cm)	0.072	0.033	0.032				
Water Temp. (°C)	20.03	18.98	18.74				
TURBIDITY (ntu)	-->1000	>1000	20.11				
ORP (mV)	135	144	133				
Dissolved Oxygen (mg/L)	7.03	10.91	5.69				
Salinity	-	-	-				
Water Level	28.50	32.40	33.34				

VERY SLOW recharge

COMMENTS/OBSERVATIONS: Dry @ 1428, 3 gal. let recharge

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-11
Site Name ITRON Greenwood, SC Facility
Date 2-8-17
Field Personnel Marc McFarland
Job # 60520033
Weather Conditions Sunny
Air Temperature 70° °F
Total Well Depth (TWD) 40 1/100 ft
Depth to Ground Water (DGW) 27.35 1/100 ft
Length of Water Column (LWC) = TWD – DGW 12.65 1/100 ft
1 Casing Volume = LWC x 0.163 = 2.06 gal
3 Casing Volumes 6.18 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic~~ Submersible Pump and Tubing
Method of Sample Collection ~~Peristaltic~~ Submersible Pump and Tubing
Total Volume of Water Removed 3.5 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1230

Dup-1 collected @ 1235

FIELD ANALYSES

VOLUME PURGED (gallons)	0	0.5	1.0	2.5	3.5		
TIME (military)	1207	1212	1217	1222	1227		
PH (S.U.)	4.69	4.64	4.57	4.55	4.61		
Sp. Cond. (units: Ms/cm)	0.000	0.000	0.000	0.000	0.000		
Water Temp. (°C)	21.60	21.36	21.43	21.60	22.00		
TURBIDITY (ntu)	>1000	>1000	>1000	>1000	>1000		
ORP (mV)	220	239	246	246	245		
Dissolved Oxygen (mg/L)	8.52	7.40	6.04	6.61	6.32		
Salinity	—	—	—	—	—		
Water Level	27.35	30.10	31.74	32.79	33.58		

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-12
Site Name ITRON Greenwood, SC Facility
Date 2-8-17
Field Personnel Marc McFarland / Matt Ginther
Job # 60520033
Weather Conditions Cloudy, 55°F
Air Temperature 55° °F
Total Well Depth (TWD) 58 1/100 ft
Depth to Ground Water (DGW) 39.11 1/100 ft
Length of Water Column (LWC) = TWD – DGW 18.89 1/100 ft
1 Casing Volume = LWC x 0.163 = 3.07 gal
3 Casing Volumes 9.21 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic~~ Submersible Pump and Tubing
Method of Sample Collection ~~Peristaltic~~ Submersible Pump and Tubing
Total Volume of Water Removed 2.5 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 0945

FIELD ANALYSES

VOLUME PURGED (gallons)	0	0.5 gal	1.0 gal.	1.5	2.0	2.5	
TIME (military)	0910	0915	0920	0925	0930	0935	
PH (S.U.)	6.07	6.06	6.09	5.99	6.08	5.97	
Sp. Cond. (units: Ms/cm)	0.140	0.132	0.130	0.129	0.129	0.128	
Water Temp. (°C)	16.63	17.43	17.96	18.28	18.31	18.40	
TURBIDITY (ntu)	—	—	—	—	—	—	
ORP (mV)	249	246	252	262	257	250	
Dissolved Oxygen (mg/L)	7.62	10.41	10.13	9.97	8.25	9.87	
Salinity	—	—	—	—	—	—	
Water Level	4	42.35	42.33	42.55	42.68	42.76	

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-15R
Site Name ITRON Greenwood, SC Facility
Date 2-8-17
Field Personnel Marc McFarland
Job # 60520033
Weather Conditions Sunny
Air Temperature 70 °F
Total Well Depth (TWD) 49.2 1/100 ft
Depth to Ground Water (DGW) 38.54 1/100 ft
Length of Water Column (LWC) = TWD – DGW 10.66 1/100 ft
1 Casing Volume = LWC x 0.163 = 1.74 gal
3 Casing Volumes 5.22 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic Pump~~ Submersible and Tubing
Method of Sample Collection ~~Peristaltic Pump~~ Submersible and Tubing
Total Volume of Water Removed 5 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1450

FIELD ANALYSES

VOLUME PURGED (gallons)	0	3.0	3.5	4.25	5.0		
TIME (military)	1427	1432	1437	1442	1447		
PH (S.U.)	4.91	4.94	4.86	4.78	4.78		
Sp. Cond. (units: Ms/cm)	0.005	0.002	0.000	0.000	0.000		
Water Temp. (°C)	19.98	19.62	19.54	19.44	19.31		
TURBIDITY (ntu)	>1000	>1000	>1000	>1000	>1000		
ORP (mV)	225	248	263	275	279		
Dissolved Oxygen (mg/L)	9.57	6.22	6.80	6.66	6.66		
Salinity	—	—	—	—	—		
Water Level	38.54	44.48	45.40	46.60	46.25		

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-17
Site Name ITRON Greenwood, SC Facility
Date 2/7/17
Field Personnel Aaron Council
Job # 60520033
Weather Conditions Sunny
Air Temperature 66° °F
Total Well Depth (TWD) 45.3 1/100 ft
Depth to Ground Water (DGW) 29.02 1/100 ft
Length of Water Column (LWC) = TWD – DGW 16.28 1/100 ft
1 Casing Volume = LWC x 0.163 = 2.65 gal
3 Casing Volumes 7.96 gal = Standard Evacuation Volume
Method of Well Excavation Submersible ~~Peristaltic~~ Pump and Tubing
Method of Sample Collection Submersible ~~Peristaltic~~ Pump and Tubing
Total Volume of Water Removed 8 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ___ NO X Type ___
Locking Cap YES X NO ___
Well Integrity Satisfactory YES ___ NO ___
Well Yield LOW ___ MODERATE ✓ HIGH ___
Remarks Sampled @ 1630

MW-17 MS/MSD collected @ 1630

FIELD ANALYSES

VOLUME PURGED (gallons)	0	2	5	8			
TIME (military)	1603	1610	1618	1626			
PH (S.U.)	5.14	5.04	5.34	5.37			
Sp. Cond. (units: Ms/cm)	0.029	0.028	0.027	0.027			
Water Temp. (°C)	23.94	23.42	23.03	22.84			
TURBIDITY (ntu)	71000	347	165	65.4			
ORP (mV)	255	241	201	187			
Dissolved Oxygen (mg/L)	6.13	5.87	5.26	5.09			
Salinity	—	—	—	—			
Water Level	29.02	31.82	35.22	39.16			

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-19
Site Name ITRON Greenwood, SC Facility
Date 2-8-17
Field Personnel Aaron Council
Job # 60520033
Weather Conditions Sunny
Air Temperature 70° °F
Total Well Depth (TWD) 49.5 1/100 ft
Depth to Ground Water (DGW) 28.22 1/100 ft
Length of Water Column (LWC) = TWD – DGW 21.28 1/100 ft
1 Casing Volume = LWC x 0.163 = 3.46 gal
3 Casing Volumes 10.38 gal = Standard Evacuation Volume
Method of Well Excavation Submersible ~~Peristaltic~~ Pump and Tubing
Method of Sample Collection Submersible ~~Peristaltic~~ Pump and Tubing
Total Volume of Water Removed 4.5 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1415

FIELD ANALYSES

VOLUME PURGED (gallons)	0	2.5	4.0	4.5			
TIME (military)	1356	1401	1406	1411			
PH (S.U.)	5.82	5.61	5.63	5.53			
Sp. Cond. (units: Ms/cm)	0.022	0.022	0.022	0.023			
Water Temp. (°C)	21.96	20.16	19.73				
TURBIDITY (ntu)	>1000	>1000	>1000	>1000			
ORP (mV)	186	197	202	212			
Dissolved Oxygen (mg/L)	7.06	6.80	10.34	10.15			
Salinity	—	—	—	—			
Water Level	28.22	29.55	29.47	29.10			

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-20
Site Name ITRON Greenwood, SC Facility
Date 2-8-17
Field Personnel Aaron Council
Job # 60520033
Weather Conditions Sunny
Air Temperature 65° °F
Total Well Depth (TWD) 59 1/100 ft
Depth to Ground Water (DGW) 28.64 1/100 ft
Length of Water Column (LWC) = TWD – DGW 30.36 1/100 ft
1 Casing Volume = LWC x 0.163 = 4.94 gal
3 Casing Volumes 14.82 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic~~ Submersible Pump and Tubing
Method of Sample Collection ~~Peristaltic~~ Submersible Pump and Tubing
Total Volume of Water Removed 4 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1035

Dup-2 collected @ 1040

FIELD ANALYSES

VOLUME PURGED (gallons)	0	1.5	3	4			
TIME (military)	1015	1020	1025	1030			
PH (S.U.)	5.75	5.63	5.60	5.63			
Sp. Cond. (units: Ms/cm)	0.068	0.071	0.070	0.070			
Water Temp. (°C)	18.15	18.17	18.33	18.36			
TURBIDITY (ntu)	473	>1000	>1000	>1000			
ORP (mV)	174	173	159	161			
Dissolved Oxygen (mg/L)	9.32	6.23	6.26	8.10			
Salinity	—	—	—	—			
Water Level	27.30	37.75	38.20	38.66			

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-21
Site Name ITRON Greenwood, SC Facility
Date 2-7-17
Field Personnel Aaron Council
Job # 60520033
Weather Conditions Sunny
Air Temperature 64 °F
Total Well Depth (TWD) 42.5 1/100 ft
Depth to Ground Water (DGW) 16.91 1/100 ft
Length of Water Column (LWC) = TWD – DGW 25.59 1/100 ft
1 Casing Volume = LWC x 0.163 = 4.17 gal
3 Casing Volumes 12.51 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic Pump~~ Submersible and Tubing
Method of Sample Collection ~~Peristaltic Pump~~ Submersible and Tubing
Total Volume of Water Removed 4 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1605

FIELD ANALYSES

VOLUME PURGED (gallons)	0	1.5	2.5	3.0	4.0		
TIME (military)	1543	1548	1553	1558	1603		
PH (S.U.)	5.46	5.30	5.13	5.16	5.12		
Sp. Cond. (units: Ms/cm)	0.041	0.030	0.030	0.029	0.029		
Water Temp. (°C)	19.69	19.59	19.78	19.79	19.89		
TURBIDITY (ntu)	>1000	>1000	>1000	822	751		
ORP (mV)	138	157	207	232	250		
Dissolved Oxygen (mg/L)	10.92	10.19	10.17	10.05	9.87		
Salinity	–	–	–	–	–		
Water Level	16.91	23.24	25.29	27.04	28.45		

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-22D
Site Name ITRON Greenwood, SC Facility
Date 2-8-17
Field Personnel Aaron Council
Job # 60520033
Weather Conditions Sunny
Air Temperature 65 °F
Total Well Depth (TWD) 79.9 1/100 ft
Depth to Ground Water (DGW) 33.39 1/100 ft
Length of Water Column (LWC) = TWD – DGW 46.51 1/100 ft
1 Casing Volume = LWC x 0.163 = 7.58 gal
3 Casing Volumes 22.74 gal = Standard Evacuation Volume
Method of Well Excavation ~~Peristaltic~~ Submersible Pump and Tubing
Method of Sample Collection ~~Peristaltic~~ Submersible Pump and Tubing
Total Volume of Water Removed 3.5 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1000

FIELD ANALYSES

VOLUME PURGED (gallons)	0	1.0	2.0	3.0	3.5		
TIME (military)	0935	0940	0945	0950	0955		
PH (S.U.)	6.14	5.85	5.68	5.69	5.71		
Sp. Cond. (units: Ms/cm)	0.056	0.057	0.057	0.057	0.056		
Water Temp. (°C)	17.82	18.13	18.25	18.36	18.42		
TURBIDITY (ntu)	>1000	>1000	>1000	>1000	>1000		
ORP (mV)	124	107	99	100	102		
Dissolved Oxygen (mg/L)	12.05	3.26	3.12	5.70	2.42		
Salinity	—	—	—	—	—		
Water Level	34.77	40.57	43.76	46.82	48.74		

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

AECOM

Field Data Information Log for Groundwater Sampling

Well ID # MW-23
Site Name ITRON Greenwood, SC Facility
Date 2/7/17
Field Personnel Aaron Council
Job # 60520033
Weather Conditions Sunny
Air Temperature 64° °F
Total Well Depth (TWD) ~~26.40~~ (AC) 60.20 1/100 ft
Depth to Ground Water (DGW) 26.40 1/100 ft
Length of Water Column (LWC) = TWD – DGW 33.80 1/100 ft
1 Casing Volume = LWC x 0.163 = 5.50 gal
3 Casing Volumes 16.50 gal = Standard Evacuation Volume
Method of Well Excavation ~~Bailer~~ Submersible Pump
Method of Sample Collection Bailer Submersible Pump
Total Volume of Water Removed 4.5 gallons

Casing Diameter 2.0 Inches
Casing Material PVC
Measuring Point Elevation 1/100 ft
Land Surface Elevation 1/100 ft
Screened Interval 1/100 ft
Dedicated Pump or Bailer YES ____ NO X Type ____
Locking Cap YES X NO ____
Well Integrity Satisfactory YES ____ NO ____
Well Yield LOW ____ MODERATE ____ HIGH ____
Remarks Sampled @ 1205

FIELD ANALYSES

VOLUME PURGED (gallons)	0	2	3.5	4.5			
TIME (military)	1130	1140	1150	1200			
PH (S.U.)	5.90	5.81	5.85	5.80			
Sp. Cond. (units: Ms/cm)	0.095	0.095	0.104	0.105			
Water Temp. (°C)	22.09	22.96	21.07	21.69			
TURBIDITY (ntu)	519	108	62.9	48.6			
ORP (mV)	144	153	129	137			
Dissolved Oxygen (mg/L)	7.96	4.70	5.42	4.57			
Salinity	—	—	—	—			
Water Level	26.40	39.30	41.12	43.19			

COMMENTS/OBSERVATIONS:

1" – 0.041, 2" – 0.163, 3" – 0.367, 4" – 0.653, 6" – 1.469, 8" – 2.611

Appendix J: IDW Waste Manifest

Appendix K: Analytical Data and Data Assessment Reports – Monitoring Wells

Report of Analysis

AECOM
10 Patewood Drive
Building 6, Suite 500
Greenville, SC 29615
Attention: Aaron Council

Project Name: Itron Greenwood

Project Number: 60520033.4

Lot Number: SB09030

Date Completed: 02/13/2017

Lucas Odom
Project Manager

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative

AECOM

Lot Number: SB09030

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

VOCs by GC/MS

The laboratory control sample (LCS) for analytical batch 34296 exceeded acceptance criteria for the following analytes: acetone (143%) and cyclohaxane (138%). These analytes were biased high and were not detected in the samples affected:

Sample Summary

AECOM

Lot Number: SB09030

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-1	Aqueous	02/07/2017 1105	02/09/2017
002	MW-2	Aqueous	02/07/2017 1025	02/09/2017
003	MW-5D	Aqueous	02/08/2017 1100	02/09/2017
004	MW-6	Aqueous	02/07/2017 1650	02/09/2017
005	MW-7	Aqueous	02/08/2017 1215	02/09/2017
006	MW-9	Aqueous	02/08/2017 1145	02/09/2017
007	MW-10R	Aqueous	02/07/2017 1450	02/09/2017
008	MW-10I	Aqueous	02/07/2017 1520	02/09/2017
009	MW-11	Aqueous	02/08/2017 1230	02/09/2017
010	MW-12	Aqueous	02/08/2017 0945	02/09/2017
011	MW-15R	Aqueous	02/08/2017 1450	02/09/2017
012	MW-17	Aqueous	02/07/2017 1630	02/09/2017
013	MW-19	Aqueous	02/08/2017 1415	02/09/2017
014	MW-20	Aqueous	02/08/2017 1035	02/09/2017
015	MW-21	Aqueous	02/07/2017 1605	02/09/2017
016	MW-22D	Aqueous	02/08/2017 1000	02/09/2017
017	MW-23	Aqueous	02/07/2017 1205	02/09/2017
018	DUP-1	Aqueous	02/08/2017 1235	02/09/2017
019	DUP-2	Aqueous	02/08/2017 1040	02/09/2017
020	EB-1	Aqueous	02/08/2017 1420	02/09/2017
021	TRIP BLANK	Aqueous	02/09/2017	02/09/2017

(21 samples)

Executive Summary

AECOM

Lot Number: SB09030

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-1	Aqueous	Trichloroethene	8260B	14		ug/L	6
002	MW-2	Aqueous	Trichloroethene	8260B	17		ug/L	8
003	MW-5D	Aqueous	cis-1,2-Dichloroethene	8260B	88		ug/L	9
004	MW-6	Aqueous	Tetrachloroethene	8260B	8700		ug/L	11
005	MW-7	Aqueous	Tetrachloroethene	8260B	91000		ug/L	13
007	MW-10R	Aqueous	Tetrachloroethene	8260B	5900		ug/L	17
008	MW-10I	Aqueous	Tetrachloroethene	8260B	19000		ug/L	19
010	MW-12	Aqueous	Tetrachloroethene	8260B	6300		ug/L	23
012	MW-17	Aqueous	Tetrachloroethene	8260B	380		ug/L	27
014	MW-20	Aqueous	Tetrachloroethene	8260B	590		ug/L	31
015	MW-21	Aqueous	Tetrachloroethene	8260B	9.2		ug/L	33
019	DUP-2	Aqueous	Tetrachloroethene	8260B	620		ug/L	41

(12 detections)

Client: AECOM
Description: MW-1
Date Sampled: 02/07/2017 1105
Date Received: 02/09/2017

Laboratory ID: SB09030-001
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/09/2017 2329	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-1
Date Sampled: 02/07/2017 1105
Date Received: 02/09/2017

Laboratory ID: SB09030-001
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/09/2017 2329	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	14		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		106	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-2
Date Sampled: 02/07/2017 1025
Date Received: 02/09/2017

Laboratory ID: SB09030-002
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/09/2017 2353	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-2
Date Sampled: 02/07/2017 1025
Date Received: 02/09/2017

Laboratory ID: SB09030-002
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/09/2017 2353	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	17		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-5D
Date Sampled: 02/08/2017 1100
Date Received: 02/09/2017

Laboratory ID: SB09030-003
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 0016	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	88		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-5D
Date Sampled: 02/08/2017 1100
Date Received: 02/09/2017

Laboratory ID: SB09030-003
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 0016	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-6
Date Sampled: 02/07/2017 1650
Date Received: 02/09/2017

Laboratory ID: SB09030-004
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	02/10/2017 0433	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		2000	ug/L	1
Benzene	71-43-2	8260B	ND		500	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		500	ug/L	1
Bromoform	75-25-2	8260B	ND		500	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		500	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		1000	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		500	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		500	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		500	ug/L	1
Chloroethane	75-00-3	8260B	ND		500	ug/L	1
Chloroform	67-66-3	8260B	ND		500	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		500	ug/L	1
Cyclohexane	110-82-7	8260B	ND		500	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		500	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		500	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		500	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		500	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		500	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		500	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		500	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		500	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		500	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		500	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		500	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		500	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		500	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		500	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		500	ug/L	1
2-Hexanone	591-78-6	8260B	ND		1000	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		500	ug/L	1
Methyl acetate	79-20-9	8260B	ND		500	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		500	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		1000	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		500	ug/L	1
Methylene chloride	75-09-2	8260B	ND		500	ug/L	1
Styrene	100-42-5	8260B	ND		500	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		500	ug/L	1
Tetrachloroethene	127-18-4	8260B	8700		500	ug/L	1
Toluene	108-88-3	8260B	ND		500	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-6
Date Sampled: 02/07/2017 1650
Date Received: 02/09/2017

Laboratory ID: SB09030-004
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	02/10/2017 0433	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		500	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		500	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		500	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		500	ug/L	1
Trichloroethene	79-01-6	8260B	ND		500	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		500	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		200	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		500	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-7
Date Sampled: 02/08/2017 1215
Date Received: 02/09/2017

Laboratory ID: SB09030-005
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1000	02/10/2017 0605	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20000	ug/L	1
Benzene	71-43-2	8260B	ND		5000	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5000	ug/L	1
Bromoform	75-25-2	8260B	ND		5000	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5000	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10000	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5000	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5000	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5000	ug/L	1
Chloroethane	75-00-3	8260B	ND		5000	ug/L	1
Chloroform	67-66-3	8260B	ND		5000	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5000	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5000	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5000	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5000	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5000	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5000	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5000	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5000	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5000	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5000	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5000	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5000	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5000	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5000	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5000	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5000	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5000	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5000	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10000	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5000	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5000	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5000	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10000	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5000	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5000	ug/L	1
Styrene	100-42-5	8260B	ND		5000	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5000	ug/L	1
Tetrachloroethene	127-18-4	8260B	91000		5000	ug/L	1
Toluene	108-88-3	8260B	ND		5000	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-7
Date Sampled: 02/08/2017 1215
Date Received: 02/09/2017

Laboratory ID: SB09030-005
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1000	02/10/2017 0605	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5000	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5000	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5000	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5000	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5000	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5000	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2000	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5000	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		106	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-9
Date Sampled: 02/08/2017 1145
Date Received: 02/09/2017

Laboratory ID: SB09030-006
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 0040	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-9
Date Sampled: 02/08/2017 1145
Date Received: 02/09/2017

Laboratory ID: SB09030-006
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 0040	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-10R
Date Sampled: 02/07/2017 1450
Date Received: 02/09/2017

Laboratory ID: SB09030-007
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	02/10/2017 0456	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		2000	ug/L	1
Benzene	71-43-2	8260B	ND		500	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		500	ug/L	1
Bromoform	75-25-2	8260B	ND		500	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		500	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		1000	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		500	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		500	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		500	ug/L	1
Chloroethane	75-00-3	8260B	ND		500	ug/L	1
Chloroform	67-66-3	8260B	ND		500	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		500	ug/L	1
Cyclohexane	110-82-7	8260B	ND		500	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		500	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		500	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		500	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		500	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		500	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		500	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		500	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		500	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		500	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		500	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		500	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		500	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		500	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		500	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		500	ug/L	1
2-Hexanone	591-78-6	8260B	ND		1000	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		500	ug/L	1
Methyl acetate	79-20-9	8260B	ND		500	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		500	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		1000	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		500	ug/L	1
Methylene chloride	75-09-2	8260B	ND		500	ug/L	1
Styrene	100-42-5	8260B	ND		500	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		500	ug/L	1
Tetrachloroethene	127-18-4	8260B	5900		500	ug/L	1
Toluene	108-88-3	8260B	ND		500	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-10R
Date Sampled: 02/07/2017 1450
Date Received: 02/09/2017

Laboratory ID: SB09030-007
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	02/10/2017 0456	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		500	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		500	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		500	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		500	ug/L	1
Trichloroethene	79-01-6	8260B	ND		500	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		500	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		200	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		500	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		107	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-10I
Date Sampled: 02/07/2017 1520
Date Received: 02/09/2017

Laboratory ID: SB09030-008
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	02/10/2017 0542	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		4000	ug/L	1
Benzene	71-43-2	8260B	ND		1000	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1000	ug/L	1
Bromoform	75-25-2	8260B	ND		1000	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		1000	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		2000	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1000	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1000	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1000	ug/L	1
Chloroethane	75-00-3	8260B	ND		1000	ug/L	1
Chloroform	67-66-3	8260B	ND		1000	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1000	ug/L	1
Cyclohexane	110-82-7	8260B	ND		1000	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1000	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		1000	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1000	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		1000	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		1000	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		1000	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		1000	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		1000	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1000	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		1000	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1000	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1000	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		1000	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1000	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1000	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1000	ug/L	1
2-Hexanone	591-78-6	8260B	ND		2000	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		1000	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1000	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1000	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		2000	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		1000	ug/L	1
Methylene chloride	75-09-2	8260B	ND		1000	ug/L	1
Styrene	100-42-5	8260B	ND		1000	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1000	ug/L	1
Tetrachloroethene	127-18-4	8260B	19000		1000	ug/L	1
Toluene	108-88-3	8260B	ND		1000	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-10I
Date Sampled: 02/07/2017 1520
Date Received: 02/09/2017

Laboratory ID: SB09030-008
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	02/10/2017 0542	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1000	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1000	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		1000	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		1000	ug/L	1
Trichloroethene	79-01-6	8260B	ND		1000	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		1000	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		400	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1000	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-11
Date Sampled: 02/08/2017 1230
Date Received: 02/09/2017

Laboratory ID: SB09030-009
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 0103	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-11
Date Sampled: 02/08/2017 1230
Date Received: 02/09/2017

Laboratory ID: SB09030-009
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 0103	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-12
Date Sampled: 02/08/2017 0945
Date Received: 02/09/2017

Laboratory ID: SB09030-010
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	02/10/2017 0519	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		2000	ug/L	1
Benzene	71-43-2	8260B	ND		500	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		500	ug/L	1
Bromoform	75-25-2	8260B	ND		500	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		500	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		1000	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		500	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		500	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		500	ug/L	1
Chloroethane	75-00-3	8260B	ND		500	ug/L	1
Chloroform	67-66-3	8260B	ND		500	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		500	ug/L	1
Cyclohexane	110-82-7	8260B	ND		500	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		500	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		500	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		500	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		500	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		500	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		500	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		500	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		500	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		500	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		500	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		500	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		500	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		500	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		500	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		500	ug/L	1
2-Hexanone	591-78-6	8260B	ND		1000	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		500	ug/L	1
Methyl acetate	79-20-9	8260B	ND		500	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		500	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		1000	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		500	ug/L	1
Methylene chloride	75-09-2	8260B	ND		500	ug/L	1
Styrene	100-42-5	8260B	ND		500	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		500	ug/L	1
Tetrachloroethene	127-18-4	8260B	6300		500	ug/L	1
Toluene	108-88-3	8260B	ND		500	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-12
Date Sampled: 02/08/2017 0945
Date Received: 02/09/2017

Laboratory ID: SB09030-010
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	02/10/2017 0519	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		500	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		500	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		500	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		500	ug/L	1
Trichloroethene	79-01-6	8260B	ND		500	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		500	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		200	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		500	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-15R
Date Sampled: 02/08/2017 1450
Date Received: 02/09/2017

Laboratory ID: SB09030-011
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 0126	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-15R
Date Sampled: 02/08/2017 1450
Date Received: 02/09/2017

Laboratory ID: SB09030-011
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 0126	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-17
Date Sampled: 02/07/2017 1630
Date Received: 02/09/2017

Laboratory ID: SB09030-012
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	02/10/2017 0409	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		100	ug/L	1
Benzene	71-43-2	8260B	ND		25	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		25	ug/L	1
Bromoform	75-25-2	8260B	ND		25	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		25	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		50	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		25	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		25	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		25	ug/L	1
Chloroethane	75-00-3	8260B	ND		25	ug/L	1
Chloroform	67-66-3	8260B	ND		25	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		25	ug/L	1
Cyclohexane	110-82-7	8260B	ND		25	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		25	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		25	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		25	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		25	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		25	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		25	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		25	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		25	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		25	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		25	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		25	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		25	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		25	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		25	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		25	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		25	ug/L	1
2-Hexanone	591-78-6	8260B	ND		50	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		25	ug/L	1
Methyl acetate	79-20-9	8260B	ND		25	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		25	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		50	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		25	ug/L	1
Methylene chloride	75-09-2	8260B	ND		25	ug/L	1
Styrene	100-42-5	8260B	ND		25	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		25	ug/L	1
Tetrachloroethene	127-18-4	8260B	380		25	ug/L	1
Toluene	108-88-3	8260B	ND		25	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-17
Date Sampled: 02/07/2017 1630
Date Received: 02/09/2017

Laboratory ID: SB09030-012
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	02/10/2017 0409	ECP		34161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		25	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		25	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		25	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		25	ug/L	1
Trichloroethene	79-01-6	8260B	ND		25	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		25	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		10	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		25	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-19
Date Sampled: 02/08/2017 1415
Date Received: 02/09/2017

Laboratory ID: SB09030-013
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0029	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-19
Date Sampled: 02/08/2017 1415
Date Received: 02/09/2017

Laboratory ID: SB09030-013
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0029	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-20
Date Sampled: 02/08/2017 1035
Date Received: 02/09/2017

Laboratory ID: SB09030-014
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	02/11/2017 0226	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		200	ug/L	1
Benzene	71-43-2	8260B	ND		50	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		50	ug/L	1
Bromoform	75-25-2	8260B	ND		50	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		50	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		100	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		50	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		50	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		50	ug/L	1
Chloroethane	75-00-3	8260B	ND		50	ug/L	1
Chloroform	67-66-3	8260B	ND		50	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		50	ug/L	1
Cyclohexane	110-82-7	8260B	ND		50	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		50	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		50	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		50	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		50	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		50	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		50	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		50	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		50	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		50	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		50	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		50	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		50	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		50	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		50	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		50	ug/L	1
2-Hexanone	591-78-6	8260B	ND		100	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		50	ug/L	1
Methyl acetate	79-20-9	8260B	ND		50	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		50	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		100	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		50	ug/L	1
Methylene chloride	75-09-2	8260B	ND		50	ug/L	1
Styrene	100-42-5	8260B	ND		50	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		50	ug/L	1
Tetrachloroethene	127-18-4	8260B	590		50	ug/L	1
Toluene	108-88-3	8260B	ND		50	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-20
Date Sampled: 02/08/2017 1035
Date Received: 02/09/2017

Laboratory ID: SB09030-014
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	02/11/2017 0226	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		50	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		50	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		50	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		50	ug/L	1
Trichloroethene	79-01-6	8260B	ND		50	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		50	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		20	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-21
Date Sampled: 02/07/2017 1605
Date Received: 02/09/2017

Laboratory ID: SB09030-015
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0052	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	9.2		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-21
Date Sampled: 02/07/2017 1605
Date Received: 02/09/2017

Laboratory ID: SB09030-015
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0052	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-22D
Date Sampled: 02/08/2017 1000
Date Received: 02/09/2017

Laboratory ID: SB09030-016
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0116	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-22D
Date Sampled: 02/08/2017 1000
Date Received: 02/09/2017

Laboratory ID: SB09030-016
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0116	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		106	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-23
Date Sampled: 02/07/2017 1205
Date Received: 02/09/2017

Laboratory ID: SB09030-017
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0139	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: MW-23
Date Sampled: 02/07/2017 1205
Date Received: 02/09/2017

Laboratory ID: SB09030-017
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0139	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: DUP-1
Date Sampled: 02/08/2017 1235
Date Received: 02/09/2017

Laboratory ID: SB09030-018
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0203	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: DUP-1
Date Sampled: 02/08/2017 1235
Date Received: 02/09/2017

Laboratory ID: SB09030-018
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0203	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: DUP-2
Date Sampled: 02/08/2017 1040
Date Received: 02/09/2017

Laboratory ID: SB09030-019
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	02/11/2017 0250	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		200	ug/L	1
Benzene	71-43-2	8260B	ND		50	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		50	ug/L	1
Bromoform	75-25-2	8260B	ND		50	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		50	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		100	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		50	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		50	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		50	ug/L	1
Chloroethane	75-00-3	8260B	ND		50	ug/L	1
Chloroform	67-66-3	8260B	ND		50	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		50	ug/L	1
Cyclohexane	110-82-7	8260B	ND		50	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		50	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		50	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		50	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		50	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		50	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		50	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		50	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		50	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		50	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		50	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		50	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		50	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		50	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		50	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		50	ug/L	1
2-Hexanone	591-78-6	8260B	ND		100	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		50	ug/L	1
Methyl acetate	79-20-9	8260B	ND		50	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		50	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		100	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		50	ug/L	1
Methylene chloride	75-09-2	8260B	ND		50	ug/L	1
Styrene	100-42-5	8260B	ND		50	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		50	ug/L	1
Tetrachloroethene	127-18-4	8260B	620		50	ug/L	1
Toluene	108-88-3	8260B	ND		50	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: DUP-2
Date Sampled: 02/08/2017 1040
Date Received: 02/09/2017

Laboratory ID: SB09030-019
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	02/11/2017 0250	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		50	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		50	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		50	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		50	ug/L	1
Trichloroethene	79-01-6	8260B	ND		50	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		50	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		20	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		110	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: EB-1
Date Sampled: 02/08/2017 1420
Date Received: 02/09/2017

Laboratory ID: SB09030-020
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 2342	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: EB-1
Date Sampled: 02/08/2017 1420
Date Received: 02/09/2017

Laboratory ID: SB09030-020
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2017 2342	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: TRIP BLANK
Date Sampled: 02/09/2017
Date Received: 02/09/2017

Laboratory ID: SB09030-021
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0006	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM
Description: TRIP BLANK
Date Sampled: 02/09/2017
Date Received: 02/09/2017

Laboratory ID: SB09030-021
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/11/2017 0006	ECP		34296

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		107	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ34161-001
Batch: 34161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Acetone	ND		1	20	ug/L	02/09/2017 2208
Benzene	ND		1	5.0	ug/L	02/09/2017 2208
Bromodichloromethane	ND		1	5.0	ug/L	02/09/2017 2208
Bromoform	ND		1	5.0	ug/L	02/09/2017 2208
Bromomethane (Methyl bromide)	ND		1	5.0	ug/L	02/09/2017 2208
2-Butanone (MEK)	ND		1	10	ug/L	02/09/2017 2208
Carbon disulfide	ND		1	5.0	ug/L	02/09/2017 2208
Carbon tetrachloride	ND		1	5.0	ug/L	02/09/2017 2208
Chlorobenzene	ND		1	5.0	ug/L	02/09/2017 2208
Chloroethane	ND		1	5.0	ug/L	02/09/2017 2208
Chloroform	ND		1	5.0	ug/L	02/09/2017 2208
Chloromethane (Methyl chloride)	ND		1	5.0	ug/L	02/09/2017 2208
Cyclohexane	ND		1	5.0	ug/L	02/09/2017 2208
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	ug/L	02/09/2017 2208
Dibromochloromethane	ND		1	5.0	ug/L	02/09/2017 2208
1,2-Dibromoethane (EDB)	ND		1	5.0	ug/L	02/09/2017 2208
1,4-Dichlorobenzene	ND		1	5.0	ug/L	02/09/2017 2208
1,3-Dichlorobenzene	ND		1	5.0	ug/L	02/09/2017 2208
1,2-Dichlorobenzene	ND		1	5.0	ug/L	02/09/2017 2208
Dichlorodifluoromethane	ND		1	5.0	ug/L	02/09/2017 2208
1,2-Dichloroethane	ND		1	5.0	ug/L	02/09/2017 2208
1,1-Dichloroethane	ND		1	5.0	ug/L	02/09/2017 2208
trans-1,2-Dichloroethene	ND		1	5.0	ug/L	02/09/2017 2208
cis-1,2-Dichloroethene	ND		1	5.0	ug/L	02/09/2017 2208
1,1-Dichloroethene	ND		1	5.0	ug/L	02/09/2017 2208
1,2-Dichloropropane	ND		1	5.0	ug/L	02/09/2017 2208
trans-1,3-Dichloropropene	ND		1	5.0	ug/L	02/09/2017 2208
cis-1,3-Dichloropropene	ND		1	5.0	ug/L	02/09/2017 2208
Ethylbenzene	ND		1	5.0	ug/L	02/09/2017 2208
2-Hexanone	ND		1	10	ug/L	02/09/2017 2208
Isopropylbenzene	ND		1	5.0	ug/L	02/09/2017 2208
Methyl acetate	ND		1	5.0	ug/L	02/09/2017 2208
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	ug/L	02/09/2017 2208
4-Methyl-2-pentanone	ND		1	10	ug/L	02/09/2017 2208
Methylcyclohexane	ND		1	5.0	ug/L	02/09/2017 2208
Methylene chloride	ND		1	5.0	ug/L	02/09/2017 2208
Styrene	ND		1	5.0	ug/L	02/09/2017 2208
1,1,2,2-Tetrachloroethane	ND		1	5.0	ug/L	02/09/2017 2208
Tetrachloroethene	ND		1	5.0	ug/L	02/09/2017 2208
Toluene	ND		1	5.0	ug/L	02/09/2017 2208
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	ug/L	02/09/2017 2208
1,2,4-Trichlorobenzene	ND		1	5.0	ug/L	02/09/2017 2208
1,1,2-Trichloroethane	ND		1	5.0	ug/L	02/09/2017 2208
1,1,1-Trichloroethane	ND		1	5.0	ug/L	02/09/2017 2208

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ34161-001
Batch: 34161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Trichloroethene	ND		1	5.0	ug/L	02/09/2017 2208
Trichlorofluoromethane	ND		1	5.0	ug/L	02/09/2017 2208
Vinyl chloride	ND		1	2.0	ug/L	02/09/2017 2208
Xylenes (total)	ND		1	5.0	ug/L	02/09/2017 2208

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		108	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ34161-002
Batch: 34161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	120		1	121	60-140	02/09/2017 2109
Benzene	50	44		1	88	70-130	02/09/2017 2109
Bromodichloromethane	50	49		1	97	70-130	02/09/2017 2109
Bromoform	50	45		1	90	70-130	02/09/2017 2109
Bromomethane (Methyl bromide)	50	54		1	107	60-140	02/09/2017 2109
2-Butanone (MEK)	100	99		1	99	60-140	02/09/2017 2109
Carbon disulfide	50	47		1	95	60-140	02/09/2017 2109
Carbon tetrachloride	50	48		1	97	70-130	02/09/2017 2109
Chlorobenzene	50	53		1	105	70-130	02/09/2017 2109
Chloroethane	50	57		1	114	60-140	02/09/2017 2109
Chloroform	50	45		1	91	70-130	02/09/2017 2109
Chloromethane (Methyl chloride)	50	61		1	123	60-140	02/09/2017 2109
Cyclohexane	50	64		1	128	70-130	02/09/2017 2109
1,2-Dibromo-3-chloropropane (DBCP)	50	56		1	112	70-130	02/09/2017 2109
Dibromochloromethane	50	48		1	95	70-130	02/09/2017 2109
1,2-Dibromoethane (EDB)	50	50		1	101	70-130	02/09/2017 2109
1,4-Dichlorobenzene	50	53		1	107	70-130	02/09/2017 2109
1,3-Dichlorobenzene	50	53		1	107	70-130	02/09/2017 2109
1,2-Dichlorobenzene	50	52		1	104	70-130	02/09/2017 2109
Dichlorodifluoromethane	50	56		1	112	60-140	02/09/2017 2109
1,2-Dichloroethane	50	54		1	108	70-130	02/09/2017 2109
1,1-Dichloroethane	50	52		1	105	70-130	02/09/2017 2109
trans-1,2-Dichloroethene	50	48		1	97	70-130	02/09/2017 2109
cis-1,2-Dichloroethene	50	46		1	92	70-130	02/09/2017 2109
1,1-Dichloroethene	50	49		1	99	70-130	02/09/2017 2109
1,2-Dichloropropane	50	52		1	105	70-130	02/09/2017 2109
trans-1,3-Dichloropropene	50	47		1	95	70-130	02/09/2017 2109
cis-1,3-Dichloropropene	50	50		1	99	70-130	02/09/2017 2109
Ethylbenzene	50	52		1	103	70-130	02/09/2017 2109
2-Hexanone	100	130		1	127	60-140	02/09/2017 2109
Isopropylbenzene	50	52		1	104	70-130	02/09/2017 2109
Methyl acetate	50	62		1	123	60-140	02/09/2017 2109
Methyl tertiary butyl ether (MTBE)	50	43		1	86	70-130	02/09/2017 2109
4-Methyl-2-pentanone	100	120		1	123	60-140	02/09/2017 2109
Methylcyclohexane	50	51		1	103	70-130	02/09/2017 2109
Methylene chloride	50	46		1	92	70-130	02/09/2017 2109
Styrene	50	52		1	105	70-130	02/09/2017 2109
1,1,2,2-Tetrachloroethane	50	55		1	109	70-130	02/09/2017 2109
Tetrachloroethene	50	53		1	107	70-130	02/09/2017 2109
Toluene	50	51		1	101	70-130	02/09/2017 2109
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	50		1	100	70-130	02/09/2017 2109
1,2,4-Trichlorobenzene	50	39		1	77	70-130	02/09/2017 2109
1,1,2-Trichloroethane	50	52		1	104	70-130	02/09/2017 2109
1,1,1-Trichloroethane	50	48		1	95	70-130	02/09/2017 2109

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ34161-002
Batch: 34161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	48		1	95	70-130	02/09/2017 2109
Trichlorofluoromethane	50	46		1	92	70-130	02/09/2017 2109
Vinyl chloride	50	54		1	108	70-130	02/09/2017 2109
Xylenes (total)	100	100		1	105	70-130	02/09/2017 2109

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: SB09030-012MS
Batch: 34161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	ND	500	560		5	112	60-140	02/10/2017 0628
Benzene	ND	250	230		5	94	70-130	02/10/2017 0628
Bromodichloromethane	ND	250	250		5	100	71-143	02/10/2017 0628
Bromoform	ND	250	220		5	86	65-131	02/10/2017 0628
Bromomethane (Methyl bromide)	ND	250	310		5	123	36-168	02/10/2017 0628
2-Butanone (MEK)	ND	500	460		5	92	60-140	02/10/2017 0628
Carbon disulfide	ND	250	260		5	104	60-140	02/10/2017 0628
Carbon tetrachloride	ND	250	250		5	102	37-166	02/10/2017 0628
Chlorobenzene	ND	250	270		5	107	78-129	02/10/2017 0628
Chloroethane	ND	250	340		5	136	60-140	02/10/2017 0628
Chloroform	ND	250	240		5	94	63-123	02/10/2017 0628
Chloromethane (Methyl chloride)	ND	250	290		5	118	20-158	02/10/2017 0628
Cyclohexane	ND	250	340	N	5	137	70-130	02/10/2017 0628
1,2-Dibromo-3-chloropropane (DBCP)	ND	250	260		5	103	70-130	02/10/2017 0628
Dibromochloromethane	ND	250	240		5	95	74-134	02/10/2017 0628
1,2-Dibromoethane (EDB)	ND	250	250		5	99	70-130	02/10/2017 0628
1,2-Dichlorobenzene	ND	250	260		5	104	70-130	02/10/2017 0628
1,3-Dichlorobenzene	ND	250	260		5	105	70-130	02/10/2017 0628
1,4-Dichlorobenzene	ND	250	260		5	105	70-130	02/10/2017 0628
Dichlorodifluoromethane	ND	250	280		5	111	10-158	02/10/2017 0628
1,1-Dichloroethane	ND	250	280		5	111	69-132	02/10/2017 0628
1,2-Dichloroethane	ND	250	280		5	111	70-130	02/10/2017 0628
1,1-Dichloroethene	ND	250	260		5	104	50-132	02/10/2017 0628
cis-1,2-Dichloroethene	ND	250	240		5	96	70-130	02/10/2017 0628
trans-1,2-Dichloroethene	ND	250	250		5	101	70-130	02/10/2017 0628
1,2-Dichloropropane	ND	250	270		5	108	71-126	02/10/2017 0628
cis-1,3-Dichloropropene	ND	250	240		5	98	69-130	02/10/2017 0628
trans-1,3-Dichloropropene	ND	250	230		5	91	73-131	02/10/2017 0628
Ethylbenzene	ND	250	270		5	106	70-130	02/10/2017 0628
2-Hexanone	ND	500	620		5	124	60-140	02/10/2017 0628
Isopropylbenzene	ND	250	270		5	107	70-130	02/10/2017 0628
Methyl acetate	ND	250	300		5	119	15-128	02/10/2017 0628
Methyl tertiary butyl ether (MTBE)	ND	250	220		5	86	70-130	02/10/2017 0628
4-Methyl-2-pentanone	ND	500	590		5	119	60-140	02/10/2017 0628
Methylcyclohexane	ND	250	260		5	105	70-130	02/10/2017 0628
Methylene chloride	ND	250	240		5	96	69-129	02/10/2017 0628
Styrene	ND	250	270		5	106	70-130	02/10/2017 0628
1,1,2,2-Tetrachloroethane	ND	250	260		5	102	60-155	02/10/2017 0628
Tetrachloroethene	380	250	640		5	102	70-130	02/10/2017 0628
Toluene	ND	250	260		5	104	70-130	02/10/2017 0628
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	250	260		5	104	70-130	02/10/2017 0628
1,2,4-Trichlorobenzene	ND	250	220		5	88	70-130	02/10/2017 0628
1,1,1-Trichloroethane	ND	250	260		5	105	77-132	02/10/2017 0628
1,1,2-Trichloroethane	ND	250	260		5	102	77-132	02/10/2017 0628

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: SB09030-012MS
Batch: 34161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	ND	250	250		5	101	73-124	02/10/2017 0628
Trichlorofluoromethane	ND	250	240		5	95	60-140	02/10/2017 0628
Vinyl chloride	ND	250	290		5	116	29-159	02/10/2017 0628
Xylenes (total)	ND	500	530		5	106	70-130	02/10/2017 0628

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: SB09030-012MD
Batch: 34161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	ND	500	530		5	107	4.6	60-140	20	02/10/2017 0651
Benzene	ND	250	240		5	94	0.29	70-130	20	02/10/2017 0651
Bromodichloromethane	ND	250	250		5	101	0.56	71-143	20	02/10/2017 0651
Bromoform	ND	250	220		5	87	1.5	65-131	20	02/10/2017 0651
Bromomethane (Methyl bromide)	ND	250	310		5	125	1.6	36-168	20	02/10/2017 0651
2-Butanone (MEK)	ND	500	460		5	91	0.82	60-140	20	02/10/2017 0651
Carbon disulfide	ND	250	260		5	105	1.5	60-140	20	02/10/2017 0651
Carbon tetrachloride	ND	250	260		5	102	0.51	37-166	20	02/10/2017 0651
Chlorobenzene	ND	250	270		5	108	1.2	78-129	20	02/10/2017 0651
Chloroethane	ND	250	340		5	136	0.26	60-140	20	02/10/2017 0651
Chloroform	ND	250	240		5	96	1.6	63-123	20	02/10/2017 0651
Chloromethane (Methyl chloride)	ND	250	310		5	122	3.7	20-158	20	02/10/2017 0651
Cyclohexane	ND	250	340	N	5	137	0.24	70-130	20	02/10/2017 0651
1,2-Dibromo-3-chloropropane (DBCP)	ND	250	270		5	107	3.4	70-130	20	02/10/2017 0651
Dibromochloromethane	ND	250	240		5	95	0.80	74-134	20	02/10/2017 0651
1,2-Dibromoethane (EDB)	ND	250	250		5	99	0.21	70-130	20	02/10/2017 0651
1,2-Dichlorobenzene	ND	250	260		5	104	0.054	70-130	20	02/10/2017 0651
1,3-Dichlorobenzene	ND	250	270		5	106	1.8	70-130	20	02/10/2017 0651
1,4-Dichlorobenzene	ND	250	270		5	106	1.4	70-130	20	02/10/2017 0651
Dichlorodifluoromethane	ND	250	280		5	112	0.64	10-158	20	02/10/2017 0651
1,1-Dichloroethane	ND	250	280		5	112	1.1	69-132	20	02/10/2017 0651
1,2-Dichloroethane	ND	250	280		5	110	0.28	70-130	20	02/10/2017 0651
1,1-Dichloroethene	ND	250	260		5	104	0.16	50-132	20	02/10/2017 0651
cis-1,2-Dichloroethene	ND	250	240		5	97	1.3	70-130	20	02/10/2017 0651
trans-1,2-Dichloroethene	ND	250	260		5	103	2.6	70-130	20	02/10/2017 0651
1,2-Dichloropropane	ND	250	270		5	109	0.79	71-126	20	02/10/2017 0651
cis-1,3-Dichloropropene	ND	250	250		5	99	1.1	69-130	20	02/10/2017 0651
trans-1,3-Dichloropropene	ND	250	230		5	92	1.1	73-131	20	02/10/2017 0651
Ethylbenzene	ND	250	270		5	107	0.77	70-130	20	02/10/2017 0651
2-Hexanone	ND	500	630		5	126	1.6	60-140	20	02/10/2017 0651
Isopropylbenzene	ND	250	270		5	107	0.19	70-130	20	02/10/2017 0651
Methyl acetate	ND	250	290		5	116	2.4	15-128	20	02/10/2017 0651
Methyl tertiary butyl ether (MTBE)	ND	250	220		5	87	1.2	70-130	20	02/10/2017 0651
4-Methyl-2-pentanone	ND	500	590		5	118	0.70	60-140	20	02/10/2017 0651
Methylcyclohexane	ND	250	260		5	105	0.060	70-130	20	02/10/2017 0651
Methylene chloride	ND	250	240		5	98	1.7	69-129	20	02/10/2017 0651
Styrene	ND	250	270		5	106	0.22	70-130	20	02/10/2017 0651
1,1,2,2-Tetrachloroethane	ND	250	260		5	104	1.8	60-155	20	02/10/2017 0651
Tetrachloroethene	380	250	650		5	106	1.6	70-130	20	02/10/2017 0651
Toluene	ND	250	260		5	104	0.31	70-130	20	02/10/2017 0651
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	250	260		5	104	0.69	70-130	20	02/10/2017 0651
1,2,4-Trichlorobenzene	ND	250	220		5	89	1.4	70-130	20	02/10/2017 0651
1,1,1-Trichloroethane	ND	250	270		5	107	1.2	77-132	20	02/10/2017 0651
1,1,2-Trichloroethane	ND	250	260		5	104	1.2	77-132	20	02/10/2017 0651

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: SB09030-012MD
Batch: 34161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	ND	250	260		5	102	1.2	73-124	20	02/10/2017 0651
Trichlorofluoromethane	ND	250	240		5	95	0.45	60-140	20	02/10/2017 0651
Vinyl chloride	ND	250	290		5	117	1.5	29-159	20	02/10/2017 0651
Xylenes (total)	ND	500	530		5	107	0.23	70-130	20	02/10/2017 0651

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ34296-001
Batch: 34296
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Acetone	ND		1	20	ug/L	02/10/2017 2235
Benzene	ND		1	5.0	ug/L	02/10/2017 2235
Bromodichloromethane	ND		1	5.0	ug/L	02/10/2017 2235
Bromoform	ND		1	5.0	ug/L	02/10/2017 2235
Bromomethane (Methyl bromide)	ND		1	5.0	ug/L	02/10/2017 2235
2-Butanone (MEK)	ND		1	10	ug/L	02/10/2017 2235
Carbon disulfide	ND		1	5.0	ug/L	02/10/2017 2235
Carbon tetrachloride	ND		1	5.0	ug/L	02/10/2017 2235
Chlorobenzene	ND		1	5.0	ug/L	02/10/2017 2235
Chloroethane	ND		1	5.0	ug/L	02/10/2017 2235
Chloroform	ND		1	5.0	ug/L	02/10/2017 2235
Chloromethane (Methyl chloride)	ND		1	5.0	ug/L	02/10/2017 2235
Cyclohexane	ND		1	5.0	ug/L	02/10/2017 2235
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	ug/L	02/10/2017 2235
Dibromochloromethane	ND		1	5.0	ug/L	02/10/2017 2235
1,2-Dibromoethane (EDB)	ND		1	5.0	ug/L	02/10/2017 2235
1,4-Dichlorobenzene	ND		1	5.0	ug/L	02/10/2017 2235
1,3-Dichlorobenzene	ND		1	5.0	ug/L	02/10/2017 2235
1,2-Dichlorobenzene	ND		1	5.0	ug/L	02/10/2017 2235
Dichlorodifluoromethane	ND		1	5.0	ug/L	02/10/2017 2235
1,2-Dichloroethane	ND		1	5.0	ug/L	02/10/2017 2235
1,1-Dichloroethane	ND		1	5.0	ug/L	02/10/2017 2235
trans-1,2-Dichloroethene	ND		1	5.0	ug/L	02/10/2017 2235
cis-1,2-Dichloroethene	ND		1	5.0	ug/L	02/10/2017 2235
1,1-Dichloroethene	ND		1	5.0	ug/L	02/10/2017 2235
1,2-Dichloropropane	ND		1	5.0	ug/L	02/10/2017 2235
trans-1,3-Dichloropropene	ND		1	5.0	ug/L	02/10/2017 2235
cis-1,3-Dichloropropene	ND		1	5.0	ug/L	02/10/2017 2235
Ethylbenzene	ND		1	5.0	ug/L	02/10/2017 2235
2-Hexanone	ND		1	10	ug/L	02/10/2017 2235
Isopropylbenzene	ND		1	5.0	ug/L	02/10/2017 2235
Methyl acetate	ND		1	5.0	ug/L	02/10/2017 2235
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	ug/L	02/10/2017 2235
4-Methyl-2-pentanone	ND		1	10	ug/L	02/10/2017 2235
Methylcyclohexane	ND		1	5.0	ug/L	02/10/2017 2235
Methylene chloride	ND		1	5.0	ug/L	02/10/2017 2235
Styrene	ND		1	5.0	ug/L	02/10/2017 2235
1,1,2,2-Tetrachloroethane	ND		1	5.0	ug/L	02/10/2017 2235
Tetrachloroethene	ND		1	5.0	ug/L	02/10/2017 2235
Toluene	ND		1	5.0	ug/L	02/10/2017 2235
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	ug/L	02/10/2017 2235
1,2,4-Trichlorobenzene	ND		1	5.0	ug/L	02/10/2017 2235
1,1,2-Trichloroethane	ND		1	5.0	ug/L	02/10/2017 2235
1,1,1-Trichloroethane	ND		1	5.0	ug/L	02/10/2017 2235

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ34296-001
Batch: 34296
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Trichloroethene	ND		1	5.0	ug/L	02/10/2017 2235
Trichlorofluoromethane	ND		1	5.0	ug/L	02/10/2017 2235
Vinyl chloride	ND		1	2.0	ug/L	02/10/2017 2235
Xylenes (total)	ND		1	5.0	ug/L	02/10/2017 2235

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		107	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ34296-002
Batch: 34296
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	140	N	1	143	60-140	02/10/2017 2111
Benzene	50	48		1	96	70-130	02/10/2017 2111
Bromodichloromethane	50	53		1	105	70-130	02/10/2017 2111
Bromoform	50	48		1	96	70-130	02/10/2017 2111
Bromomethane (Methyl bromide)	50	54		1	108	60-140	02/10/2017 2111
2-Butanone (MEK)	100	110		1	109	60-140	02/10/2017 2111
Carbon disulfide	50	51		1	102	60-140	02/10/2017 2111
Carbon tetrachloride	50	53		1	105	70-130	02/10/2017 2111
Chlorobenzene	50	56		1	113	70-130	02/10/2017 2111
Chloroethane	50	57		1	114	60-140	02/10/2017 2111
Chloroform	50	49		1	98	70-130	02/10/2017 2111
Chloromethane (Methyl chloride)	50	61		1	122	60-140	02/10/2017 2111
Cyclohexane	50	69	N	1	138	70-130	02/10/2017 2111
1,2-Dibromo-3-chloropropane (DBCP)	50	63		1	127	70-130	02/10/2017 2111
Dibromochloromethane	50	51		1	103	70-130	02/10/2017 2111
1,2-Dibromoethane (EDB)	50	54		1	108	70-130	02/10/2017 2111
1,4-Dichlorobenzene	50	57		1	114	70-130	02/10/2017 2111
1,3-Dichlorobenzene	50	58		1	115	70-130	02/10/2017 2111
1,2-Dichlorobenzene	50	58		1	116	70-130	02/10/2017 2111
Dichlorodifluoromethane	50	52		1	104	60-140	02/10/2017 2111
1,2-Dichloroethane	50	59		1	118	70-130	02/10/2017 2111
1,1-Dichloroethane	50	57		1	113	70-130	02/10/2017 2111
trans-1,2-Dichloroethene	50	52		1	104	70-130	02/10/2017 2111
cis-1,2-Dichloroethene	50	50		1	100	70-130	02/10/2017 2111
1,1-Dichloroethene	50	53		1	106	70-130	02/10/2017 2111
1,2-Dichloropropane	50	57		1	113	70-130	02/10/2017 2111
trans-1,3-Dichloropropene	50	50		1	100	70-130	02/10/2017 2111
cis-1,3-Dichloropropene	50	54		1	107	70-130	02/10/2017 2111
Ethylbenzene	50	56		1	111	70-130	02/10/2017 2111
2-Hexanone	100	140		1	137	60-140	02/10/2017 2111
Isopropylbenzene	50	57		1	115	70-130	02/10/2017 2111
Methyl acetate	50	66		1	133	60-140	02/10/2017 2111
Methyl tertiary butyl ether (MTBE)	50	46		1	93	70-130	02/10/2017 2111
4-Methyl-2-pentanone	100	130		1	132	60-140	02/10/2017 2111
Methylcyclohexane	50	55		1	110	70-130	02/10/2017 2111
Methylene chloride	50	50		1	100	70-130	02/10/2017 2111
Styrene	50	57		1	114	70-130	02/10/2017 2111
1,1,2,2-Tetrachloroethane	50	56		1	111	70-130	02/10/2017 2111
Tetrachloroethene	50	57		1	114	70-130	02/10/2017 2111
Toluene	50	54		1	108	70-130	02/10/2017 2111
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	55		1	109	70-130	02/10/2017 2111
1,2,4-Trichlorobenzene	50	55		1	110	70-130	02/10/2017 2111
1,1,2-Trichloroethane	50	55		1	109	70-130	02/10/2017 2111
1,1,1-Trichloroethane	50	52		1	104	70-130	02/10/2017 2111

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
ND = Not detected at or above the PQL
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ34296-002
Batch: 34296
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	52		1	103	70-130	02/10/2017 2111
Trichlorofluoromethane	50	47		1	95	70-130	02/10/2017 2111
Vinyl chloride	50	53		1	106	70-130	02/10/2017 2111
Xylenes (total)	100	110		1	113	70-130	02/10/2017 2111

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		110	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: SB09030-014MS
Batch: 34296
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	ND	1000	810		10	81	60-140	02/11/2017 0707
Benzene	ND	500	490		10	98	70-130	02/11/2017 0707
Bromodichloromethane	ND	500	530		10	105	71-143	02/11/2017 0707
Bromoform	ND	500	450		10	91	65-131	02/11/2017 0707
Bromomethane (Methyl bromide)	ND	500	530		10	106	36-168	02/11/2017 0707
2-Butanone (MEK)	ND	1000	870		10	87	60-140	02/11/2017 0707
Carbon disulfide	ND	500	500		10	101	60-140	02/11/2017 0707
Carbon tetrachloride	ND	500	500		10	100	37-166	02/11/2017 0707
Chlorobenzene	ND	500	550		10	111	78-129	02/11/2017 0707
Chloroethane	ND	500	550		10	110	60-140	02/11/2017 0707
Chloroform	ND	500	480		10	96	63-123	02/11/2017 0707
Chloromethane (Methyl chloride)	ND	500	650		10	131	20-158	02/11/2017 0707
Cyclohexane	ND	500	670	N	10	134	70-130	02/11/2017 0707
1,2-Dibromo-3-chloropropane (DBCP)	ND	500	570		10	113	70-130	02/11/2017 0707
Dibromochloromethane	ND	500	490		10	98	74-134	02/11/2017 0707
1,2-Dibromoethane (EDB)	ND	500	520		10	105	70-130	02/11/2017 0707
1,2-Dichlorobenzene	ND	500	540		10	108	70-130	02/11/2017 0707
1,3-Dichlorobenzene	ND	500	540		10	109	70-130	02/11/2017 0707
1,4-Dichlorobenzene	ND	500	550		10	110	70-130	02/11/2017 0707
Dichlorodifluoromethane	ND	500	530		10	106	10-158	02/11/2017 0707
1,1-Dichloroethane	ND	500	580		10	115	69-132	02/11/2017 0707
1,2-Dichloroethane	ND	500	560		10	113	70-130	02/11/2017 0707
1,1-Dichloroethene	ND	500	540		10	109	50-132	02/11/2017 0707
cis-1,2-Dichloroethene	ND	500	500		10	100	70-130	02/11/2017 0707
trans-1,2-Dichloroethene	ND	500	520		10	105	70-130	02/11/2017 0707
1,2-Dichloropropane	ND	500	560		10	113	71-126	02/11/2017 0707
cis-1,3-Dichloropropene	ND	500	510		10	103	69-130	02/11/2017 0707
trans-1,3-Dichloropropene	ND	500	480		10	97	73-131	02/11/2017 0707
Ethylbenzene	ND	500	550		10	110	70-130	02/11/2017 0707
2-Hexanone	ND	1000	1300		10	133	60-140	02/11/2017 0707
Isopropylbenzene	ND	500	520		10	105	70-130	02/11/2017 0707
Methyl acetate	ND	500	470		10	94	15-128	02/11/2017 0707
Methyl tertiary butyl ether (MTBE)	ND	500	390		10	78	70-130	02/11/2017 0707
4-Methyl-2-pentanone	ND	1000	1200		10	117	60-140	02/11/2017 0707
Methylcyclohexane	ND	500	520		10	104	70-130	02/11/2017 0707
Methylene chloride	ND	500	490		10	98	69-129	02/11/2017 0707
Styrene	ND	500	560		10	111	70-130	02/11/2017 0707
1,1,2,2-Tetrachloroethane	ND	500	540		10	108	60-155	02/11/2017 0707
Tetrachloroethene	590	500	1200		10	112	70-130	02/11/2017 0707
Toluene	ND	500	530		10	107	70-130	02/11/2017 0707
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	500	550		10	110	70-130	02/11/2017 0707
1,2,4-Trichlorobenzene	ND	500	470		10	93	70-130	02/11/2017 0707
1,1,1-Trichloroethane	ND	500	500		10	100	77-132	02/11/2017 0707
1,1,2-Trichloroethane	ND	500	530		10	106	77-132	02/11/2017 0707

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: SB09030-014MS
Batch: 34296
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	ND	500	530		10	106	73-124	02/11/2017 0707
Trichlorofluoromethane	ND	500	480		10	95	60-140	02/11/2017 0707
Vinyl chloride	ND	500	570		10	114	29-159	02/11/2017 0707
Xylenes (total)	ND	1000	1100		10	108	70-130	02/11/2017 0707

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: SB09030-014MD
Batch: 34296
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	ND	1000	880		10	88	9.2	60-140	20	02/11/2017 0730
Benzene	ND	500	500		10	99	1.2	70-130	20	02/11/2017 0730
Bromodichloromethane	ND	500	530		10	106	0.30	71-143	20	02/11/2017 0730
Bromoform	ND	500	460		10	92	1.7	65-131	20	02/11/2017 0730
Bromomethane (Methyl bromide)	ND	500	510		10	103	3.1	36-168	20	02/11/2017 0730
2-Butanone (MEK)	ND	1000	930		10	93	6.3	60-140	20	02/11/2017 0730
Carbon disulfide	ND	500	520		10	105	3.9	60-140	20	02/11/2017 0730
Carbon tetrachloride	ND	500	530		10	107	6.1	37-166	20	02/11/2017 0730
Chlorobenzene	ND	500	560		10	113	1.9	78-129	20	02/11/2017 0730
Chloroethane	ND	500	540		10	107	2.3	60-140	20	02/11/2017 0730
Chloroform	ND	500	500		10	99	3.3	63-123	20	02/11/2017 0730
Chloromethane (Methyl chloride)	ND	500	640		10	129	1.3	20-158	20	02/11/2017 0730
Cyclohexane	ND	500	690	N	10	138	2.6	70-130	20	02/11/2017 0730
1,2-Dibromo-3-chloropropane (DBCP)	ND	500	600		10	120	6.0	70-130	20	02/11/2017 0730
Dibromochloromethane	ND	500	500		10	101	2.7	74-134	20	02/11/2017 0730
1,2-Dibromoethane (EDB)	ND	500	540		10	107	2.1	70-130	20	02/11/2017 0730
1,2-Dichlorobenzene	ND	500	560		10	112	3.3	70-130	20	02/11/2017 0730
1,3-Dichlorobenzene	ND	500	560		10	112	2.6	70-130	20	02/11/2017 0730
1,4-Dichlorobenzene	ND	500	560		10	112	2.3	70-130	20	02/11/2017 0730
Dichlorodifluoromethane	ND	500	530		10	105	0.43	10-158	20	02/11/2017 0730
1,1-Dichloroethane	ND	500	590		10	117	2.1	69-132	20	02/11/2017 0730
1,2-Dichloroethane	ND	500	570		10	115	1.8	70-130	20	02/11/2017 0730
1,1-Dichloroethene	ND	500	550		10	111	1.5	50-132	20	02/11/2017 0730
cis-1,2-Dichloroethene	ND	500	510		10	102	2.1	70-130	20	02/11/2017 0730
trans-1,2-Dichloroethene	ND	500	530		10	106	1.5	70-130	20	02/11/2017 0730
1,2-Dichloropropane	ND	500	570		10	115	1.6	71-126	20	02/11/2017 0730
cis-1,3-Dichloropropene	ND	500	520		10	105	1.8	69-130	20	02/11/2017 0730
trans-1,3-Dichloropropene	ND	500	490		10	99	1.7	73-131	20	02/11/2017 0730
Ethylbenzene	ND	500	560		10	111	1.4	70-130	20	02/11/2017 0730
2-Hexanone	ND	1000	1300		10	134	0.74	60-140	20	02/11/2017 0730
Isopropylbenzene	ND	500	540		10	108	2.6	70-130	20	02/11/2017 0730
Methyl acetate	ND	500	660	N,+	10	131	33	15-128	20	02/11/2017 0730
Methyl tertiary butyl ether (MTBE)	ND	500	450		10	90	14	70-130	20	02/11/2017 0730
4-Methyl-2-pentanone	ND	1000	1200		10	125	6.5	60-140	20	02/11/2017 0730
Methylcyclohexane	ND	500	530		10	106	2.2	70-130	20	02/11/2017 0730
Methylene chloride	ND	500	500		10	101	2.2	69-129	20	02/11/2017 0730
Styrene	ND	500	570		10	113	2.1	70-130	20	02/11/2017 0730
1,1,2,2-Tetrachloroethane	ND	500	550		10	110	1.0	60-155	20	02/11/2017 0730
Tetrachloroethene	590	500	1100		10	110	0.63	70-130	20	02/11/2017 0730
Toluene	ND	500	550		10	109	2.5	70-130	20	02/11/2017 0730
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	500	540		10	109	1.4	70-130	20	02/11/2017 0730
1,2,4-Trichlorobenzene	ND	500	470		10	94	0.28	70-130	20	02/11/2017 0730
1,1,1-Trichloroethane	ND	500	540		10	107	6.4	77-132	20	02/11/2017 0730
1,1,2-Trichloroethane	ND	500	540		10	108	2.1	77-132	20	02/11/2017 0730

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: SB09030-014MD
Batch: 34296
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	ND	500	530		10	105	0.55	73-124	20	02/11/2017 0730
Trichlorofluoromethane	ND	500	470		10	93	2.0	60-140	20	02/11/2017 0730
Vinyl chloride	ND	500	560		10	112	2.1	29-159	20	02/11/2017 0730
Xylenes (total)	ND	1000	1100		10	111	2.3	70-130	20	02/11/2017 0730

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY

Chain of Custody Record

Number

Client	Report to Contact	Sampler (Printed Name)	Quote No.
AECOM	Aaron Council	Marc McFarland	
Address	Telephone No. / Fax No. / Email	Waybill No.	Page 1 of 3
10 Patewood Dr , Bldg. 6, Ste. 500	864-234-3032 / aaron.council@secom.com		
City: Greenville / State: SC / Zip Code: 29615	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6 Na Thio. 7. NaOH		Number of Containers: 3 A 5 / Bottle
Project Name: ITRON			SB09030
Project Number: 60520033.4	P.O Number:		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: TCL VOCs 8260B
MW-1	2-7-17	1105	G	X					X
MW-2	2-7-17	1025							
MW-5D	2-8-17	1106							
MW-6	2-7-17	1650							
MW-7	2-8-17	1215							
MW-9	2-8-17	1145							
MW-10R	2-7-17	1450							
MW-10I	2-7-17	1520							
MW-11	2-8-17	1230							
MW-12	2-8-17	0945	↓	↓					↓

Turn Around Time Required (Prior lab approval required for expedited TAT): [X] Standard [ ] Rush (Please Specify)

Sample Disposal: [ ] Return to Client [X] Disposal by Lab

QC Requirements (Please Specify)

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison [ ] Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	2-9-17	0845	1. Received by: Secure Area	2.9.17	0845
2. Relinquished by: Secure Area	2.9.17	1135	2. Received by	2.9.17	1135
3. Relinquished by	2.9.17	1443	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by: Cass Trent	Date 2/9/17	Time 1443

Note: All samples are retained for six weeks from receipt unless other arrangements are made

LAB USE ONLY
Received on Ice (Check) [ ] Y [ ] N [ ] Ice Pack

Receipt Temp. 1.6 °C

Temp. Blank [X] Y [ ] N

Effective Date 06-27-2012

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

SHEALY ENVIRONMENTAL SERVICES, INC.

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www.shealylab.com

SHEALY

Chain of Custody Record

Number

Client	Report to Contact	Sampler (Printed Name)	Quote No.
AECOM	Aaron Council	Marc McFarland	
Address	**Telephone No. / Fax No. / Email**	**Waybill No.**	**Page** 2 of 3
10 Patewood Dr., Bldg. 6, Ste. 500	864-234-3032 / aaron.council@aecom.com		
City Greenville	**State** SC	**Zip Code** 29615	
Project Name ITRON			
Project Number 60520033.4	**P.O Number**		

Preservative
1. Unpres. 4. HNO3 7. NaOH
2. NaOH/ZnA 5. HCL
3. H2SO4 6. Na Thio.

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: TCL VOCs 8260B	Number of Containers	Bottle	Preservative	Lot No.
MW-15R	2-8-17	1450	G	X					X				SB09030
MW-17	2-7-17	1630											
MW-19	2-8-17	1415											
MW-20	2-8-17	1035											
MW-21	2-7-17	1605											
MW-22D	2-8-17	1000											
MW-23	2-7-17	1205											
Dup-1	2-8-17	1235											
Dup-2	2-8-17	1040											
MW-17 MS	2-7-17	1630	↓	↓					↓				

Turn Around Time Required (Prior lab approval required for expedited TAT)
[X] Standard [ ] Rush (Please Specify)

Sample Disposal
[ ] Return to Client [X] Disposal by Lab

QC Requirements (Please Specify)

Possible Hazard Identification
[X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison [ ] Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	2-9-17	0845	1. Received by Secure Area	2.9.17	0845
2. Relinquished by Secure Area	2.9.17	1635	2. Received by	2.9.17	1651
3. Relinquished by	2.9.17	1443	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	2/9/17	1443

Note: All samples are retained for six weeks from receipt unless other arrangements are made

LAB USE ONLY
Received on Ice (Check) [ ] Y [ ] N [ ] Ice Pack

Receipt Temp. °C

Temp. Blank [ ] Y [ ] N

Effective Date 06-27-2012

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number

Client: AECOM	Report to Contact: Aaron Council	Sampler (Printed Name): Marc McFarland	Quote No.
Address: 10 Patewood Dr., Bldg. 6, Ste. 500	Telephone No. / Fax No. / Email: 864-234-3032 / aaron.council@aecom.com	Waybill No.	Page 3 of 3
City: Greenville; State: SC; Zip Code: 29615	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		
Project Name: ITRON			
Project Number: 60520033.4	P.O Number		SB09030

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	GW	DW	WW	S	Other	TCL VOCs 8260B
Number of Containers									3
Bottle									A
Preservative									5
MW-17 MSD	2-7-17	1630	G	X					X
EB-1	2-8-17	1420	G	X					X
Trip Blank									X

Turn Around Time Required (Prior lab approval required for expedited TAT): ☒ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

QC Requirements (Please Specify)

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Relinquished by	Date	Time	Received by	Date	Time
1. Relinquished by / Sampler: [signature]	2-9-17	0845	1. Received by: Secure Area	2.9.17	0845
2. Relinquished by: Secure Area	2.9.17	1135	2. Received by: [signature]	2.9.17	1135
3. Relinquished by: [signature]	2.9.17	1443	3. Received by		
4. Relinquished by			4. Laboratory Received by: [signature]	2/9/17	1443

Note: All samples are retained for six weeks from receipt unless other arrangements are made

LAB USE ONLY
Received on Ice (Check) ☐ Y ☐ N ☐ Ice Pack
Receipt Temp. ____ °C
Temp. Blank ☐ Y ☐ N

Effective Date 06-27-2012

Shealy Environmental Services, Inc.
Document Number: ME0018C-07

Page 1 of 1
Effective Date: 11/29/2016
Expiry Date: 11/29/2021

Sample Receipt Checklist (SRC)

Client: AECOM Cooler Inspected by/date: CLT 12/9/17 Lot #: SB09030

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Other_____			
Yes ☐	No ☑		1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?
pH strip ID:_____ Cl strip ID:_____ Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: 1.6/1.6 °C ___/___/___°C ___/___/___°C ___/___/___°C Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None			
Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐		6. Were sample IDs listed on the COC?
Yes ☑	No ☐		7. Were sample IDs listed on all sample containers?
Yes ☑	No ☐		8. Was collection date & time listed on the COC?
Yes ☑	No ☐		9. Was collection date & time listed on all sample containers?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with the COC?
Yes ☑	No ☐		11. Were tests to be performed listed on the COC?
Yes ☑	No ☐		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		13. Was adequate sample volume available?
Yes ☐	No ☑		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes ☐	No ☑	NA ☑	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (<0.5mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☑	No ☐	NA ☐	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?
Yes ☐	No ☑		22. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)			
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4, HNO_3, HCl, NaOH) using SR # _____.			
Sample(s) _____ were received with bubbles >6 mm in diameter.			
Samples(s) _____ were received with TRC >0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: _____.			
SC Drinking Water Project Sample(s) pH verified to be < 2 by _____ Date: _____ Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR#			
Sample labels applied by: CLT Verified by: _____ Date: 12/9/17			

Comments: _____

DATA ASSESSMENT REPORT

Data assessment is a systematic process for reviewing a body of data against a predefined set of criteria to provide assurance that the data meet project Data Quality Objective (DQO) requirements. The purpose of the data assessment process is to determine if and how the usability of the analytical data is affected by the overall analytical processes and sample collection and handling procedures. If specific DQOs are not met, the data are qualified (i.e., data flags are assigned to sample results) in accordance with guidelines established by the United States Environmental Protection Agency (USEPA). Data assessment allows the data user to adequately determine if the data can be used for its intended purpose. The data acceptance criteria are established according to Standard Operating Procedures (SOPs) and Statements of Work (SOWs) provided to the contracted analytical laboratory. The assessment of data quality and usability involves five components, as described below.

1) **Field Sampling Check** is a process to ensure that all samples were collected and the laboratory analyses were performed as stipulated in the applicable site-specific Work Plan or Field Sampling Plan (FSP). Inspection of sample preservation procedures, sample handling, analysis requested, sample description and identification (ID), cooler receipt forms, holding time evaluation, and Chain of Custody procedures are all evaluated to ensure that the evidentiary nature of the samples and the resulting analytical data have not been compromised.

2) **Data Verification** is a process for determining the completeness, correctness, consistency, and compliance of a data package in accordance with requirements contained in the applicable SOW and/or contract-specific requirements. This is a review of the data package, electronic data deliverable (EDD), and invoice received from the contract laboratory to ensure that the contract required information is present and complete prior to data validation.

3) **Data Review** is a process of reviewing the primary quality control (QC) data provided by the laboratory and the results of any internal quality assurance (QA)/QC samples, such as field blanks, trip blanks, equipment blanks or ambient blanks, field split samples, and duplicate samples, to ascertain any effect the laboratory's procedures or the sample collection process has on the data.

4) **Data Evaluation** is a process to determine if the data meet project-specific DQOs and contract requirements. This evaluation may involve a review of field sampling and sample management procedures, laboratory audits, Performance Evaluation (PE) sample results, and any other data quality indicators that are available.

5) **Data Validation** is a process to determine the accuracy and precision of analytical data generated and to identify any anomalies encountered. The validation process is performed in accordance with USEPA regional or national functional guidelines, project-specific guidelines, and

compliance with the requirements of each analytical method. Two major components of data validation are laboratory performance and matrix interferences. Evaluation of laboratory performance is a check for compliance for each analytical method to determine if the samples were analyzed within the prescribed acceptance criteria of the method. Evaluation of matrix interferences involves the analysis of surrogate spike recoveries, matrix spike recoveries, and duplicate sample results. Data not meeting project-specific DQOs or the requirements of the analytical method are qualified with data flags according to referenced guidelines.

Data Assessment Procedures

AECOM performed independent QC checks of field and laboratory procedures that were used in collecting and analyzing the data. The QC checks verify that the data collected are of appropriate quality for the intended data use and that the DQOs were met. The steps and guidelines followed during the data validation process were modeled on the *USEPA National Functional Guidelines for Superfund Organic Data Review* (USEPA, August 2014). In addition, method-specific criteria set forth in the compendium of analytical methods found in the *Test Methods for Evaluation Solid Waste (SW-846*), *Update IV* (USEPA, February 2007) are also evaluated during the validation process. This validation process has been adapted to meet the DQO requirements for generation of definitive critical data.

Data Validation Results

The analytical data associated with analytical data package SB09030 (see chains of custody) were collected on February 7-8, 2017 for Itron located in Greenwood, South Carolina. The analytical data were validated according to the procedures outlined above. Where data flags have been applied to this data set, they are separated by a slash "/" and presented in the following format:

Laboratory Flag / Result Flags / Analysis Flags

- Laboratory Flag: This flag precedes the first slash and is added by the laboratory as a result of QC excursions from the analytical method. These flags are laboratory-specific and are described in the associated laboratory report.

- Result Flags: These are presented after the first slash and are added by AECOM based on data validation procedures and guidelines. They tell how and if the data should be used.

- Analysis Flags: These flags are presented after the second slash and are added by AECOM to inform the data user of any specific QA/QC problems that were encountered.

Any data requiring qualification as a result of the validation process were assigned data flags, as discussed below. The validation flags indicate how any QC excursions may have impacted the usability of the data.

Volatile Organic Compounds by Method 8260B

Results of the validation process indicate that the data analyzed for this method are acceptable for their intended use and no data flags are required.

Data Summary and Usability

No QC excursions were encountered during the validation of this data set. Therefore, the data associated with this laboratory batch should be considered compliant and adequate for its intended use.

References

United States Environmental Protection Agency (USEPA), August 2014. *USEPA National Functional Guidelines for Superfund Organic Data Review*. Publication #EPA540-R-014-002.

United States Environmental Protection Agency (USEPA), February 2007. *Test Methods for Evaluating Solid Waste (SW-846)*, Update IV.