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December 28, 2017

Robert Marbury, PG
Geologist/CO
Response & Remediation Program
Environmental Protection Division – Land Protection Division
2 Martin Luther King Jr. Dr., Suite 1052 East
Atlanta, GA 30334

Subject: Semi-Annual Progress Report #05 (July 1, 2017 through December 31, 2017)
Former United Technologies Automotive Site, HIS #10543
1884 Warrenton Highway, Thomson, McDuffie County, Georgia
Tax Parcel ID # 00200056

Dear Mr. Marbury,

On behalf of United Technologies Corporation (UTC), AECOM Technical Services, Inc. (AECOM) is submitting this letter as Semi-Annual Progress Report #05 (July 1, 2017 through June 30, 2017) for the activities conducted at the former United Technologies Automotive facility located at 1884 Warrenton Highway, Thomson, Georgia (Site). In a letter dated June 30, 2015, the Georgia Environmental Protection Division (EPD) approved the March 12, 2015 Voluntary Remediation Program (VRP) Application submitted by AECOM pursuant to the Georgia Voluntary Remediation Program Act.

A summary of activities during the past six months are discussed below.

1. Actions which have been taken toward achieving compliance during this period:

- EPD reviewed the two 2016 VRP Semi-Annual Progress Reports (dated June 29, 2016 and December 22, 2016) and provided a comment letter dated September 1, 2017. AECOM has prepared a response to those comments in a response to comments (RTC) letter which is presented as **Attachment A** to this progress report.
- During the last period AECOM installed two delineation wells the week of June 5, 2017. One well (M-23) was installed for vertical delineation purposes and was clustered with M-14D and M-17. The second well (M-22) was installed for downgradient lateral plume delineation purposes and was located near the south corner of the building. During this period both wells were sampled as part of the June 2017 groundwater monitoring event. VOCs were non-detect in both wells.

2. Results of sampling and tests and all other data received during the reporting period:

- AECOM received the results of the June 2017 sampling event and prepared a 2017 Annual Groundwater Monitoring Report included as **Attachment B** to this Semi-Annual Progress Report.

3. Actions, data, and plans which are scheduled for next semi-annual period:

- AECOM is evaluating in-situ remedial injections during the next semi-annual period. Prior to performing the injections, AECOM and UTC would like to meet with the EPD on-site to discuss the plan and the schedule to meet compliance moving forward.
- The next semi-annual progress report will be submitted to EPD by June 30, 2018.

4. Unresolved or anticipated delays, and efforts made to mitigate those delays or anticipated delays:

- UTC submitted a revised Uniform Environmental Covenant (UEC) to EPD for review on June 13, 2017 (**see Attachment C**). UTC is currently awaiting comments from EPD and hopes to receive them during the next six-month reporting period.

5. Modifications to the proposed schedule or approach during this reporting period:

- AECOM and UTC would like to meet with EPD to discuss future remedial activities and how they may impact the VRP compliance schedule mentioned in the 2015 VRP application.

According to EPD's VRP approval letter dated June 30, 2015, semi-annual progress reports are due semi-annually; the next progress report will be submitted by June 30, 2017. If you have any questions regarding the information provided in this progress report, please do not hesitate to contact Beth Lang at (248) 634-6048 or Matthew A. Panciera at (860) 263-5742.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Matthew A. Panciera', with a long horizontal flourish extending to the right.

Matthew A. Panciera, PE, LEP
Senior Project Manager
matthew.panciera@aecom.com

cc: Beth Lang (UTC)
Jon Alberg (AECOM)

Attachment A:

**Response to EPD
Comments Letter Dated
September 1, 2017**

December 28, 2017

Robert Marbury, PG
Geologist/CO
Response & Remediation Program
Environmental Protection Division – Land Protection Division
2 Martin Luther King Jr. Dr., Suite 1052 East
Atlanta, GA 30334

**Subject: Attachment A:
Response to EPD Comments Letter Dated September 1, 2017
Former United Technologies Automotive Site, HIS #10543
1884 Warrenton Highway, Thomson, McDuffie County, Georgia
Tax Parcel ID # 00200056**

Dear Mr. Marbury,

AECOM Technical Services (AECOM), on behalf of United Technologies Corporation (UTC), is submitting this letter in response to the Georgia Environmental Protection Division (EPD) letter dated September 1, 2017 related to the two 2016 Semi-Annual Progress Reports for the Former United Technologies Automotive Site located at 1884 Warrenton Highway, Thomson, Georgia (the Site). AECOM and UTC have reviewed those comments and provide the following responses. GAEPD's comments are in italics.

1. *EPD concurs with AECOM's request presented in Progress Report #4 to defer soil-gas sampling while the scope of the soil-gas sampling is being re-evaluated, pending evaluation of the results of the June 2017 groundwater sampling event. In addition, EPD has reviewed AECOM's soil gas sampling plan in Progress Report #2. AECOM noted that due to access limitations within the active facility and potential background contribution from unrelated industrial activities within the facility, it would not be recommended or practical to collect air data inside. The plan proposes that surface emission flux monitoring in lieu of soil-gas sampling be conducted outside of the western edge of the building. EPD supports the recommendation to not collect indoor air samples at this time; however, EPD does not recommend the use of surface emission flux monitoring if alternate methods are available. When developing the revised soil-gas sampling scope, please note that EPD would prefer that interior sub-slab soil gas or exterior subsurface soil gas samples be collected in close proximity to the exterior building foundation below the depth of the foundation footers be proposed if feasible.*

AECOM is currently evaluating in-situ remedial injections on the west side of the existing building to address concentrations of Volatile Organic Compounds (VOCs). It is anticipated that as a result of remediation, groundwater VOC concentrations will decrease in this area. Following this remedial action, if soil-gas sampling is still necessary, AECOM will discuss a revised plan/approach with EPD.

2. *As reported in Progress Report #2, an attempt was made during the June 2016 sampling event to locate wells M-1R, M-12, and M-12R and none of the wells were found. However, Section 2.0 of*

the subsequent 2016 Annual Monitoring Report indicates that M-1R was located, but observed to be destroyed and could not be sampled. Please clarify the condition of M-1R. Considering the well was located at the surface, if possible, the well should be properly abandoned by over-drilling and backfilling with grout in accordance with EPA SESD Region 4 Guidance SESDGUID-101-R1, Design and Installation of Monitoring Wells, January 29, 2013. EPD concurs with AECOM's interpretation that based upon additional evaluation of groundwater flow direction, wells M-1R, M-12, and M-12R appear to be side-gradient of the source area and that M-4 serves as an appropriate downgradient well that separates the source area from the eastern side of the site.

Monitoring well M-1R was located but due to its condition and location under a newly installed large propane tank it cannot be sampled or abandoned properly. The current site owner installed the propane tank above the monitoring well. The next time AECOM staff is on site, M-1R will again be evaluated to see if proper abandonment is an option.

3. *Section 2.1 of the 2016 Groundwater Monitoring Report indicates that well repairs were made to some wells during the June 2016 monitoring event and future repairs will be made to other wells. The field logbook (Appendix A) includes reference to many wells with damaged or missing components. Please indicate if the remaining well repairs were completed during the June 2017 sampling event such that the integrity of the wells has been restored.*

AECOM is planning repairs to the site wells such that they will withstand the traffic present at the site and will not be damaged by fork trucks and tractor trailer trucks operating at the site. Repairs will be performed once an agreement is reached with the current site owner.

4. *The trend of increasing TCE concentrations in co-located source area wells M-14D/M-17 is noted and EPD agrees with the recommendation presented in the 2016 Groundwater Monitoring Report for additional characterization to achieve vertical delineation and will hold any further comments until receipt of the June 2017 sampling event results.*

Data from the newly installed monitoring wells is presented and discussed in the 2017 Groundwater Monitoring Report attached to the current Semi-Annual Progress Report #5.

5. *Groundwater flow direction from the source area has varied from east to southeast over time. Considering that groundwater flow has most recently been toward the southeast in the direction of M-13, as illustrated on the 2015-2016 potentiometric surface maps, EPD requests that M-13 be included as an additional POD well.*

Groundwater well M-22 was recently installed downgradient of the source area at approximately the same depth as M-13. Due to its location and closer proximity to the source area, we are requesting M-22 be used as a POD well instead of M-13.

6. *Section 1.1 of the 2016 Groundwater Monitoring Report indicates that the Site fencing and building footprint will be re-surveyed in 2017, as requested by EPD. Please provide the status of the resurvey.*

UTC submitted a revised Uniform Environmental Covenant (UEC) to EPD for review on June 13, 2017 in accordance with the new UED template. UTC is currently awaiting comments from EPD and hopes to receive them during the next six-month reporting period. Once the UEC is final, a full site re-survey will be performed as part of implementing the UEC.



We respectfully request that EPD review the responses above and provide concurrence with the presented response to comments as necessary. If you have any questions regarding the information provided in this response, please do not hesitate to contact Matthew A. Panciera at (860) 263-5742.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Matthew A. Panciera', with a long horizontal flourish extending to the right.

Matthew A. Panciera, PE, LEP
Senior Project Manager
Matthew.Panciera@aecom.com

cc: Beth Lang (UTC)
Jon Alberg (AECOM)

Attachment B:

**Annual Groundwater
Monitoring Report 2017**

Annual Groundwater Monitoring Report 2017

Former United Technologies Automotive Site
Thomson, GA
HSI # 10543

Annual Groundwater Monitoring Report 2017

Former United Technologies Automotive Site
Thomson, GA
HSI # 10543



Prepared By: John-Paul Vigil
Project Engineer



Reviewed By: Matthew Panciera, P.E.
Sr. Project Manager



Reviewed By: Felix Nchako, P.G.
Sr. Project Manager

PROFESSIONAL CERTIFICATION

I certify that I am a qualified groundwater scientist who has received a baccalaureate or postgraduate degree in a natural science or engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction.

By:

Felix N. Nchako

Felix Nchako, PG.
Registered Professional Geologist
Georgia Registration PG060873



Date: 12/28/2017

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1.0 Introduction

AECOM Technical Services, Inc. (AECOM), on behalf of United Technologies Corporation (UTC), has prepared this Annual Groundwater Monitoring Report to document work performed at the Former United Technologies Automotive (UTA) Facility (the Site) located at 1884 Warrenton Highway in Thomson, McDuffie County, Georgia (**Figure 1-1**). This report summarizes the installation of two additional delineation wells and the June 2017 groundwater monitoring activities conducted at the Site.

1.1 Site Description

The Site is located on approximately 36.4 acres in an industrial/commercial zoned property surrounded by a rural agricultural area, approximately two (2) miles southwest of the City of Thomson, Georgia (**Figure 1-1**). The Site is currently owned and operated by HP Pelzer.

The Site is bounded by Shaw Industries, Inc. (Shaw) to the southwest, Warrenton Highway 278 to the southeast, Wire Road followed by Hoover Treated Wood Products Inc. facility to the northeast, and residential properties and railroad tracks to the northwest. A site layout is presented as **Figure 1-2**. An aerial image was used to georeference the current building footprint and fence lines in relation to the Site wells and property lines. The fencing and building footprint will be resurveyed in conjunction with execution of the Uniform Environmental Covenants (UECs) in 2018.

1.2 Constituents of Interest

The following compounds have historically exceeded the Type 4 Risk Reduction Standards (RRS) and are considered constituents of interest (COIs) at the Site:

- 1,1-dichloroethene (1,1-DCE);
- cis-1,2-dichloroethene (cis-1,2-DCE) (daughter product of trichloroethene [TCE]);
- TCE; and
- vinyl chloride.

1.3 Site History

The Site was originally developed by National Homes in 1960, and the property was sold to Sheller-Globe, Inc. in 1979. UTC acquired Sheller-Globe in 1988 and renamed it United Technologies Automotive Systems, Inc. (UTA). UTA operated as a wholly owned subsidiary of UTC and owned the Site until 1997, at which time the property was sold to HP Pelzer. UTC sold UTA in 1999 but continued to perform certain environmental work at the Site.

During its period of ownership of the Site, UTA conducted an environmental investigation and found that 1,1-DCE was detected in groundwater above the reportable quantity limit. The groundwater data results were reported to the Georgia Environmental Protection Division (GA EPD), and the Site was subsequently placed on the Hazardous Site Inventory (HSI). A limited investigation of the Site was performed by HP Pelzer in 2003, and the results were submitted to the GA EPD. The GA EPD then requested that a full Compliance Status Report (CSR) be completed for the Site to further evaluate soil and groundwater contamination. A CSR prepared for HP Pelzer by Conversion Technology, Inc.

(CTI) was submitted to the GA EPD in May 2006. Due to a lack of sufficient delineation data with respect to groundwater contamination, the GA EPD requested additional delineation and an addendum to the CSR. UTC thereafter took over the investigation and began working with the GA EPD. A Corrective Action Plan (CAP) was submitted in December 2008 for the Site (XDD, 2008). The GA EPD approved the CAP, which proposed monitored natural attenuation (MNA) to address the groundwater contamination. Based on the soil sampling data collected in 2005 and 2007, the soil data met the Type 4 RRS and a certification of compliance letter was included as part of the CSR.

On behalf of UTC, AECOM submitted the application for the Voluntary Remediation Program (VRP) pursuant to the Georgia Voluntary Remediation Program Act. The following VRP-related reports and correspondences have been exchanged:

- *Voluntary Remediation Plan* (AECOM, March 12, 2015)
- Letter Response/VRP Approval, *Re: Voluntary Investigation and Remediation Plan and Application* (March 12, 2015); *Annual Progress Report/MNA Effectiveness Report* (March 17, 2014); *Annual Progress Report/MNA Effectiveness Report* (June 8, 2015) (GA EPD, June 30, 2015)
- *Annual Groundwater Monitoring Report* (AECOM, June 8, 2015)
- Letter, *Response to Comments on VRP Approval Letter Dated June 30, 2015* (AECOM, October 16, 2015)
- *Annual VRP Groundwater Monitoring Progress Report* (AECOM, December 16, 2015)
- Letter, *Annual VRP Groundwater Monitoring Progress Report* (December 16, 2015), *Semi-Annual VRP Progress Report* (December 16, 2015) (GA EPD, March 16, 2016)
- Letter, *Semi-Annual Progress Report #02* (January 1, 2016 through June 30, 2016) (June 29, 2016)
- *Semi-Annual Progress Report #03/Annual VRP Groundwater Monitoring Report* (AECOM, December 22, 2016)
- Letter, *Semi-Annual Progress Report #04* (January 1, 2017 through June 30, 2017) (AECOM, June 30, 2017)
- Letter, *Response : VRP Semi-Annual Progress Report #04 dated June 29, 2016; VRP Semi-Annual Progress Report #03/Annual Groundwater Monitoring Report dated December 22, 2016; VRP Semi-Annual Progress Report #04 dated June 30, 2017; Former United Technologies Automotive Site – HSI Site #10543* (GA EPD, September 1, 2017).

A response to the most recent GA EPD letter, dated September 1, 2017, is included in the cover page of this report.

2.0 Field Activities

The annual groundwater monitoring event was conducted at the Site on June 22 and 23, 2017, by AECOM field staff. Field parameters were measured during purging, and groundwater samples were analyzed for volatile organic compounds (VOCs).

During the June 2017 groundwater monitoring event, 15 wells were sampled to evaluate COI concentrations, including M-02, M-02A, M-03, M-03A, M-04, M-07, M-08R, M-09, M-10, M-14D, M-17, M-18, M-19, M-22, and M-23. Additional wells were gauged during the June 2017 sampling event, including M-02SW, M-05, M-11, M-13, M-13A, M-15, M-16, M-20, and M-21. The groundwater sampling locations are shown on **Figure 1-2**. During the sampling event, well M-06 was not able to be gauged or sampled. Well M-06 had been buried under several feet of gravel installed by the property owner. While attempts were made to use the coordinates of the well location and a metal detector to locate the well, the sampling crew was unsuccessful in locating the well.

2.1 Well Installation

In order to complete the delineation of the area with higher COC concentrations both vertically and downgradient, two wells were installed at the Site between June 5 and June 9, 2017. A new well, M-23, was installed adjacent to existing wells M-14D and M-17. The existing wells identified TCE concentrations above the MCL at depths of 25 and 60 feet below ground surface (bgs). Well M-23 was installed with a screen at the next bedrock fracture in order to establish vertical delineation at this location. Well M-23 is screened at approximately 95 feet bgs.

Monitoring well M-22 was installed clustered with monitoring well M-11, directly downgradient from the area of higher COC concentrations. The purpose of well M-22 is to monitor groundwater laterally downgradient and at a depth comparable to the depth of the historical concentrations of TCE. M-22 was installed with a 10-foot screen from approximately 24 to 34 ft bgs.

The boring logs and well schematics are included in **Appendix A**. The top of casing elevations and well locations were measured based on known elevations and locations of nearby wells. Well locations are shown on **Figure 1-2**.

2.2 Groundwater Gauging

The monitoring wells were gauged to compare groundwater elevations to previous sampling events. The depth to water and the total depth of the well were measured using an electronic water level meter. The measurements were referenced from the monitoring well top of casing and were recorded to the nearest 0.01 foot. The probe and part of the tape that entered the monitoring well during gauging was decontaminated between wells. The well gauging and sampling data sheets are provided in **Appendix B**. During gauging, the monitoring wells were inspected for missing bolts, o-rings, or damage to the well that might affect its structural integrity. Where possible, repairs were made; however, due to damage by heavy machinery and tractor trailer traffic, some wells require repairs that could not be made during sampling. UTC is discussing options for permanent well repair with the current site owner; heavy duty well vaults and bollards are proposed. Repairs will be performed once an agreement is reached with the current site owner.

2.3 Groundwater Purging and Sampling Methods

Sampling was conducted using low flow/low volume (micropurge) sampling techniques approved initially by the GA EPD in the CAP, and subsequently modified via email correspondence from the GA EPD dated January 31, 2012. The low-flow pump discharge tubing was connected to a sealed chamber (flow-through cell) containing probes that measure the water temperature, pH, conductivity, oxidation-reduction potential (ORP), and dissolved oxygen (DO) using a Horiba U53 Water Quality Meter, and turbidity was measured with a LaMotte 2020 Turbidimeter. Field parameter values and the corresponding purge times were recorded on the groundwater sampling forms. Field documentation (well gauging data and groundwater sampling forms) is provided in **Appendix B**.

2.4 Sample Handling and Analysis

After collection, each sample vial was labeled and placed upright in a cooler with ice. A chain-of-custody (COC) record was completed for each cooler and taped to the inner lid of the cooler prior to sealing for shipment. The coolers containing the samples remained in the possession of the sampler throughout the day until they were delivered for shipment. Each cooler containing samples and a COC record was shipped to Accutest Laboratories, Inc. (Accutest) in Orlando, Florida.

2.5 Quality Assurance/Quality Control Samples

Field quality control samples were collected and analyzed to document the accuracy and precision of the sample collection and laboratory analysis. Quality control samples included the following:

- Trip Blank. Trip blanks accompanied each sample shipment sent to the laboratory. The trip blanks were analyzed to test for any contaminants introduced while samples were being stored or transported to the laboratory.
- Field Duplicates. Field duplicates were collected and analyzed to evaluate the precision of the groundwater sample analysis. Field duplicates were collected from wells M-02 and M-09.
- Matrix Spike/Matrix Spike Duplicate (MS/MSD). MS/MSD sample sets were collected as part of the laboratory analytical procedure.

2.6 IDW Waste Management

Investigation-derived waste (IDW) generated from well installation, well development, and groundwater monitoring activities at the Site (i.e., soil cuttings, purge water, and decontamination water) were stored in 55-gallon drums on Site. The IDW was disposed of as non-hazardous waste.

3.0 Groundwater Monitoring Results

This section of the report presents the field and laboratory results of the June 2017 annual groundwater monitoring event. A discussion of the groundwater elevation data, COI concentrations, and field measurements are provided below. The gauging results are presented in **Table 3-1** and on **Figure 3-1**. The field parameters measured during the sampling event are presented in **Table 3-2**, and analytical results are summarized in **Table 3-3**. **Figure 3-2** presents the COI data. Laboratory reports and data validation reports are included in **Appendix C**. Groundwater COI concentration graphs are provided in **Appendix D**, and the Mann-Kendall trend analysis report in **Appendix E**.

3.1 Data Validation Review

The laboratory analytical report was reviewed in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, 2008). The following items were included in the data validation review:

- Agreement of analyses conducted with COC requests
- Holding times/sample preservation
- Method blanks/trip blanks
- Surrogate results
- Laboratory control sample results
- MS/MSD results
- Field duplicate precision results

The data results are valid as reported and may be used for decision-making purposes. A copy of the data validation report is included in **Appendix C**.

3.2 Groundwater Elevations and Flow

During the sampling event, the depths to static water levels ranged from approximately 6 inches bgs at monitoring well M-08R to 16 ft bgs at monitoring well M-20. Compared to the June 2016 data as reported in the *Annual Groundwater Monitoring Report, 2016*, groundwater elevations in June 2017 increased an average of 0.67 foot in the 21 wells gauged during both events. The groundwater elevations measured during this event were within the historical ranges, with the exception of wells M-08R and M-19, where historical highs of groundwater elevations were recorded.

The hydraulic gradient was 0.006 feet per foot (ft/ft), calculated between monitoring wells M-07 and M-11. Groundwater elevation contours indicate a general flow direction from the northwest towards the east (**Figure 3-1**), consistent with previous monitoring events.

3.3 Groundwater Analytical Results

Groundwater samples collected during the event were analyzed and evaluated to monitor the concentrations and spatial distributions of site-specific COIs. Data were compared to the Type 4 RRS. The field parameters and laboratory results of COI are provided in **Tables 3-2** and **3-3**, respectively.

Historical concentrations of COIs are additionally provided in **Table 3-3**. The COI data are presented on **Figure 3-2**.

3.3.1 COI Concentrations

TCE

TCE concentrations exceeded the Type 4 RRS for TCE (34.5 µg/L) in samples from monitoring wells M-07 (69.9 µg/L), M-14D (127 µg/L), and M-17 (64.8 µg/L).

1,1-DCE

1,1-DCE was not detected at the Site above the Type 4 RRS (523 µg/L) in any of the samples.

Vinyl Chloride

Vinyl chloride was not detected at the Site above the Type 4 RRS (3.29 µg/L) in any of the samples.

cis-1,2-DCE

cis-1,2-DCE was not detected at the Site above the Type 4 RRS (1,022 µg/L) during this event.

3.3.2 Field Measurements

Field measurements of pH, DO, and ORP are the key field parameters used to evaluate the geochemical and redox conditions of an aquifer that are favorable for MNA.

pH

During this sampling event, pH values ranged from 4.62 standard units (su) to 11.59 su. With the exception of alkaline pH values recorded at three monitoring wells (M-08R, M-19, and M-23) the majority of pH values ranged from 4.62 su to 6.54 su. pH values during this sampling event were consistent with historical observations and indicate slightly acidic conditions in most monitoring wells.

DO and ORP

At all wells sampled during the June 2017 sampling event, DO concentrations were near or below 1 milligram per liter (mg/L), except for monitoring wells M-03 and M-22, which had measured values of 2.11 mg/L and 2.66 mg/L, respectively.

During the June 2017 sampling event, the ORP measurements at the Site ranged from -514 millivolts (mV) to +398 mV. The area with higher COC concentrations, including monitoring wells M-07, M-09, M-10, M-14D, and M-18, exhibited positive ORP measurements ranging from 8 mV to 187 mV, and monitoring wells M-08R and M-17 exhibited negative ORP measurement of -117 mV and -5 mV, respectively.

The June 2017 results indicate that the DO concentrations are uniform across the Site, while fluctuations are observed in the ORP values. Transitional conditions of anaerobic DO concentrations and oxidative ORP values were observed at the wells in the higher COC concentration area. Generally, anaerobic conditions are most favorable for reductive dechlorination of TCE and its daughter products (cis-1,2-DCE and vinyl chloride) although under certain circumstances, aerobic conditions may also allow for aerobic degradation of cis-1,2-DCE and vinyl chloride.

3.3.3 COI Trend Analysis

A decreasing trend of COI concentrations is the most direct indicator to demonstrate the occurrence of MNA. In order to evaluate whether the monitoring data show evidence of increasing or decreasing concentration trends for specific wells and COIs, the Mann-Kendall non-parametric statistical analysis was applied to the groundwater data using the publically-available Monitoring and Remediation Optimization System (MAROS) software, Version 2.2 (Air Force Center for Environmental Excellence, 2007). The Mann-Kendall test does not require any assumptions as to the statistical distribution of the data (e.g., normal, lognormal, etc.) and can be used with data sets that include irregular sampling intervals and missing data.

The Mann-Kendall analysis measures the trend in the data. Positive values indicate an increase in COI concentrations over time, whereas negative values indicate a decrease in COI concentrations over time. The strength of the trend is proportional to the magnitude of the Mann-Kendall analysis, e.g., large magnitudes generally indicate a strong trend. The software also determines the “Confidence in Trend,” which is the statistical probability that the COI concentrations are actually increasing or decreasing. Trends identified with confidence values of 95-100 percent are defined as “Increasing” or “Decreasing.” Trends with confidence values of 90-95 percent are defined as “Probably Increasing” or “Probably Decreasing.” Confidence values below 90 percent are defined as either “No Trend” or “Stable” depending on the determined coefficient of variation, which may be bias subject to the concentration levels and the hydrogeological conditions.

Five wells (M-07, M-09, M-10, M-14D, and M-17) and four COIs (benzene, 1,1-DCE, TCE, and vinyl chloride) were selected for Mann-Kendall analysis. The wells selected for the analysis have had historical or current detections of COIs above the Type 4 RRS. The COIs used in the analysis are those with concentrations historically exceeding the Type 4 RRS. The concentration trend analysis was conducted for available groundwater monitoring data collected between 2005 and 2017.

The Mann-Kendall statistical trend analysis results are shown in **Table 3-4**, and the MAROS statistical trend analysis is included in **Appendix E**. Among the data sets that were analyzed, the following was concluded:

- Four data sets demonstrate decreasing trends: benzene in monitoring wells M-07 and M-14D, TCE in monitoring well M-07, and vinyl chloride in monitoring well M-14D;
- Three probable decreasing trends were observed: benzene in monitoring well M-10 and 1,1-DCE in monitoring wells M-07 and M-09;
- Six data sets demonstrate stable concentrations over time: benzene in monitoring wells M-09 and M-17, 1,1-DCE in monitoring well M-14D, TCE in monitoring wells M-10 and M-14D, and vinyl chloride in monitoring well M-10;
- No statistically significant trend was observed for five data sets: 1,1-DCE in monitoring wells M-10 and M-17, TCE in monitoring well M-09, and vinyl chloride in monitoring wells M-07 and M-09; and
- One increasing trend was observed for one data set: TCE in monitoring well M-17.

The trend analysis results indicate that the COI concentrations in most of the suspected former source area monitoring wells are decreasing or stable. The plume is generally limited to the higher COC concentration area, which is the loading dock area at the southwestern side of the building. An increasing trend in TCE concentration was observed at monitoring well M-17, which is near and screened below monitoring well M-14D; M-14D historically has the highest concentration of TCE. During June 2017, two new delineation wells were installed. One well (M-23) was clustered with M-

14D and M-17 and was installed deeper for vertical delineation purposes. The second well (M-22) was installed for downgradient lateral plume delineation purposes and was located near the south corner of the building. During the June 2017 groundwater monitoring event both of these additional delineation wells were non-detect for VOCs.

4.0 Summary and Recommendations

The following summary and recommendations are derived from the field activities and groundwater monitoring data presented in this report:

1. Annual groundwater monitoring was conducted at the Site in June 2017, as part of the approved VRP application.
2. As requested by the GA EPD in a letter dated June 30, 2015, monitoring wells M-3, M-3A, and M-4 were sampled as Point of Demonstration (POD) wells during the June 2017 sampling event, and the results showed concentrations below the laboratory detection limit for all contaminants. M-22 is proposed to also be included as a POD well moving forward, data from June 2017 indicated no VOC were detected.
3. Monitoring wells M-01R, M-12, and M-12R are assumed to have been damaged or destroyed. Monitoring well M-06 was not located due to being buried under gravel. Well repairs and upgrades are planned to occur in 2018 and during the next major field event we will include a search for M-06 with hand equipment to move the gravel. If the monitoring well can be found, it will be refinished as a stick-up well with bollard posts.
4. Groundwater elevations increased in most wells compared to the June 2016 data. The groundwater flow direction generally flows from the northwest to the east, and is consistent with the flow direction in previous events.
5. TCE is the primary COI for the Site and was detected at concentrations that exceed the Type 4 RRS in three of the area monitoring wells. 1,1-DCE and vinyl chloride were not detected above the Type 4 RRS during this event.
6. Two new wells (M-22 and M-23) were installed to complete the vertical and lateral delineation of the higher COC concentration area. No COCs were detected in groundwater samples collected from these wells.
7. The Mann-Kendall trend analysis results indicated that the COI concentrations in the monitoring wells that exceed the Type 4 RRS are decreasing or stable, with the exception of monitoring well M-17.
8. TCE concentrations are within historical ranges within the higher COC concentration area, and VOCs do not appear to be migrating off Site.

5.0 References

- CTI 2006. Compliance Status Report for Former United Technologies Automotive Facility, Thomson, GA, May 17, 2006.
- XDD, LLC 2008. Corrective Action Plan, Former United Technologies Automotive Facility, Thomson, GA. December 12, 2008.
- XDD, LLC 2012. Semi-Annual Progress Report/MNA Effectiveness Report, Former United Technologies Automotive Facility, Thomson, GA. May 15, 2012.
- AECOM 2014a. 2013 Annual Progress Report/MNA Effectiveness Report, Former United Technologies Automotive Facility, Thomson, GA. March 15, 2014.
- AECOM 2014b. Annual Progress Report, January 2014 - December 2014, Former United Technologies Automotive Site, Thomson, GA, HSI #10543. May 2015.
- AECOM 2015a. Voluntary Remediation Plan, Former United Technologies Automotive Facility, Thomson, GA. March 12, 2015.
- AECOM 2015b. Annual Groundwater Monitoring Report 2015, Former United Technologies Automotive Site, Thomson, GA, HSI # 10543.
- AECOM 2016. Semi-Annual Progress Report #03/Annual VRP Groundwater Monitoring Report, Former United Technologies Automotive Site, Thomson, GA, HSI # 10543.
- GA EPD 2015. Approval of VRP Application for Former United Technologies Automotive Facility, Thomson, GA. June 30, 2015.
- USEPA 2008. Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA-540-R-07-003, July 2008.

Tables

Table 3-1
Groundwater Elevations and Well Construction Details
Former UTA Facility, Thomson, GA

Well ID	Date	Top of Casing (ft AMSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft AMSL)	Well Depth (ft BTOC)
M-1R	10/25/2011	518.63	6.36	512.27	30.6
	2/14/2012		7.62	511.01	
	6/1/2013		Destroyed		
M-02	10/25/2011	519.19	5.63	513.56	19.92
	2/14/2012		7.62	511.57	
	6/5/2013		3.97	515.22	
	12/16/2013		16.78	502.41	
	6/24/2014		5.66	513.53	
	12/17/2014		7.75	511.44	
	6/23/2015		6.47	512.72	
	6/22/2016		7.11	512.08	
	6/20/2017		6.01	513.18	
M-02A	10/25/2011	518.89	8.73	510.16	12.95
	2/14/2012		7.42	511.47	
	6/5/2013		3.63	515.26	
	12/16/2013		6.43	512.46	
	6/24/2014		5.29	513.60	
	12/17/2014		7.52	511.37	
	6/23/2015		6.15	512.74	
	6/23/2016		6.81	512.08	
	6/20/2017		5.72	513.17	
M-02B	10/25/2011	520.44	Dry	Dry	7.12
	2/14/2012		Dry	Dry	
	6/5/2013		4.63	515.81	
	12/16/2013		DRY	DRY	
	6/23/2015		DRY	DRY	
	6/22/2016		DRY	DRY	
	6/20/2017		DRY	DRY	
M-02SW	10/25/2011	521.60	8.55	513.05	14.20
	2/14/2012		7.74	513.86	
	6/5/2013		1.54	520.06	
	12/16/2013		2.63	518.97	
	6/24/2014		5.84	515.76	
	12/17/2014		7.92	513.68	
	6/23/2015		6.96	514.64	
	6/22/2016		6.87	514.73	
	6/20/2017		5.40	516.20	
M-03	10/25/2011	515.22	4.61	510.61	14.90
	2/14/2012		4.96	510.26	
	6/5/2013		1.32	513.90	
	12/16/2013		5.35	509.87	
	6/24/2014		3.22	512.00	
	12/17/2014		4.81	510.41	
	6/23/2015		4.07	511.15	
	6/23/2016		4.55	510.67	
	6/20/2017		3.54	511.68	

Table 3-1
Groundwater Elevations and Well Construction Details
Former UTA Facility, Thomson, GA

Well ID	Date	Top of Casing (ft AMSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft AMSL)	Well Depth (ft BTOC)
M-03A	10/25/2011	515.53	5.71	509.82	
	2/14/2012		5.39	510.14	
	6/5/2013		1.83	513.70	
	12/16/2013		3.06	512.47	
	6/24/2014		4.12	511.41	
	12/17/2014		5.51	510.02	
	6/23/2015		4.51	511.02	27.57
	6/23/2016		5.08	510.45	27.53
	6/20/2017		4.01	511.52	27.58
M-04	10/25/2011	516.32	9.02	507.30	
	2/14/2012		8.61	507.71	
	6/5/2013		2.58	513.74	
	12/16/2013		4.97	511.35	
	6/24/2014		4.57	511.75	
	12/17/2014		8.72	507.60	14.90
	6/23/2015		5.25	511.07	15.17
	6/23/2016		5.53	510.79	15.15
	6/20/2017		4.81	511.51	15.19
M-05	10/25/2011	524.99	18.84	506.15	
	2/14/2012		13.81	511.18	
	6/5/2013		4.03	520.96	
	12/16/2013		11.92	513.07	
	6/24/2014		9.04	515.95	
	12/17/2014		14.85	510.14	
	6/23/2015		10.95	514.04	19.90
	6/23/2016		11.97	513.02	20.03
	6/20/2017		9.59	515.40	
M-06	10/25/2011	521.30	14.83	506.47	
	2/14/2012		10.85	510.45	
	12/16/2013		4.02	517.28	
	6/24/2014		3.68	517.62	15.10
	12/17/2014		8.91	512.39	15.11
	6/23/2015		5.64	515.66	15.16
	6/23/2016		6.99	514.31	15.00
M-07	10/25/2011	518.61	2.56	516.05	
	2/14/2012		2.11	516.50	
	6/5/2013		0.83	517.78	
	12/16/2013		1.17	517.44	
	6/24/2014		0.99	517.62	12.90
	12/17/2014		1.82	516.79	13.07
	6/23/2015		1.19	517.42	13.12
	6/22/2016		1.33	517.28	13.05
	6/20/2017		1.17	517.44	13.21

Table 3-1
Groundwater Elevations and Well Construction Details
Former UTA Facility, Thomson, GA

Well ID	Date	Top of Casing (ft AMSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft AMSL)	Well Depth (ft BTOC)
M-08R	10/25/2011	518.00	1.42	516.58	
	2/14/2012		1.58	516.42	
	6/5/2013		0.45	517.55	
	12/16/2013		1.04	516.96	
	6/24/2014		0.31	517.69	
	12/17/2014		1.12	516.88	
	6/23/2015		0.72	517.28	9.65
	6/22/2016		0.73	517.27	9.69
	6/20/2017		0.00	518.00	9.70
M-09	10/25/2011	518.81	3.20	515.61	13.76
	2/14/2012		2.88	515.93	
	6/5/2013		0.99	517.82	
	12/16/2013		1.57	517.24	
	6/24/2014		1.05	517.76	
	12/17/2014		2.38	516.43	
	6/23/2015		1.30	517.51	13.78
	6/22/2016		1.54	517.27	13.90
	6/20/2017		1.55	517.26	13.93
M-10	10/25/2011	518.26	1.82	516.44	8.78
	2/14/2012		1.60	516.66	
	6/5/2013		0.65	517.61	
	12/16/2013		0.75	517.51	
	6/24/2014		0.78	517.48	
	12/17/2014		1.15	517.11	
	6/23/2015		0.93	517.33	9.20
	6/22/2016		1.21	517.05	9.21
	6/20/2017		0.85	517.41	9.22
M-11	10/25/2011	517.31	2.60	514.71	14.59
	2/14/2012		2.19	515.12	
	6/5/2013		1.64	515.67	
	12/16/2013		1.27	516.04	
	6/24/2014		2.02	515.29	
	12/17/2014		2.30	515.01	
	6/23/2015		2.20	515.11	14.55
	6/22/2016		2.62	514.69	14.75
	6/20/2017		1.67	515.64	14.58
M-12R	10/25/2011	517.33	11.87	505.46	15.52
	2/14/2012		Damaged	NA	
M-13	10/25/2011	517.18	6.72	510.46	23.60
	2/14/2012		6.50	510.68	
	6/5/2013		4.28	512.90	
	12/16/2013		4.97	512.21	
	6/24/2014		5.24	511.94	
	12/17/2014		5.86	511.32	
	6/23/2015		5.92	511.26	
	6/22/2016		5.99	511.19	22.53
	6/20/2017		4.90	512.28	

Table 3-1
Groundwater Elevations and Well Construction Details
Former UTA Facility, Thomson, GA

Well ID	Date	Top of Casing (ft AMSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft AMSL)	Well Depth (ft BTOC)
M-13A	10/25/2011	518.15	8.25	509.90	
	2/14/2012		6.80	511.35	
	6/5/2013		4.76	513.39	
	12/16/2013		6.53	511.62	
	6/24/2014		5.32	512.83	
	12/17/2014		7.23	510.92	
	6/23/2015		3.05	515.10	16.08
	6/22/2016		6.37	511.78	16.10
	6/20/2017		5.46	512.69	16.09
M-14D	10/25/2011	518.06	1.26	516.80	25.40
	2/14/2012		1.70	516.36	
	6/5/2013		0.54	517.52	
	12/16/2013		0.66	517.40	
	6/24/2014		0.61	517.45	
	12/17/2014		1.33	516.73	25.42
	6/23/2015		0.41	517.65	
	6/22/2016		0.72	517.34	25.40
	6/20/2017		0.42	517.64	25.50
M-15	10/25/2011	518.01	2.46	515.55	83.30
	2/14/2012		2.72	515.29	
	6/5/2013		1.32	516.69	
	12/16/2013		1.75	516.26	
	6/24/2014		2.45	515.56	
	6/23/2015		2.89	515.12	85.00
	6/23/2016		3.20	514.81	
	6/20/2017		2.15	515.86	
M-16	10/25/2011	517.55	1.66	515.89	13.96
	2/14/2012		1.37	516.18	
	6/5/2013		0.87	516.68	
	12/16/2013		0.59	516.96	
	6/24/2014		1.72	515.83	
	6/23/2015		2.63	514.92	14.05
	6/23/2016		2.71	514.84	
	6/20/2017		1.24	516.31	
M-17	10/25/2011	518.03	2.02	516.01	60.22
	2/14/2012		2.30	515.73	
	6/5/2013		0.30	517.73	
	12/16/2013		0.75	517.28	
	6/24/2014		0.63	517.40	
	12/17/2014		1.60	516.43	59.27
	6/23/2015		0.28	517.75	60.30
	6/22/2016		0.88	517.15	60.30
	6/20/2017		0.71	517.32	60.30

Table 3-1
Groundwater Elevations and Well Construction Details
Former UTA Facility, Thomson, GA

Well ID	Date	Top of Casing (ft AMSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft AMSL)	Well Depth (ft BTOC)
M-18	10/25/2011	518.29	2.24	516.05	
	2/14/2012		2.27	516.02	
	6/5/2013		1.06	517.23	
	12/16/2013		0.88	517.41	
	6/24/2014		0.85	517.44	
	12/17/2014		1.75	516.54	
	6/23/2015		0.39	517.90	38.40
	6/22/2016		0.87	517.42	38.40
	6/20/2017		0.69	517.60	38.44
M-19	10/25/2011	515.93	5.94	509.99	91.45
	2/14/2012		5.19	510.74	
	6/5/2013		4.68	511.25	
	12/16/2013		4.72	511.21	
	6/24/2014		5.14	510.79	
	12/17/2014		5.44	510.49	91.68
	6/23/2015		5.94	509.99	
	6/23/2016		7.71	508.22	
	6/20/2017		4.62	511.31	91.80
M-20	10/25/2011	536.86	22.02	514.84	87.30
	2/14/2012		23.02	513.84	
	6/5/2013		11.78	525.08	
	12/16/2013		17.65	519.21	
	6/24/2014		10.22	526.64	
	12/17/2014		22.01	514.85	
	6/23/2015		12.84	524.02	
	6/22/2016		11.01	525.85	87.00
	6/20/2017		15.58	521.28	
M-21	10/25/2011	536.42	20.29	516.13	20.47
	2/14/2012		20.29	516.13	
	6/5/2013		7.62	528.80	
	12/16/2013		16.50	519.92	
	6/24/2014		12.56	523.86	
	12/17/2014		20.25	516.17	
	6/23/2015		12.67	523.75	
	6/22/2016		13.13	523.29	20.40
	6/20/2017		13.09	523.33	
M-22	6/20/2017	517.54	1.76	515.78	34.20
M-23	6/20/2017	518.09	0.14	517.95	101.40
S-01	12/16/2013	521.78	3.41	518.37	24.92
S-02	12/16/2013	524.54	5.97	518.57	24.92
S-03	12/16/2013	526.79	7.11	519.68	23.21
Notes: ft - feet AMSL - above mean sea level BTOC - below top of casing					

Table 3-2
Field Parameters
Former UTA Facility, Thomson, GA

Sample Location	Sample Date	Conductivity	Dissolved Oxygen	ORP	pH	Temperature	Turbidity
		mS/cm	mg/L	mV	su	°C	NTU
M-02	6/11/2013	0.446	0.12	-67.5	6.00	22.74	4.18
	6/24/2014	0.284	0.26	-2.0	5.82	24.67	8.52
	06/23/2015	0.334	0.24	-59	5.08	24.76	9.8
	06/23/2016	0.410	0.08	-60	5.73	24.76	2.4
	06/21/2017	0.708	0.46	-62	6.28	25.20	3.0
M-02A	6/10/2013	0.346	3.11	141.7	5.76	24.02	25.8
	6/24/2014	0.286	5.94	-9.0	6.10	24.94	34.8
	06/23/2015	0.472	0.23	-79	6.06	26.23	8.3
	06/23/2016	0.517	0.00	-119	5.95	25.37	3.29
	06/21/2017	0.957	0.36	-90	6.36	26.00	1.8
M-02B	6/11/2013	0.248	0.65	118.7	5.66	24.19	5.47
M-02SW	6/13/2013	0.287	1.22	166.7	5.45	23.35	115
M-03	6/10/2013	0.226	1.53	179.7	4.13	21.52	1.44
	06/23/2016	0.043	0.18	314	4.73	23.28	1.40
	06/20/2017	0.070	2.11	398	4.78	24.50	1.16
M-03A	6/10/2013	0.223	0.24	162.5	4.44	21.84	14.2
	06/23/2016	0.048	0.00	245	5.05	21.91	3.41
	06/20/2017	0.083	0.00	278	5.11	24.50	6.24
M-04	6/12/2013	0.224	0.53	244.9	4.30	20.71	2.00
	6/24/2014	0.093	0.27	157.0	4.72	23.79	2.99
	06/23/2015	0.089	0.57	329	4.40	22.33	1.4
	06/23/2016	0.104	0.00	280	4.65	22.93	4.68
	06/20/2017	0.194	1.07	389	4.62	24.60	1.84
M-05	6/12/2013	0.211	3.55	198.6	4.75	19.90	4.58
M-06	6/24/2014	0.174	0.00	-56.0	6.47	22.07	2.76
	06/23/2015	0.140	0.24	-119	6.13	21.48	5.9
	06/23/2016	0.103	0.12	-74	5.91	20.44	8
M-07	6/5/2013	0.175	0.72	153.2	3.80	24.11	1.51
	12/18/2013	0.173	1.54	-42.2	5.83	15.09	2.47
	6/24/2014	0.195	0.94	94.0	5.31	25.90	0
	12/17/2014	0.226	0.80	191	5.34	14.77	3.18
	06/24/2015	0.195	0.61	26	5.43	28.50	3.9
	06/22/2016	0.207	0.64	46	5.32	26.80	1.50
	06/22/2017	0.371	0.27	173	5.26	30.10	1.2
M-08R	6/6/2013	0.302	0.51	129.0	4.54	22.07	4.55
	12/18/2013	0.312	0.64	-166.4	7.01	15.70	4.51
	6/24/2014	0.322	1.83	-73.0	6.36	26.28	4.25
	12/17/2014	0.358	0.58	-120	6.50	18.36	1.56
	06/24/2015	0.185	0.47	-105	9.63	28.57	1.40
	06/22/2016	0.191	0.00	-79	9.31	28.93	1.65
	06/22/2017	1.280	0.22	-117	11.59	29.10	4.5
M-09	6/5/2013	0.114	0.05	68.6	5.93	20.32	3.11
	12/18/2013	0.171	2.17	9.7	6.47	14.33	36.7
	6/24/2014	0.121	0.00	121.0	5.71	22.50	38.3
	12/17/2014	0.105	1.99	191	5.53	16.21	9.02
	06/24/2015	0.079	0.45	33	5.32	23.81	7.20
	06/22/2016	0.072	0.00	152	5.27	21.79	4.80
	06/22/2017	0.122	0.46	187	5.38	24.70	7.3

Table 3-2
Field Parameters
Former UTA Facility, Thomson, GA

Sample Location	Sample Date	Conductivity	Dissolved Oxygen	ORP	pH	Temperature	Turbidity
		mS/cm	mg/L	mV	su	°C	NTU
M-10	6/5/2013	0.373	0.42	74.8	5.09	24.84	2.02
	12/18/2013	0.269	0.85	-44.0	6.07	14.55	4.98
	6/24/2014	0.338	0.37	14.0	6.22	28.82	8.40
	12/17/2014	0.351	0.62	101	6.06	17.31	5.67
	06/24/2015	0.314	0.95	55	5.84	28.70	2.7
	06/22/2016	0.375	0.41	50	5.98	27.13	2.1
	06/22/2017	0.667	0.40	17	6.21	28.90	2.9
M-11	6/5/2013	0.358	0.37	59.6	4.29	20.79	2.97
	6/24/2014	0.346	0.79	-54.0	5.92	23.72	50.80
	06/23/2015	0.208	0.24	-46	5.50	24.90	1.2
M-13	6/7/2013	0.120	4.03	22.4	8.86	20.67	9.5
M-13A	6/7/2013	0.305	0.85	-18.8	9.02	22.93	12.08
M-14D	6/6/2013	0.474	0.09	-164.8	8.23	23.29	1.53
	12/18/2013	0.224	0.89	-3.7	6.13	17.23	18.6
	6/24/2014	0.259	0.49	41.0	5.99	23.84	9.15
	12/17/2014	0.774	0.59	103	5.81	19.90	1.49
	06/24/2015	0.222	0.38	65	5.63	24.64	6.3
	06/22/2016	0.213	0.00	99	5.68	26.20	3.21
	06/22/2017	0.373	0.08	54	5.95	28.40	8.5
M-15	6/12/2013	0.336	0.05	-155.7	7.49	20.63	2.44
M-16	6/12/2013	0.268	0.06	6.4	5.44	19.49	5.05
M-17	6/6/2013	0.123	0.27	128.2	4.58	21.32	2.64
	6/24/2014	0.110	1.93	78.0	5.89	23.04	12.9
	12/17/2014	0.101	0.63	77	6.10	20.51	0.59
	06/24/2015	0.087	0.52	178	5.82	24.13	1.4
	06/22/2016	0.121	0.00	-29	5.88	24.76	2.85
	06/22/2017	0.206	0.12	-5	6.15	27.00	1.6
M-18	6/5/2013	0.140	0.38	7.5	5.02	22.73	1.21
	6/24/2014	0.099	0.00	-7.0	6.34	24.53	1.42
	12/17/2014	0.101	2.27	120	6.27	20.77	3.11
	06/24/2015	0.093	0.46	16	5.99	23.57	3.00
	06/22/2016	0.101	0.00	4	6.06	23.03	1.1
	06/21/2017	0.174	1.11	8	6.54	27.10	1.1
M-19	6/7/2013	0.224	0.11	-56.5	10.98	22.78	4.05
	06/23/2016	0.733	1.47	-120	11.06	23.36	4.00
	06/21/2017	0.404	0.98	-128	10.20	25.80	9.9
M-20	6/11/2013	1.535	0.13	-186.1	11.91	19.50	2.66
M-21	6/11/2013	0.220	3.04	160.7	5.83	18.29	4.67
M-22	06/21/2017	0.265	2.66	141	5.94	27.20	7.3
M-23	06/21/2017	0.322	0.00	-514	9.42	25.50	7.7
S-01	12/17/2013	0.033	3.08	47.6	3.96	16.80	37.3
S-02	12/17/2013	0.041	3.12	8.0	4.43	19.16	1.60
S-03	12/17/2013	0.032	3.48	17.4	4.49	17.20	8.15

Notes:

ORP - Oxidation-Reduction Potential
mS/cm - milliSiemens per centimeter
mg/L - milligrams per liter
mV - millivolts

su - Standard Units
°C - degrees Celsius
NTU - Nephelometric Turbidity Units

Table 3-3
Summary of COI Concentrations
Former UTA Facility, Thomson, GA

Sample Location	Constituent Units	Benzene ug/L	1,1-DCA ug/L	1,1-DCE ug/L	cis-1,2-DCE ug/L	TCE ug/L	Vinyl chloride ug/L
	Type 4 RRS	8.7	NR	523	1022	34.5	3.29
	Sample Date						
M-1	9/25/2005	<2	10	5	32	25	<2
	11/8/2005	<2	8	6	31	23	<2
M-1R	4/21/2010	<1	5.8	4.6	16.1	16.8	<1
	7/9/2010	<1	9	5.7	23.2	21.0	<1
	10/10/2010	<1	7.7	5.1	21.6	18.8	<1
	2/15/2011	<1	6.2	4.8	18.5	16.6	<1
	4/1/2011	<1	6.1	6.3	20.4	19.6	<1
	7/28/2011	<1	7	3.3	20.6	13.8	<1*
	10/1/2011	<1	7.9	4.2	25.8	21.9	<1
	2/14/2012	<1	9.5	3.4	30.1	22.7	<1*
M-02	9/25/2005	100	<2	<2	<2	<2	<2
	11/30/2007	48.9	<1	<1	<1	<1	<1
	4/21/2010	4.4	<1	<1	<1	<1	<1
	2/14/2012	<1*	<1	<1	<1	<1	<1
	6/11/2013	0.41 J	<1.0	<1.0	<1.0	<1.0	<1.0
	6/24/2014	1.8	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2015	0.26 J	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/21/2017	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/21/2017DUP01	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-02A	11/30/2007	<1	<1	<1	<1	<1	<1
	6/10/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/24/2014	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2015	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/21/2017	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-02B	11/30/2007	<1	<1	<1	<1	<1	<1
	6/11/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-02SW	6/13/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-03	9/25/2005	<2	<2	<2	<2	<2	<2
	11/30/2007	<1	<1	<1	<1	<1	<1
	4/21/2010	<1	<1	<1	<1	<1	<1
	10/10/2010	<1	<1	<1	<1	<1	<1
	7/27/2011	<1	<1	<1	<1	<1	<1
	2/14/2012	<1	<1	<1	<1	<1	<1
	6/10/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/20/2017	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-03A	11/30/2007	<1	<1	<1	<1	<1*	<1
	4/21/2010	<1	<1	<1	<1	<1*	<1
	10/10/2010	<1	<1	<1	<1	<1	<1
	7/27/2011	<1	<1	<1	<1	<1	<1
	2/14/2012	<1	<1	<1	<1	<1*	<1
	6/10/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/20/2017	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Table 3-3
Summary of COI Concentrations
Former UTA Facility, Thomson, GA

Sample Location	Constituent Units	Benzene ug/L	1,1-DCA ug/L	1,1-DCE ug/L	cis-1,2-DCE ug/L	TCE ug/L	Vinyl chloride ug/L
	Type 4 RRS	8.7	NR	523	1022	34.5	3.29
	Sample Date						
M-04	9/25/2005	<2	<2	<2	<2	<2	<2
	11/30/2007	<1	<1	<1	<1	<1	<1
	4/21/2010	<1	<1	<1	<1	<1	<1
	10/10/2010	<1	<1	<1	<1	<1	<1
	7/26/2011	<1	<1	<1	<1	<1	<1
	2/14/2012	<1	<1	<1	<1	<1	<1
	6/12/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/24/2014	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2015	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/20/2017	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-05	9/25/2005	<2	<2	<2	<2	<2	<2
	7/1/2011	<1	<1	<1	<1	<1	<1
	2/14/2012	<1	<1	<1	<1	<1	<1
	6/12/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-06	9/25/2005	<2	<2	<2	<2	<2	<2
	7/1/2011	<1	<1	<1	<1	<1	<1
	2/14/2012	<1	<1	<1	<1	<1	<1
	6/24/2014	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2015	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-07	9/25/2005	3	<2	9	23	170	<2
	11/8/2005	3	<2	9	<2	130	<2
	11/30/2007	2.5	<1	<1	19.1	115	<1
	4/21/2010	1.4	<1*	9.9	24.7	91.3	3.5
	7/9/2010	1.7	<1*	9.3	19.6	90.2	2.5
	10/10/2010	2	<2*	8.5	20.9	143	2.5
	2/15/2011	1.4	1	11	14.5	99.3	<1*
	4/1/2011	<2*	<2*	13.9	14.9	118	<2
	7/28/2011	2	<1*	7.7	19.3	97.6	3
	10/1/2011	2.2	<1*	4.7	22.0	91.6	3.8
	2/14/2012	1.3	<1*	3.4	12.3	74.1	1.8
	6/5/2013	0.81 J	0.88 J	7.9	15.1	99.2	<1.0
	12/18/2013	1	0.43 J	4.1	12.1	72.4	0.70 J
	6/24/2014	0.84 J	0.70 J	7.3	15	60.7	1.6
	12/17/2014	0.96 J	0.44 J	4.4	13.8	71.8	0.72 J
	6/24/2015	0.80 J	0.75 J	8.6	11.6	59	1.7
	6/22/2016	0.69 J	0.74 J	7.3	12.3	58.5	1.8
	6/22/2017	0.81 J	0.63 J	6.7	15	69.9	1.7

Table 3-3
Summary of COI Concentrations
Former UTA Facility, Thomson, GA

Sample Location	Constituent Units	Benzene ug/L	1,1-DCA ug/L	1,1-DCE ug/L	cis-1,2-DCE ug/L	TCE ug/L	Vinyl chloride ug/L
	Type 4 RRS	8.7	NR	523	1022	34.5	3.29
	Sample Date						
M-08	11/8/2005	4	<2	5	28	220	3
M-08R	4/21/2010	3.4	<1*	7.3	27.9	125	2.9
	7/9/2010	4	<1*	6.2	20.5	83.1	2.2
	10/10/2010	2.8	<1*	7	36.8	46.3	2.6
	2/15/2011	2.4	<1*	6.3	25	94.4	3.1
	4/1/2011	1.8	<1*	6.3	15.7	81.7	1.5
	7/27/2011	<1*	<1	2.3	5.8	29.7	1.2
	10/1/2011	1.8	<1*	4.0	21.7	56.4	2.3
	2/14/2012	1.7	<1*	2.7	14.6	82.0	3.5
	6/6/2013	1.8	0.39 J	3.1	33	88.2	3.8
	12/18/2013	0.86 J	<1.0	1.1	11	36.9	1.4
	6/24/2014	0.77 J	<1.0	2.3	9.7	42.7	1
	12/17/2014	0.77 J	<1.0	2.3	27.8	22.2	1.2
	12/17/2014 DUP	0.81 J	<1.0	2.2	29.1	20.2	1.1
	6/24/2015	<1.0	<1.0	0.34 J	1.1	6.7	<1.0
	6/22/2016	<1.0	<1.0	0.39 J	0.65 J	4.2	<1.0
	6/22/2016 DUP	<1.0	<1.0	0.33 J	0.57 J	3.7	<1.0
	6/22/2017	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-09	11/8/2005	<2	49	810	7	5	<2
	11/30/2007	2.9	23.7	388	11.2	9.3	<1
	4/21/2010	2.2	61.1	1360	8.6	8.5	1.2
	7/9/2010	1.3	39.9	754	11.1	10.7	<1*
	10/10/2010	1.3	43.6	577	14.1	13.2	<1
	2/15/2011	<1*	48.9	957	11.7	10.8	<1*
	4/1/2011	<1*	54.9	1,000	12.1	11.9	<1
	7/28/2011	1.1	50.3	949	12.5	11.5	<1*
	10/1/2011	1.1	34.7	527	12.9	12.0	<1*
	2/14/2012	<1*	56.9	1,050	13.8	12.6	<1*
	6/5/2013	5	52	858	6.1	6.4	2.1
	12/18/2013	<5.0	13.3	327	4.1 J	3.9 J	<5.0
	6/24/2014	1.5	22.5	378	11.1	10.3	<1.0
	12/17/2014	0.48 J	23.7	340	10.2	10.2	<1.0
	6/24/2015	1.4	40.5	698	11.7	11.5	<1.0
	6/22/2016	1.4	45.1	555	11.3	11.4	0.71 J
	6/22/2017	1.3	34.3	472	12.1	12.1	0.55 J
	6/22/2017DUP02	1.3	33.8	470	11.9	11.3	0.48 J

Table 3-3
Summary of COI Concentrations
Former UTA Facility, Thomson, GA

Sample Location	Constituent Units	Benzene ug/L	1,1-DCA ug/L	1,1-DCE ug/L	cis-1,2-DCE ug/L	TCE ug/L	Vinyl chloride ug/L
	Type 4 RRS	8.7	NR	523	1022	34.5	3.29
	Sample Date						
M-10	11/8/2005	2	<2	3	34	280	4
	11/30/2007	<1*	<1	<1	6.3	38.1	<1
	4/21/2010	<1	<1	<1	1.5	9.1	<1
	7/9/2010	<1*	<1	<1*	7.7	45.5	1.5
	10/10/2010	<1*	<1	<1	15.9	94.3	1.9
	2/15/2011	<1*	<1	<1*	8.9	60.8	<1*
	4/1/2011	<1*	<1	<1*	10	62.4	<1
	7/27/2011	<1*	<1	<1*	20.6	87	2
	10/1/2011	<1*	<1	<1*	17.4	74.5	1.2
	2/14/2012	<1*	<1	<1*	10.9	43.6	<1
	6/5/2013	<1.0	<1.0	<1.0	3.3	10.5	<1.0
	12/18/2013	<1.0	<1.0	<1.0	6.3	28.6	<1.0
	12/18/2013 DUP	<1.0	<1.0	<1.0	7	28.3	<1.0
	6/24/2014	<1.0	<1.0	0.38 J	9.4	44	0.69 J
	12/17/2014	<1.0	<1.0	0.37 J	7.6	47.2	0.53 J
	6/24/2015	0.28 J	<1.0	0.71 J	10.2	61.1	0.98 J
	6/22/2016	0.29 J	<1.0	0.46 J	8.3	53.6	1.2
	6/22/2017	<1.0	<1.0	<1.0	4.7	27.2	<1.0
M-11	11/8/2005	<2	<2	<2	<2	<2	<2
	11/30/2007	<1	<1	<1	<1	<1	<1
	4/21/2010	<1	<1	<1	<1	<1	<1
	2/14/2012	<1	<1	<1	<1	<1	<1
	6/5/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/24/2014	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2015	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-12	11/8/2005	<2	<2	<2	<2	<2	<2
	2/14/2012	<1	<1	<1	<1	<1	<1
M-12R	4/21/2010	<1	<1*	<1	1.7	2.9	<1
	7/9/2010	<1	<1*	<1*	1.6	3.0	<1
	10/10/2010	<1	1.2	<1	3.3	5.8	<1
	7/26/2011	<1	1.1	<1*	3.2	5.4	<1
M-13	11/30/2007	<1	<1	<1	<1	<1	<1
	4/21/2010	<1	<1	<1	<1	<1	<1
	2/14/2012	<1	<1	<1	<1	<1	<1
	6/7/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-13A	11/30/2007	<1	<1	<1	<1	<1	<1
	4/21/2010	<1	<1	<1	<1	<1	<1
	2/14/2012	<1	<1	<1	<1	<1	<1
	6/7/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Table 3-3
Summary of COI Concentrations
Former UTA Facility, Thomson, GA

Sample Location	Constituent Units	Benzene ug/L	1,1-DCA ug/L	1,1-DCE ug/L	cis-1,2-DCE ug/L	TCE ug/L	Vinyl chloride ug/L
	Type 4 RRS	8.7	NR	523	1022	34.5	3.29
	Sample Date						
M-14D	4/21/2010	<10*	<10	<10*	18	439	<10
	7/9/2010	<10*	<10	<10*	23.3	856	<10
	10/10/2010	3.5	1.2	11.7	29	701	1.3
	2/15/2011	2.3	<2*	8.6	21.8	247	3.6
	4/1/2011	<5*	<5	10.7	29.1	309	<5
	7/27/2011	2.7	<5	5.8	40.6	293	<5
	10/1/2011	2.6	<2	4.7	18.3	217	3.1
	2/14/2012	1.8	<1*	3.1	14.3	93.0	3.3
	6/6/2013	1.3	<1.0	1.5	23.5	37.5	3.3
	6/6/2013 DUP	1.2	<1.0	1.5	22.2	35	3.2
	12/18/2013	1.3	<1.0	2.6	15.3	122	2
	6/24/2014	1.6 J	<5.0	3.6 J	21.4	410	<5.0
	12/17/2014	1.5 J	<2.5	5.2	15.5	244	<2.5
	6/24/2015	2.3	0.83 J	9.2	25.2	581	1.5
	6/22/2016	3.8 J	<10	13.7	45.3	709	<10
	6/22/2017	1.1	<1.0	2.9	11	127	0.49 J
M-15	7/28/2011	<1	<1	<1	<1	<1	<1
	2/14/2012	<1	<1	<1	<1	<1	<1
	6/12/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-16	7/28/2011	<1	<1	<1	<1	<1	<1
	6/12/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-17	7/28/2011	<1*	5.3	94.2	7.8	27.3	<1
	10/1/2011	<1	1.8	38.8	2.4	10.4	<1
	2/14/2012	<1	<1*	10.8	<1*	7.4	<1
	6/6/2013	<1.0	<1.0	2.3	6	28.5	<1.0
	6/24/2014	<1.0	2.1	39.5	5.5	76.1	<1.0
	6/24/2014 DUP	<1.0	1.9	38.9	5.3	75	<1.0
	12/17/2014	<1.0	1.9	38.8	4.5	83.9	<1.0
	6/24/2015	<1.0	2.1	39.5	4.6	74	<1.0
	6/22/2016	0.40 J	5.8	97	21.2	161	<1.0
	6/22/2017	<1.0	1.4	24.1	8.5	64.8	<1.0
M-18	7/28/2011	<1	<1	<1	<1	4.5	<1
	10/1/2011	<1	<1	<1	<1	2.9	<1
	2/14/2012	<1	<1	<1	<1*	8.0	<1
	6/5/2013	<1.0	<1.0	<1.0	8	8.1	<1.0
	6/24/2014	<1.0	<1.0	<1.0	<1.0	1.2	<1.0
	12/17/2014	<1.0	<1.0	<1.0	<1.0	1.2	<1.0
	6/24/2015	<1.0	<1.0	0.65 J	<1.0	1.5	<1.0
	6/24/2015 DUP	<1.0	<1.0		<1.0	1.5	<1.0
	6/22/2016	<1.0	<1.0	1.1	<1.0	2.5	<1.0
	6/21/2017	<1.0	<1.0	1.2	<1.0	2.3	<1.0
M-19	7/28/2011	<1*	<1	<1	<1	<1	<1
	2/14/2012	<1*	<1	<1	<1	<1	<1
	6/7/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/23/2016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/21/2017	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Table 3-3
Summary of COI Concentrations
Former UTA Facility, Thomson, GA

Sample Location	Constituent Units	Benzene ug/L	1,1-DCA ug/L	1,1-DCE ug/L	cis-1,2-DCE ug/L	TCE ug/L	Vinyl chloride ug/L
	Type 4 RRS	8.7	NR	523	1022	34.5	3.29
	Sample Date						
M-20	7/28/2011	<1	<1	<1	<1	<1	<1
	6/11/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-21	7/28/2011	<1	11.9	<1	<1	<1	<1
	6/11/2013	<1.0	3.2	<1.0	<1.0	<1.0	<1.0
M-22	6/21/2017	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
M-23	6/21/2017	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
S-01	11/30/2007	<1	<1	<1	<1	<1	<1
	10/1/2008	<1	<1	<1	<1	<1	<1
	12/17/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
S-02	11/30/2007	<1	<1	<1	<1	<1	<1
	10/1/2008	<1	<1	<1	<1	<1	<1
	12/17/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
S-03	11/30/2007	<1	<1	<1	<1	<1	<1
	10/1/2008	<1	<1	<1	<1	<1	<1
	12/17/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:

ug/L - micrograms per liter

TCE - Trichloroethene

DCE - Dichloroethene

DCA - Dichloroethane

RRS - Risk Reduction Standard

J - The associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected; however, the reported quantitation limit is approximated and may be inaccurate or imprecise.

Shaded - The analyte concentration exceeded the Type 4 RRS.

DUP - duplicate sample

Table 3-4
Mann-Kendall Trend Analysis Results
Former UTA Facility, Thomson, GA

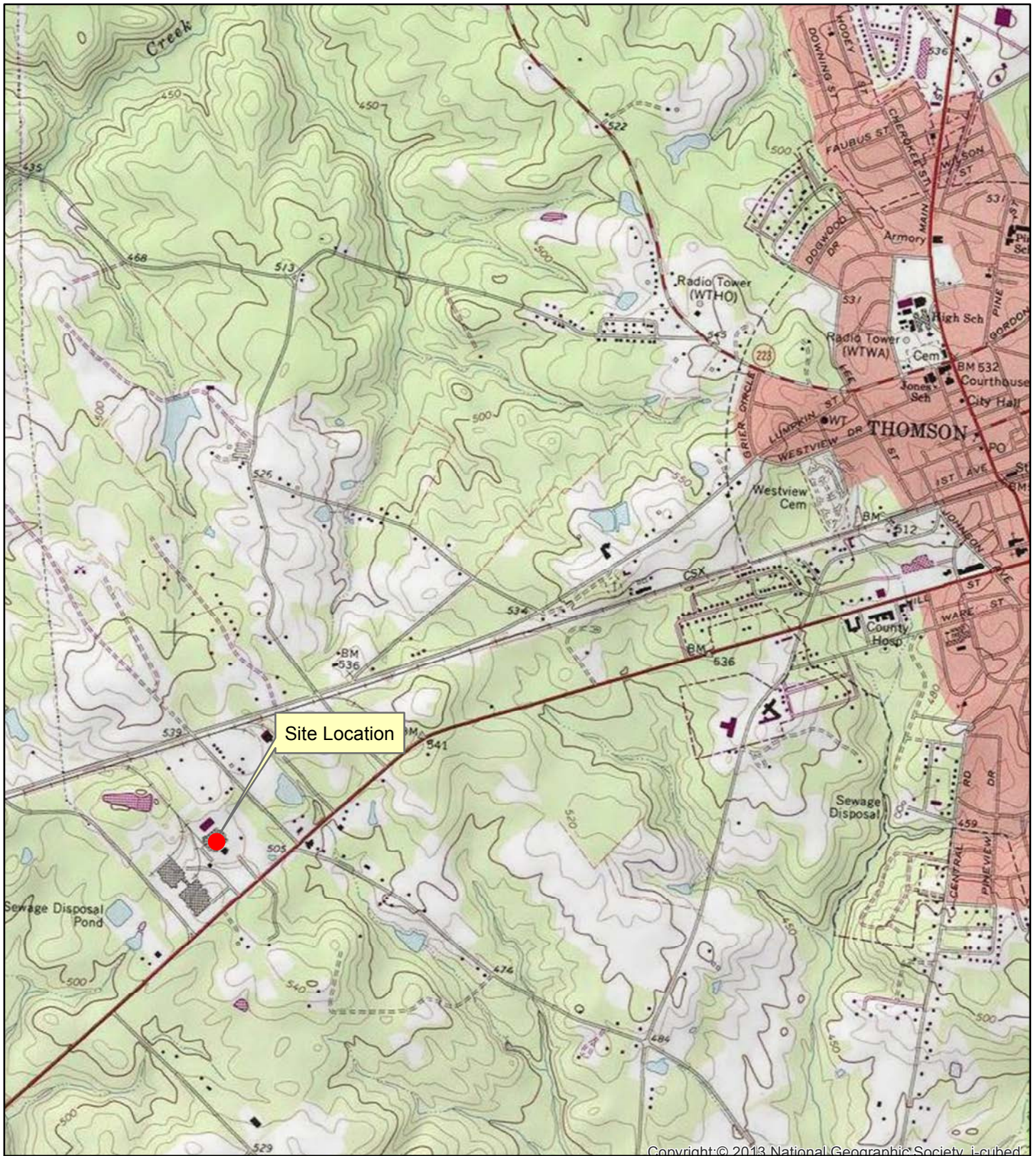
Chemical	Well ID	Numbers of Samples	Numbers of Detects	Coefficient of Variation	Mann-Kendall Statistic ¹	Confidence in Trend	All Samples ND?	Concentration Trend ²
BENZENE	M-07	18	17	0.5	-109	100.00%	No	D
	M-09	17	12	0.74	-4	54.80%	No	S
	M-10	17	3	0.67	-39	94.10%	No	PD
	M-14D	15	12	0.5	-52	99.50%	No	D
	M-17	9	1	0.07	-6	96.40%	No	S
1,1-DICHLOROETHENE (1,1-DCE)	M-07	18	17	0.42	-41	93.40%	No	PD
	M-09	17	17	0.42	-40	94.6	No	PD
	M-10	17	5	4.01	-32	98.80%	No	NT
	M-14D	15	13	0.59	-14	73.70%	No	S
	M-17	9	9	0.77	2	54	No	NT
TRICHLOROETHENE (TCE)	M-07	18	18	0.32	-107	100.00%	No	D
	M-09	17	17	0.27	27	85.60%	No	NT
	M-10	17	17	0.97	-20	78.00%	No	S
	M-14D	15	15	0.7	-21	83.60%	No	S
	M-17	9	9	0.81	18	96.20%	No	I
VINYL CHLORIDE	M-07	18	12	0.63	4	54.50%	No	NT
	M-09	17	4	0.76	9	62.70%	No	NT
	M-10	17	9	0.86	-11	65.70%	No	S
	M-14D	15	8	0.5	-38	96.70%	No	D
	M-17	9	0	0	0	46.00%	Yes	ND

Notes:

¹ Mann-Kendall analysis was performed using MAROS 2007 software.

² I: Increasing; PI: Probably Increasing; S: Stable; PD: Probably Decreasing; D: Decreasing; NT: No Trend; ND: Not Detected.

Figures



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Map Location



Site Location Map

Former United Technologies
Automotive Facility
Thomson, Georgia

USGS Topographic Quadrangle

0 2,000 4,000 Feet

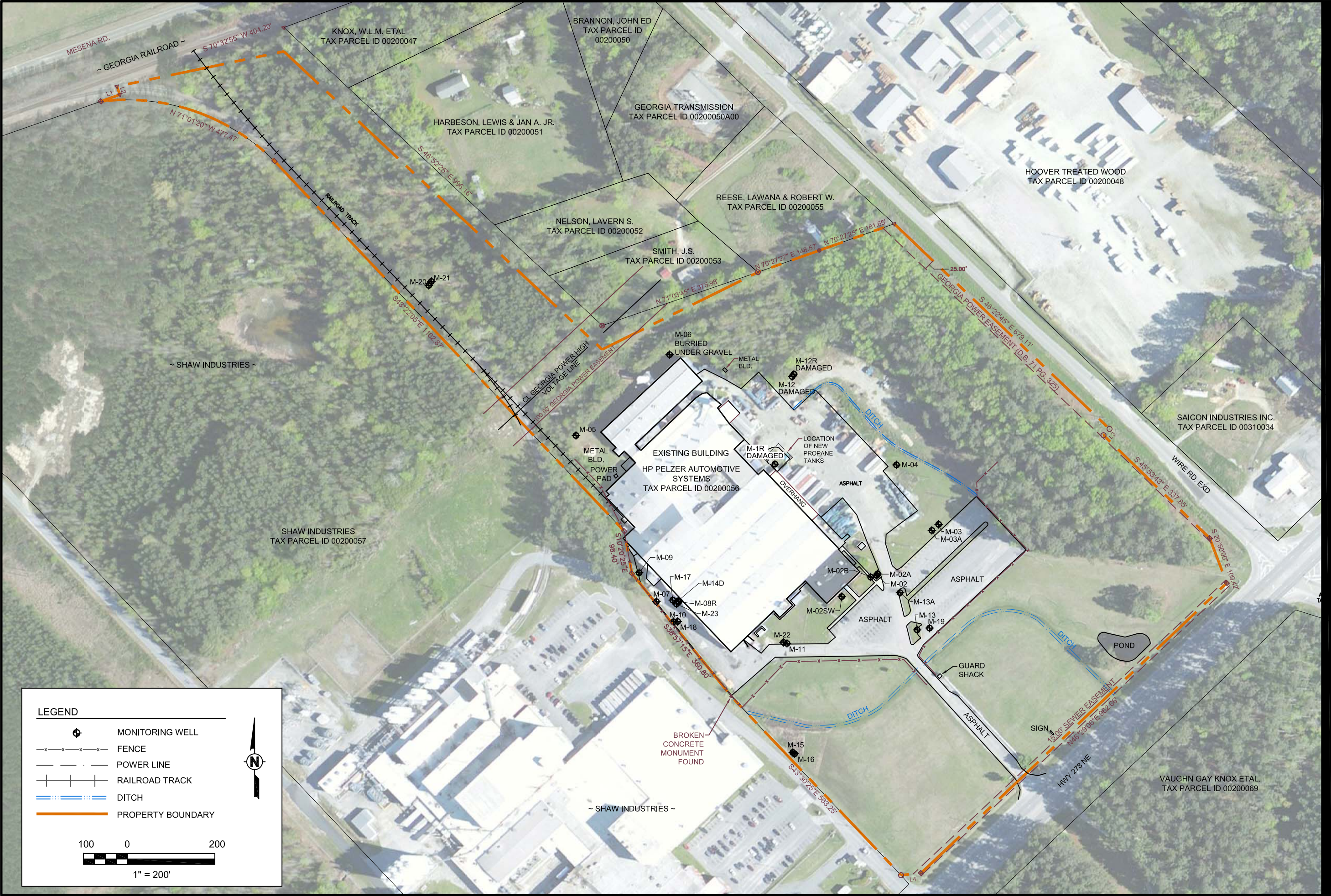
October 2017

60544637

Attachment 1

AECOM

AECOM
One Midtown Plaza
1360 Peachtree Street NE, Suite 500
Atlanta, GA 30309
Phone: (404) 965-9600
Fax: (404) 965-9605
www.aecom.com



LEGEND

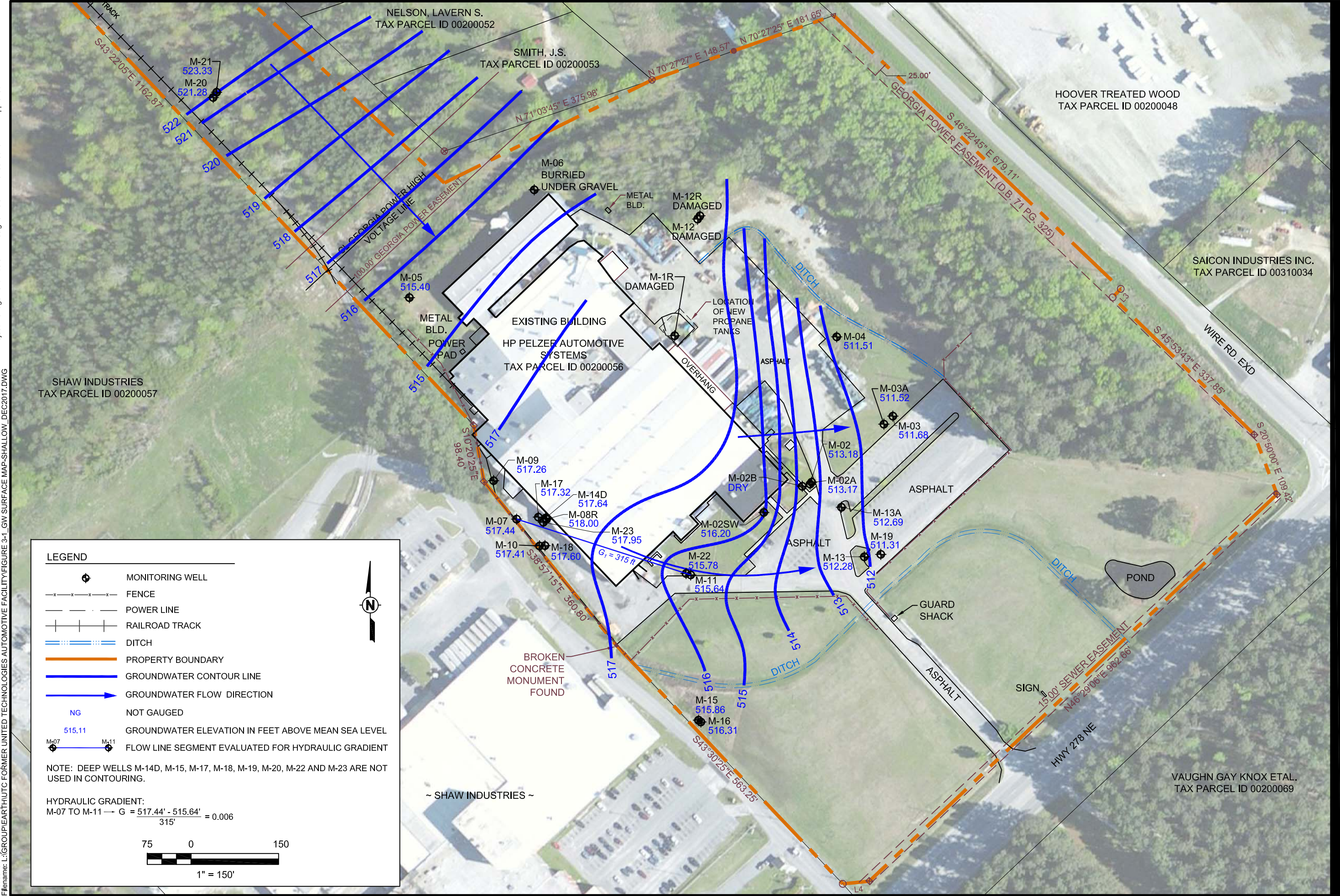
- MONITORING WELL
- FENCE
- POWER LINE
- RAILROAD TRACK
- DITCH
- PROPERTY BOUNDARY

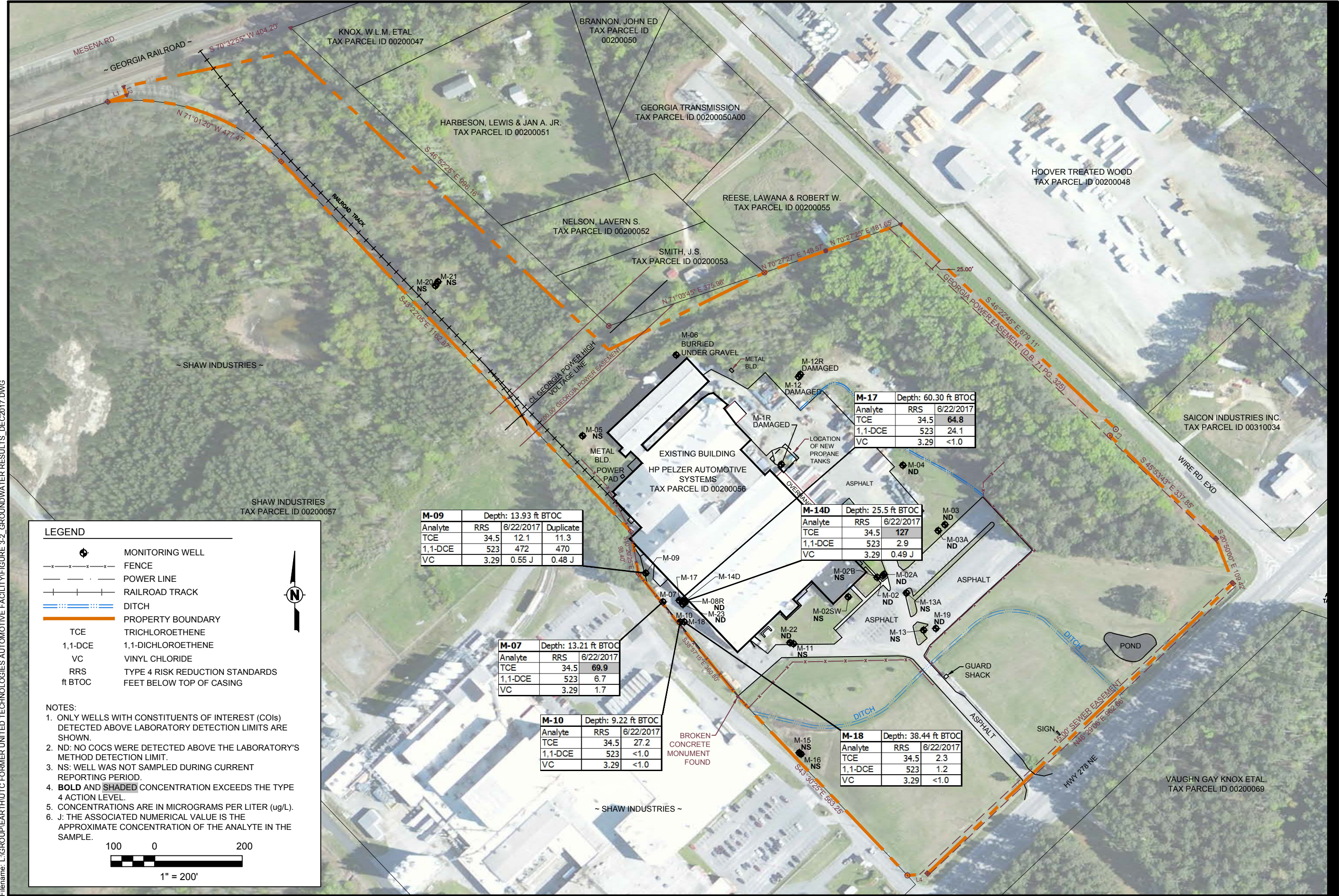
N

100 0 200

1" = 200'

ANSI B 11" x 17" Approved: JPV Checked: JPV Designer: CC Project Management Initials: DWG: MAP-SHALLOW_DEC2017





Appendix A

Boring Logs and Well Schematics

AECOM
1360 Peachtree Street, Suite 500
Atlanta, GA 30309
Telephone: (404)965-9600
Fax: (404) 965-9605

WELL NUMBER M22

PAGE 1 OF 1

CLIENT United Technologies

PROJECT NUMBER 60544637.4.2

DATE STARTED 6/6/17 COMPLETED 6/6/07

DRILLING CONTRACTOR Cascade

DRILLING METHOD Rotosonic

LOGGED BY Dunn Henry CHECKED BY JP

NOTES

PROJECT NAME Former United Technologies Automotive Facility

PROJECT LOCATION Thomson, Ga

GROUND ELEVATION 518 ft HOLE SIZE 6 inches

GROUND WATER LEVELS:
▽ AT TIME OF DRILLING 25.00 ft / Elev 493.00 ft
▼ AT END OF DRILLING 15.00 ft / Elev 503.00 ft
▽ 21hrs AFTER DRILLING 1.70 ft / Elev 516.30 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						
5	RC 1	100			▼ SANDY SILT, (ML) medium dense, moist, reddish yellow, RESIDUUM, mostly silt, some very fine grained sand.	
10	RC 2	100				
15					▼	
20	RC 3	100				
25					▽	
30	RC 4	100				
35					35.0	

Bottom of borehole at 35.0 feet.

483.0

The well diagram illustrates the physical components of the borehole. From top to bottom, it shows: a hatched pattern for cement, a solid black line for the riser, a thick black band for bentonite, and a hatched pattern for the sand screen. Arrows point to each of these components with their respective labels.

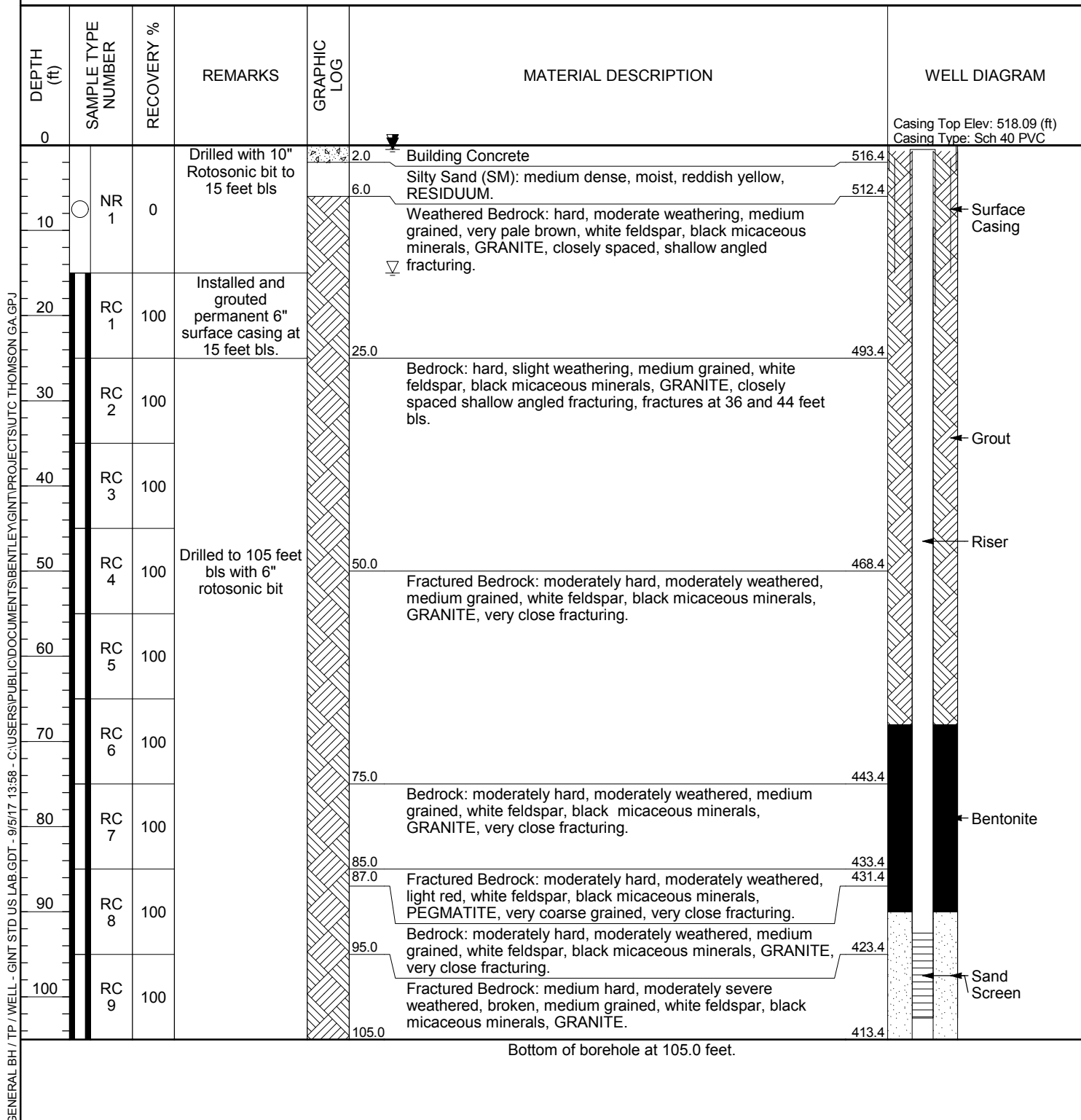
GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 9/5/17 13:59 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\UTC THOMSON GA.GPJ

AECOM
1360 Peachtree Street, Suite 500
Atlanta, GA 30309
Telephone: (404)965-9600
Fax: (404) 965-9605

WELL NUMBER M23

PAGE 1 OF 1

CLIENT <u>United Technologies</u>	PROJECT NAME <u>Former United Technologies Automotive Facility</u>
PROJECT NUMBER <u>60544637.4.2</u>	PROJECT LOCATION <u>Thomson, Ga</u>
DATE STARTED <u>6/6/17</u> COMPLETED <u>6/8/17</u>	GROUND ELEVATION <u>518.4 ft</u> HOLE SIZE <u>6 inches</u>
DRILLING CONTRACTOR <u>Cascade</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Rotosonic</u>	▽ AT TIME OF DRILLING <u>15.00 ft / Elev 503.40 ft</u>
LOGGED BY <u>Dunn Henry</u> CHECKED BY <u>JP</u>	▼ AT END OF DRILLING <u>0.50 ft / Elev 517.90 ft</u>
NOTES	▼ 24hrs AFTER DRILLING <u>0.10 ft / Elev 518.30 ft</u>



Appendix B

Groundwater Purging and Sampling Forms

Monitoring Well Gauging Data

UTC Thompson

06/20/17

Field Technician / Team: Rao Hilliar 2Water Level Indicator: GeoTech Interface Probe S/N 4123

Date	Time	Well ID	Depth to Water (ft below TOC)	Depth to Product	Comments
6/20/17	0955	m-19	4.60	—	TD - 91.80'
	1000	m-13	4.90	—	Uneven casing 4.85' from Low-side
	1005	^{13A} m-02H	5.44	—	TD - 16.09'
	1015	m-2A	5.72	—	TD - 13.00
	1018	m-2	6.01	—	TD - 20.15 *soft bottom
	1022	m-2B	Dry at	7.10'	BTOC
	1024	m-2-SW	5.40	—	—
	1030	m-22	1.76	—	TD - 34.20
	1033	m-11	1.67'	—	TD - 14.58'
	1040	m-03A	4.01'	2	TD - 27.58'
	1043	m-03	3.54'	—	TD - 15.14'
	1052	m-04	4.81'	—	TD - 15.18'
	1120	m-05	9.59'	—	At edge of trees. Pul buried.
	1130	m-20	15.58'	—	—
	1135	m-21	13.09'	—	—
↓	1244	m-09	1.55'	—	TD - 13.93' *muddy bottom

*1115 - Could not locate m-1R, m-12, m-12B or m-6.

Monitoring Well Gauging Data

UIC - Tho - 30

6/20/17

Field Technician / Team: Ron Hilliard

Water Level Indicator: GeoTech Interface Probe s/n 4123

Date	Time	Well ID	Depth to Water (ft below TOC)	Depth to Product	Comments
6/20/17	1150	M-07	1.17	—	TD-13.121
	1155	M-18	0.69	—	TD-38.44'
	1158	M-10	0.85	—	TD-9.22
	1202	M-23	0.14	—	TD-101.40
	1206	M-14R	0.42	—	TD-25.50 *WL rose from 1.6' - 10 min to stabilized
	1209	M-14R	0.00	—	TD-9.70: Explored Cap. WL stabilized @ TOC
	1214	M-17	0.71	—	TD-60.30 *Monitor busted.
	1221	M-15	2.15	NG	—
	1225	M-16	1.24	NG	—
* Could not locate M-01R, M-06, M-12 or M-12 R.					
** M-15 and M-16 are in a muddy patch of head high weeds. Very difficult to locate.					

Well Purging and Sample Collection Form

Sample ID: m-04-062017

Date: 6/20/17

Project No.: 60544637

Site Name: UTC - Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"
Well Material: PVC
Screen Interval: 51-53
Screen Midpoint: 10'
Depth to Bottom (DTB): 15.19
Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow
☐ Volumetric → Purge Rate 0.04 GPM

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals
4" well = 0.65 gals
Gallons/well vol. = $(15.19) - (4.81) \times (0.16)$
DTB. DTW gals/ft
Gallons/well volume: 1.7

Well Purged with:

☒ Pump
☐ Grundfos 2" Redi-Flo
☒ Peristaltic
☐ Well Pump
☒ Tubing
☒ Polyethylene

Well Measurements

Depth to Water (DTW): 4.81'

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1410	5.26	0.12	4.64	0.303	3.65	25.4	357	0.84	Clear	N
1	1420	5.96	0.52	4.65	0.224	1.86	24.5	386	1.27	Clear	N
2	1430	6.56	0.92	4.55	0.203	2.06	24.5	395	0.41	Clear	N
3	1435	6.68	1.07	4.57	0.199	1.93	24.7	394	0.52	Clear	N
4	1440	6.78	1.22	4.56	0.200	1.61	24.7	394	1.91	Clear	N
5	1445	6.83	1.37	4.57	0.204	1.41	24.7	393	0.57	Clear	N
6	1450	6.88	1.52	4.58	0.204	1.27	24.7	390	0.62	Clear	N
7	1455	6.73	1.62	4.50	0.201	1.07	24.9	394	1.45	Clear	N
8	1500	6.87	1.72	4.66	0.200	0.94	24.8	381	1.45	Clear	N
9	1505	6.95	1.82	4.63	0.197	1.05	24.7	388	1.60	Clear	N

Field Instruments: Horiba u-53 Pre-Cal - 26.4/3.61/313/4.61/0.76/8.35
Cal - 26.4/4.01/315/4.50/0.00/8.01
Lamotte 2020 WE Pre-Cal 1.08/10.03 Cal 1.00/10.00

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD) ☒ 40 ml, glass

Sample Type

☐ Normal: sample time: _____
☐ Duplicate: sample time: _____
☐ MS/MSD: sample time: _____
☐ Equipment Blank: sample time: _____
☐ Field Blank: sample time: _____

Comments: Initial Purge 1410 Purge Rate 0.04 GPM
1430 - Reduce flow to 0.03 GPM
1450 - Reduce flow to 0.02 GPM

Signature: [Signature]

Date: 6/20/17

Well Purging and Sample Collection Form

Sample ID: M-04-062017

Date: 6/20/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"

Well Material: PVC

Screen Interval: 5.1-15.1

Screen Midpoint: 10

Depth to Bottom (DTB): 15.19

Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow

☐ Volumetric → Purge Rate _____

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals

4" well = 0.65 gals

Gallons/well vol. = (15.19) - (4.81) × (0.16)
DTB DTW gals/ft

Gallons/well volume: 1.7

Well Purged with:

☒ Pump

☐ Grundfos 2" Redi-Flo

☒ Peristaltic

☐ Well Pump

☐ Tubing

☒ Polyethylene

Well Measurements

Depth to Water (DTW): 4.81

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1510	7.01	1.92	4.62	0.194	1.10	24.7	383	1.54	Clear	N
1	1515	7.02	2.02	4.59	0.193	1.12	24.6	390	1.63	Clear	N
2	1520	7.02	2.12	4.62	0.194	1.07	24.6	389	1.84	Clear	N
3											
4											
5											
6											
7											
8											
9											

Field Instruments: Horiba U-53, GeoTech Interface Probe, LaMotte 2020 WR
GeoTech Geo Pump.
1520 - End Purge

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD)

(3) 40 ml, glass

Sample Type

☒ Normal: sample time: 1523

☐ Duplicate: sample time: _____

☐ MS/MSD: sample time: _____

☐ Equipment Blank: sample time: _____

☐ Field Blank: sample time: _____

Comments: 1520 - End Purge

Signature: L. Nell

Date: 6/20/17

Well Purging and Sample Collection Form

Sample ID: M-03 - 062017

Date: 6/20/17

Project No.: 60544637

Site Name: UTC - Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"

Well Material: PVC

Screen Interval: 5.1-15.1

Screen Midpoint: 10.1

Depth to Bottom (DTB): 15.14

Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow

☐ Volumetric → Purge Rate _____

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals

4" well = 0.65 gals

Gallons/well vol. = (15.14) - (3.54) x (0.16)

DTB.

DTW

gals/ft

Gallons/well volume: 1.9

Well Purged with:

☐ Pump

☐ Grundfos 2" Redi-Flo

☒ Peristaltic

☐ Well Pump

☐ Tubing

☒ Polyethylene

Well Measurements

Depth to Water (DTW): 3.54

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1548	3.94	0.09	4.81	0.094	3.43	25.4	368	2.91	Clear	N
1	1558	5.59	0.59	4.79	0.075	2.81	24.9	385	2.72	Clear	N
2	1608	6.21	1.09	4.82	0.075	2.89	24.8	381	1.49	Clear	N
3	1618	6.63	1.59	4.81	0.074	3.00	24.8	372	1.23	Clear	N
4	1628	6.96	2.09	4.84	0.075	2.65	24.5	384	1.78	Clear	N
5	1638	7.24	2.59	4.80	0.073	2.57	24.5	394	1.40	Clear	N
6	1643	7.16	2.79	4.81	0.072	2.32	24.6	398	1.36	Clear	N
7	1648	7.22	2.99	4.79	0.072	2.12	24.6	397	1.26	Clear	N
8	1653	7.22	3.19	4.75	0.071	2.14	24.6	397	1.00	Clear	N
9	1658	7.21	3.39	4.78	0.070	2.11	24.5	398	1.16	Clear	N

Field Instruments:

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD)

(3) 40 ml, glass

Sample Type

☒ Normal: sample time: 1700

☐ Duplicate: sample time: _____

☐ MS/MSD: sample time: _____

☐ Equipment Blank: sample time: _____

☐ Field Blank: sample time: _____

Comments: 1545 - Begin Purge 1548 - Adjust flow to 0.05 GPM
1639 - Reduce flow to 0.04 GPM
1658 - End Purge.

Signature: [Signature]

Date: 6/20/17

Well Purging and Sample Collection Form

Sample ID: M-03A-062017

Date: 6/20/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"
Well Material: PVC
Screen Interval: 17.5-22.5
Screen Midpoint: 22.5
Depth to Bottom (DTB): 27.58
Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow
☐ Volumetric → Purge Rate 200 L/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals
4" well = 0.65 gals
Gallons/well vol. = $(27.58) - (4.01) \times (0.16)$
DTB DTW gals/ft
Gallons/well volume: 3.8

Well Purged with:

☐ Pump
☐ Grundfos 2" Redi-Flo
☒ Peristaltic
☐ Well Pump
☐ Tubing
☒ Polyethylene

Well Measurements

Depth to Water (DTW): 4.01

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1719	4.41	0.1	5.11	0.077	2.53	25.0	336	14.0	clear	N
1	1729	6.08	0.6	5.10	0.083	0.21	24.2	268	10.4	clear	N
2	1739	6.59	1.1	5.09	0.083	0.00	24.4	265	8.41	clear	N
3	1749	6.78	1.6	5.11	0.083	0.00	24.5	268	7.94	clear	N
4	1759	6.77	2.1	5.13	0.083	0.00	24.5	271	6.89	clear	N
5	1804	6.78	2.6	5.11	0.083	0.00	24.5	272	6.51	clear	N
6	1809	6.78	3.1	5.11	0.083	0.00	24.5	275	6.30	clear	N
7	1814	6.78	3.6	5.11	0.083	0.00	24.5	278	6.24	clear	N
8											
9											

Field Instruments:

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD) (3) 40 ml, glass

Sample Type

☒ Normal: sample time: 1814
☐ Duplicate: sample time: _____
☐ MS/MSD: sample time: _____
☐ Equipment Blank: sample time: _____
☐ Field Blank: sample time: _____

Comments: 1716 - Begin purge. 1719 - Adjust flow to 0.05 GPM.
1814 - End Purge

Signature: L. Osell

Date: 6/20/17

Well Purging and Sample Collection Form

Sample ID: M-02A-062117

Date: 6/21/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"
Well Material: PVC
Screen Interval: 3-13
Screen Midpoint: 8 (9.5' mid WC)
Depth to Bottom (DTB): 13.00
Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow
☐ Volumetric → Purge Rate 120 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals
4" well = 0.65 gals
Gallons/well vol. = $(13.00) - (5.72) \times (0.16)$
DTB DTW gals/ft
Gallons/well volume: 1.2 gal (4.5 L)

Well Purged with:

☐ Pump
☐ Grundfos 2" Redi-Flo
☒ Peristaltic
☐ Well Pump
☐ Tubing
☒ Polyethylene

Well Measurements

Depth to Water (DTW): 5.72

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	0703	5.80	0.13	6.80	1.03	0.43	24.7	-55	16.6	Clear	N
1	0723	6.24	1.08	6.32	0.965	0.32	26.2	-107	5.1	Clear	N
2	0728	6.39	1.32	6.32	0.967	0.27	26.2	-107	2.3	Clear	N
3	0733	6.37	1.45	6.34	0.966	0.31	25.9	-100	1.6	Clear	N
4	0738	6.57	1.69	6.34	0.962	0.34	26.1	-100	1.8	Clear	N
5	0743	6.60	1.93	6.36	0.960	0.27	26.2	-100	3.0	Clear	N
6	0748	6.65	2.17	6.36	0.966	0.31	26.1	-97	1.9	Clear	N
7	0753	6.64	2.32	6.37	0.962	0.34	26.1	-94	2.0	Clear	N
8	0758	6.64	2.48	6.36	0.957	0.36	26.0	-90	1.8	Clear	N
9											

Field Instruments: Horiba U-53, LaMotte 2020We, GeoTech Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD) (3) 40 ml, glass

Sample Type

☒ Normal: sample time: 0802
☐ Duplicate: sample time: _____
☐ MS/MSD: sample time: _____
☐ Equipment Blank: sample time: _____
☐ Field Blank: sample time: _____

Comments: Replaced Expansion Plug.

Signature: [Signature]

Date: 6/21/17

Well Purging and Sample Collection Form

Sample ID: M-02-062117

Date: 6/21/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"

Well Material: PVC

Screen Interval: 10-20

Screen Midpoint: 15

Depth to Bottom (DTB): 20.15

Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow

☐ Volumetric → Purge Rate 150 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals

4" well = 0.65 gals

Gallons/well vol. = $(20.15) - (6.01) \times (0.16)$

DTB DTW gals/ft

Gallons/well volume: 2.26 gal (~8.6 L)

Well Purged with:

☐ Pump

☐ Grundfos 2" Redi-Flo

☒ Peristaltic

☐ Well Pump

☐ Tubing

☒ Polyethylene

Well Measurements

Depth to Water (DTW): 6.01

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	0820	6.32	0.13	6.33	0.919	0.43	25.3	-81	15.4	Clear	N
1	0830	6.89	0.53	6.31	0.918	0.35	25.2	-87	10.3	Clear	N
2	0840	7.28	0.92	6.32	0.911	0.23	25.2	-83	7.3	Clear	N
3	0850	7.64	1.32	6.32	0.898	0.20	25.2	-80	5.8	Clear	N
4	0900	7.95	1.72	6.31	0.882	0.19	25.2	-77	5.1	Clear	N
5	0905	8.01	1.92	6.31	0.875	0.24	25.3	-74	4.2	Clear	N
6	0910	8.02	2.11	6.31	0.867	0.28	25.4	-71	4.4	Clear	N
7	0915	8.03	2.31	6.29	0.721	0.37	25.2	-66	3.5	Clear	N
8	0920	8.03	2.57	6.28	0.714	0.44	25.3	-65	4.3	Clear	N
9	0925	8.03	2.71	6.28	0.708	0.46	25.2	-62	3.0	Clear	N

Field Instruments: Horiba U-53, LaMotte 2020 We, Gretech Interface Probe

Sample Analysis and Containers

☐ VOC's (Test Code V8260STD)

() 40 ml, glass

Sample Type

☒ Normal: sample time: 0931

☒ Duplicate: sample time: — (DUP-1)

☐ MS/MSD: sample time: —

☐ Equipment Blank: sample time: —

☐ Field Blank: sample time: —

Comments: Initially red/orange in color. Cleared up after 20 min.

Signature: [Signature]

Date: 6/21/17

Well Purging and Sample Collection Form

Sample ID: M-19-062117

Date: 6/21/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"
Well Material: PVC
Screen Interval: 81.5-91.5
Screen Midpoint: 86.5
Depth to Bottom (DTB): 91.80
Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow
☐ Volumetric → Purge Rate 150 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals
4" well = 0.65 gals
Gallons/well vol. = $(91.80) - (46.4) \times (0.16)$
DTB DTW gals/ft
Gallons/well volume: 13.95 gal (~52.8 L)

Well Purged with:

☐ Pump
☐ Grundfos 2" Redi-Flo
☒ Peristaltic
☐ Well Pump
☐ Tubing
☒ Polyethylene

Well Measurements

Depth to Water (DTW): 4.64

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	10159	4.80	0.22	10.56	0.964	1.90	25.9	-218	>1000	4.6 grey turbid	N
1	1049	11.16	2.85	11.03	0.697	1.13	25.1	-131	10.1	Clear	N
2	1059	11.55	3.38	10.66	0.490	0.96	25.1	-128	5.3	Clear	N
3	1109	11.66	3.91	10.39	0.421	0.91	25.2	-123	8.4	Clear	N
4	1119	11.78	4.44	10.43	0.433	0.91	25.3	-127	9.1	Clear	N
5	1124	11.68	4.64	10.28	0.407	0.96	25.5	-123	8.8	Clear	N
6	1129	11.66	4.83	10.12	0.383	0.92	25.6	-120	8.5	Clear	N
7	1134	11.60	5.03	10.11	0.387	0.93	25.7	-122	9.2	Clear	N
8	1139	11.55	5.23	10.19	0.400	0.97	25.8	-124	9.9	Clear	N
9	1144	11.54	5.43	10.20	0.404	0.98	25.8	-128	9.9	Clear	N

Field Instruments: Horiba U-53, LaMotte 2020 We, Geotech Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD) (3) 40 ml, glass

Sample Type

☒ Normal: sample time: 1148
☐ Duplicate: sample time: _____
☐ MS/MSD: sample time: _____
☐ Equipment Blank: sample time: _____
☐ Field Blank: sample time: _____

Comments: Initially turbid with a high pH. Attempt to move volume through to get turbidity down and see if pH will come down.
1120 - Almost 5 gal purged pH still high. Reduce flow to stabilize water level.

Signature: [Signature]

Date: 6/21/17

Well Purging and Sample Collection Form

Sample ID: M-22-062117

Date: 6/21/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"
Well Material: PVC
Screen Interval: 24-31
Screen Midpoint: 29
Depth to Bottom (DTB): 34.20
Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow
☐ Volumetric → Purge Rate 150 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals
4" well = 0.65 gals
Gallons/well vol. = $(34.20 - 1.81) \times (0.16)$
DTB. DTW gals/ft
Gallons/well volume: _____

Well Purged with:

☐ Pump
☐ Grundfos 2" Redi-Flo
☒ Peristaltic
☐ Well Pump
☐ Tubing
☒ Polyethylene

Well Measurements

Depth to Water (DTW): 1.81'

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1344	2.30	0.16	7.33	0.300	3.86	30.5	84	11.9	Clear	N
1	1404	6.14	1.11	6.01	0.257	2.39	26.9	149	13.6	Clear	N
2	1414	7.30	1.59	5.98	0.248	2.46	26.6	148	6.2	Clear	N
3	1424	8.15	2.06	5.94	0.247	2.58	26.7	147	6.3	Clear	N
4	1429	8.48	2.30	5.94	0.250	2.55	26.6	144	5.9	Clear	N
5	1434	8.79	2.54	5.95	0.253	2.68	26.6	143	7.2	Clear	N
6	1439	9.09	2.77	5.94	0.255	2.69	26.6	144	6.4	Clear	N
7	1444	9.09	2.97	5.95	0.257	2.68	26.9	142	7.7	Clear	N
8	1449	9.07	3.17	5.94	0.261	2.65	27.2	142	7.2	Clear	N
9	1454	9.07	3.37	5.94	0.265	2.66	27.2	141	7.3	Clear	N

Field Instruments: Horiba U-53, Lamotte 2020 We, GeoTech Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD) (3) 40 ml, glass

Sample Type

☐ Normal: sample time: 1459
☐ Duplicate: sample time: _____
☐ MS/MSD: sample time: _____
☐ Equipment Blank: sample time: _____
☐ Field Blank: sample time: _____

Comments: 1435 - All parameters stabilizing except water level, decrease flow rate from 180 mL/min to 150 mL/min.

Signature: [Signature]

Date: 6/21/17

Well Purging and Sample Collection Form

Sample ID: M-18-062117

Date: 6/21/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"
Well Material: PVC
Screen Interval: 28-38
Screen Midpoint: 33
Depth to Bottom (DTB): 38.44
Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow
☐ Volumetric → Purge Rate 180 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals
4" well = 0.65 gals
Gallons/well vol. = $(38.44) - (0.6) \times (0.16)$
DTB DTW gals/ft
Gallons/well volume: 6.04

Well Purged with:

☐ Pump
☐ Grundfos 2" Redi-Flo
☒ Peristaltic
☐ Well Pump
☒ Polyethylene

Well Measurements

Depth to Water (DTW): 0.69

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1543	1.29	0.16	6.56	0.206	1.39	30.0	135	1.3	Clear	N
1	1603	6.83	0.85	6.57	0.191	0.97	27.6	124	0.8	Clear	N
2	1613	7.14	1.32	6.56	0.188	0.91	27.3	36	1.7	Clear	N
3	1623	8.17	1.80	6.54	0.185	0.94	27.2	24	1.2	Clear	N
4	1633	9.18	2.54	6.53	0.181	1.00	26.8	19	1.9	Clear	N
5	1643	9.76	3.01	6.54	0.178	1.03	26.9	15	1.6	Clear	N
6	1648	9.81	3.25	6.54	0.177	1.01	27.0	13	1.0	Clear	N
7	1653	9.83	3.49	6.55	0.176	0.99	27.1	10	1.5	Clear	N
8	1658	9.82	3.73	6.54	0.175	1.03	27.1	9	1.2	Clear	N
9	1703	9.82	3.96	6.54	0.174	1.11	27.1	8	1.1	Clear	N

Field Instruments: Horiba U-53, Lammle 2020 We, GeoTech Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD) (9) 40 ml, glass

Sample Type

☒ Normal: sample time: 1712
☐ Duplicate: sample time: _____
☒ MS/MSD: sample time: 1712
☐ Equipment Blank: sample time: _____
☐ Field Blank: sample time: _____

Comments: 1645- All parameters stabilizing except water level.
Decrease flow from 200 mL/min to 180 mL/min.

Signature: [Signature]

Date: 6/21/17

Well Purging and Sample Collection Form

Sample ID: M-23-062117

Date: 6/21/17

Project No.: 60544637

Site Name: UTC - Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"

Well Material: PVC

Screen Interval: 91-101

Screen Midpoint: +96 RH

Depth to Bottom (DTB): 96 101.40

Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow

☐ Volumetric → Purge Rate 400 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals

4" well = 0.65 gals

Gallons/well vol. = $(101.4) - (0.14) \times (0.16)$
DTB DTW gals/ft

Gallons/well volume: 16.2

Well Purged with:

☐ Pump

☐ Grundfos 2" Redi-Flo

☒ Peristaltic

☐ Well Pump

☐ Tubing

☒ Polyethylene

Well Measurements

Depth to Water (DTW): 0.14

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1745	0.45	0.24	10.30	0.894	1.81	29.8	-87	460	Grey	N
1	1845	0.98	5.52	9.30	0.365	0	25.6	-409	21.6	Grey	N
2	1855	0.95	6.58	10.07	0.360	0	25.5	-464	15.2	Lt. Grey	N
3	1905	0.96	7.64	10.00	0.355	0	25.5	-481	20.4	Lt. Grey	N
4	1915	0.97	8.69	9.82	0.346	0	25.3	-487	20.1	Lt. Grey	N
5	1925	1.08	9.75	9.53	0.342	0	25.2	-485	7.4	Clear	N
6	1935	0.98	10.81	9.57	0.339	0	25.3	-502	10.0	Clear	N
7	1945	0.97	11.86	9.50	0.327	0	25.5	-507	7.2	Clear	N
8	1955	0.96	12.92	9.45	0.326	0	25.5	-501	8.3	Clear	N
9	2005	0.96	13.98	9.42	0.322	0	25.5	-514	7.7	Clear	N

Field Instruments: Horiba U-53, Lamotte 2020 We, GeoTech Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD)

(3) 40 ml, glass

Sample Type

☒ Normal: sample time: 2012

☐ Duplicate: sample time: _____

☐ MS/MSD: sample time: _____

☐ Equipment Blank: sample time: _____

☐ Field Blank: sample time: _____

Comments: 1745 - High pH. Attempt to move some water out of well before continuing collection of parameters

1815 - still less than 1' drawdown. Increase pump from 350 mL/min to 400 mL/min

Signature: [Signature]

Date: 6/21/17

Well Purging and Sample Collection Form

Sample ID: M-08R-062217

Date: 6/22/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"

Well Material: PVC

Screen Interval: 4.5-9.5

Screen Midpoint: 7

Depth to Bottom (DTB): 9.70

Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow

☐ Volumetric → Purge Rate 240 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals

4" well = 0.65 gals

Gallons/well vol. = $(9.70) - (0.10) \times (0.16)$
DTB DTW gals/ft

Gallons/well volume: 1.54

Well Purged with:

☐ Pump

☐ Grundfos 2" Redi-Flo

☒ Peristaltic

☐ Well Pump

☐ Tubing

☒ Polyethylene

Well Measurements

Depth to Water (DTW): 0.10

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	0705	0.50	0.13	10.74	1.22	1.23	27.5	-74	6.4	Clear	N
1	0710	0.55	0.40	11.20	1.25	0.58	28.0	-117	2.1	Clear	N
2	0720	0.58	0.92	11.40	1.26	2.17	28.4	-115	1.5	Clear	N
3	0730	0.67	1.45	11.52	1.29	0.28	29.0	-118	1.8	Clear	N
4	0740	0.75	2.09	11.56	1.29	0.22	29.0	-119	4.5	Clear	N
5	0745	0.79	2.40	11.57	1.29	0.21	29.0	-119	4.7	Clear	N
6	0750	0.81	2.72	11.58	1.29	0.19	29.0	-119	5.2	Clear	N
7	0755	0.80	3.04	11.58	1.28	0.22	29.1	-117	4.7	Clear	N
8	0800	0.80	3.36	11.59	1.28	0.22	29.1	-117	4.5	Clear	N
9											

Field Instruments: Horiba U-53, Lamotte 2020 Ne, GeoTech Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD)

(3) 40 ml, glass

Sample Type

☒ Normal: sample time: 0803

☐ Duplicate: sample time: _____

☐ MS/MSD: sample time: _____

☐ Equipment Blank: sample time: _____

☐ Field Blank: sample time: _____

Comments: * High pH.

Signature: [Signature]

Date: 6/22/17

Well Purging and Sample Collection Form

Sample ID: M-09-062217

Date: 6/22/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"

Well Material: PVC

Screen Interval: 3.5-13.5

Screen Midpoint: 6

Depth to Bottom (DTB): 13.93

Source: ☒ Well Tag ☐ Well Table

Well Measurements

Depth to Water (DTW): 1.50

Purge Method

☒ Low Flow

☐ Volumetric → Purge Rate 150 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals

4" well = 0.65 gals

Gallons/well vol. = $(13.93) - (1.50) \times (0.16)$

DTB. DTW gals/ft

Gallons/well volume: 1.99

Well Purged with:

☐ Pump

☐ Grundfos 2" Redi-Flo

☒ Peristaltic

☐ Well Pump

☐ Tubing

☒ Polyethylene

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	0821	1.97	0.13	7.13	0.135	0.63	28.0	116	14.6	Clear	N
1	0831	3.83	0.53	5.71	0.125	0.06	24.9	187	9.9	Clear	N
2	0841	3.86	0.92	5.56	0.121	0.06	24.7	190	6.4	Clear	N
3	0851	4.29	1.32	5.57	0.118	0.07	24.6	191	5.4	Clear	N
4	0901	4.34	1.72	5.35	0.121	0.15	24.5	195	4.5	Clear	N
5	0906	4.44	1.92	5.41	0.121	0.24	24.5	192	5.0	Clear	N
6	0911	4.55	2.11	5.39	0.121	0.30	24.4	193	5.6	Clear	N
7	0916	4.57	2.31	5.38	0.121	0.34	24.6	190	7.2	Clear	N
8	0921	4.56	2.51	5.36	0.121	0.43	24.7	189	8.0	Clear	N
9	0926	4.56	2.71	5.38	0.122	0.46	24.7	187	7.3	Clear	N

Field Instruments: Horiba U-53, Lamotte 2020 We, GeoTech Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD)

(6) 40 ml, glass

Sample Type

☒ Normal: sample time: 0931

☒ Duplicate: sample time: — DUP-2

☐ MS/MSD: sample time: —

☐ Equipment Blank: sample time: —

☐ Field Blank: sample time: —

Comments: —

Signature: [Signature]

Date: 6/22/17

Well Purging and Sample Collection Form

Sample ID: m-10-062217

Date: 6/22/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"

Well Material: PVC

Screen Interval: 4-9

Screen Midpoint: 6.5

Depth to Bottom (DTB): 9.22

Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow

☐ Volumetric → Purge Rate 200 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals

4" well = 0.65 gals

Gallons/well vol. = $(9.22) - (0.81) \times (0.16)$

DTB DTW gals/ft

Gallons/well volume: 1.35

Well Purged with:

☐ Pump

☐ Grundfos 2" Redi-Flo

☒ Peristaltic

☐ Well Pump

☐ Tubing

☒ Polyethylene

Well Measurements

Depth to Water (DTW): 0.81

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	0956	1.38	0.13	6.08	0.690	0.48	27.4	33	6.6	Clear	N
1	1026	4.44	1.72	6.26	0.661	0.87	28.8	34	1.0	Clear	N
2	1031	4.43	1.98	6.23	0.669	0.50	28.7	32	0.5	Clear	N
3	1036	4.43	2.25	6.21	0.667	0.27	28.8	32	1.5	Clear	N
4	1041	4.49	2.51	6.22	0.667	0.15	28.8	32	1.0	Clear	N
5	1046	4.71	2.77	6.21	0.665	0.14	28.9	30	1.8	Clear	N
6	1051	4.70	3.04	6.21	0.665	0.13	28.8	25	3.7	Clear	N
7	1056	4.70	3.30	6.21	0.672	0.30	28.9	19	4.2	Clear	N
8	1101	4.70	3.57	6.20	0.668	0.36	29.0	18	2.8	Clear	N
9	1106	4.70	3.83	6.21	0.667	0.40	28.9	17	2.9	Clear	N

Field Instruments: Horiba U-53, Lamotte 2020 WE, GeoTeck Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD)

(3) 40 ml, glass

Sample Type

☒ Normal: sample time: 1110

☐ Duplicate: sample time: _____

☐ MS/MSD: sample time: _____

☐ Equipment Blank: sample time: _____

☐ Field Blank: sample time: _____

Comments: _____

Signature: [Signature]

Date: 6/22/17

Well Purging and Sample Collection Form

Sample ID: M-07-062215

Date: 6/22/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"
Well Material: PVC
Screen Interval: 3-13
Screen Midpoint: 8
Depth to Bottom (DTB): 13.12
Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow
☐ Volumetric → Purge Rate 200 L/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals
4" well = 0.65 gals
Gallons/well vol. = $(13.12) - (1.08) \times (0.16)$
DTB. DTW gals/ft
Gallons/well volume: 1.93

Well Purged with:

☐ Pump
☐ Grundfos 2" Redi-Flo
☒ Peristaltic
☐ Well Pump
☐ Tubing
☒ Polyethylene

Well Measurements

Depth to Water (DTW): 1.08

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1127	1.51	0.13	5.63	0.370	0.43	29.7	149	2.1	Clear	N
1	1137	2.09	0.64	5.40	0.370	0.10	29.3	161	1.0	Clear	N
2	1147	2.28	1.19	5.44	0.384	0.63	29.8	149	0.7	Clear	N
3	1157	2.34	1.72	5.39	0.384	0.51	30.0	155	1.1	Clear	N
4	1207	2.41	2.25	5.34	0.377	0.38	29.9	163	1.9	Clear	N
5	1212	2.44	2.57	5.31	0.378	0.35	30.0	167	1.0	Clear	N
6	1217	2.43	2.77	5.30	0.375	0.32	30.0	168	1.8	Clear	N
7	1222	2.44	3.04	5.28	0.371	0.28	30.1	171	1.6	Clear	N
8	1227	2.44	3.30	5.26	0.371	0.27	30.1	173	1.2	Clear	N
9											

Field Instruments: Horiba U-53, Lomotte 2020 W, GeoTech Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD) (3) 40 ml, glass

Sample Type

☒ Normal: sample time: 1231
☐ Duplicate: sample time: _____
☐ MS/MSD: sample time: _____
☐ Equipment Blank: sample time: _____
☐ Field Blank: sample time: _____

Comments: _____

Signature: Roll

Date: 6/22/17

Well Purging and Sample Collection Form

Sample ID: M-17-062217

Date: 6/22/17

Project No.: 60544637

Site Name: UTC – Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"

Well Material: PVC

Screen Interval: 50-60

Screen Midpoint: 55

Depth to Bottom (DTB): 60.30

Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow

☐ Volumetric → Purge Rate 220 mL/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals

4" well = 0.65 gals

Gallons/well vol. = $(60.30) - (0.60) \times (0.16)$
DTB. DTW gals/ft

Gallons/well volume: 9.55

Well Purged with:

☐ Pump

☐ Grundfos 2" Redi-Flo

☒ Peristaltic

☐ Well Pump

☐ Tubing

☒ Polyethylene

Well Measurements

Depth to Water (DTW): 0.60

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1301	1.00	0.18	6.19	0.228	0.69	33.1	24	18.4	lt. grey	N
1	1321	1.57		6.19	0.215	0.17	27.1	-12	3.4	Clear	N
2	1331	1.59		6.19	0.212	0.08	27.1	-12	3.3	Clear	N
3	1341	1.64		6.17	0.210	0.08	26.9	-10	3.2	Clear	N
4	1346	1.65		6.18	0.210	0.07	26.9	-9	2.4	Clear	N
5	1351	1.68		6.18	0.209	0.06	26.8	-8	2.6	Clear	N
6	1356	1.72		6.17	0.207	0.04	26.8	-8	2.7	Clear	N
7	1401	1.70		6.15	0.207	0.08	26.9	-6	1.8	Clear	N
8	1406	1.70		6.16	0.207	0.11	26.9	-6	1.4	Clear	N
9	1411	1.69		6.15	0.206	0.12	27.0	-5	1.6	Clear	N

Field Instruments: Horiba U-53, Lamotte 2020 W, GeoTech InterSce meter

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD)

(3) 40 ml, glass

Sample Type

☒ Normal: sample time: 1416

☐ Duplicate: sample time: _____

☐ MS/MSD: sample time: _____

☐ Equipment Blank: sample time: _____

☐ Field Blank: sample time: _____

Comments: _____

Signature: [Signature]

Date: 6/22/17

Well Purging and Sample Collection Form

Sample ID: M-14D-062217

Date: 6/22/17

Project No.: 60544637

Site Name: UTC - Thomson (HP Pelzer Facility)

Well Information

Well Diameter: 2"
Well Material: PVC
Screen Interval: 15-25
Screen Midpoint: 20
Depth to Bottom (DTB): 25.50
Source: ☒ Well Tag ☐ Well Table

Purge Method

☒ Low Flow
☐ Volumetric → Purge Rate 160 ~ 4/min

Purge Volume Calculations

Where: gals/ft: 2" well = 0.16 gals
4" well = 0.65 gals
Gallons/well vol. = $(25.50 - (0.47)) \times (0.16)$
DTB DTW gals/ft
Gallons/well volume: 4.00

Well Purged with:

☐ Pump
☐ Grundfos 2" Redi-Flo
☒ Peristaltic
☐ Well Pump
☐ Tubing
☒ Polyethylene

Well Measurements

Depth to Water (DTW): 0.47

Purge Vol. #	Time	Depth to Water (ft.)	Purge Vol. (gals)	pH (SU)	Cond. (mS/cm)	DO (mg/L)	Temp. (°C)	ORP (mV)	Turb. (NTU)	Color	Odor (Y/N)
Initial	1445	0.86	0.16	6.06	0.314	0.51	30.9	23	41.7	Clear	N
1	1455	1.37	0.58	6.05	0.314	0.15	28.6	13	36.0	Clear	N
2	1505	1.44	1.00	6.03	0.314	0.10	28.3	16	24.4	Clear	N
3	1515	1.42	1.43	5.97	0.336	0.07	28.4	36	23.4	Clear	N
4	1525	1.43	1.85	5.96	0.346	0.06	28.2	43	17.1	Clear	N
5	1535	1.47	2.25	5.95	0.358	0.06	28.2	48	14.2	Clear	N
6	1545	1.45	2.69	5.94	0.366	0.07	28.5	52	10.2	Clear	N
7	1550	1.43	2.91	5.95	0.370	0.11	28.6	53	9.3	Clear	N
8	1555	1.43	3.12	5.95	0.371	0.10	28.6	54	9.5	Clear	N
9	1600	1.43	3.33	5.95	0.373	0.08	28.4	54	8.5	Clear	N

Field Instruments: Horiba U-53, Lammotte 2020 w/c, GeoTech Interface Probe

Sample Analysis and Containers

☒ VOC's (Test Code V8260STD) (3) 40 ml, glass

Sample Type

☒ Normal: sample time: 1605

☐ Duplicate: sample time: _____
☐ MS/MSD: sample time: _____
☐ Equipment Blank: sample time: _____
☐ Field Blank: sample time: _____

Comments: _____

Signature: [Signature]

Date: 6/22/17

Appendix C

Laboratory Analytical Reports and Data Validation Reports

Technical Report for

United Technologies Corporation

AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

SGS Accutest Job Number: FA45296

Sampling Dates: 06/20/17 - 06/22/17

Report to:

AECOM
1360 Peachtree St NE Suite 500
Atlanta, GA 30309
robert.davis@aecom.com; matt.panciera@aecom.com

ATTN: Matt Panciera

Total number of pages in report: 77



Test results contained within this data package meet the requirements
of the National Environmental Laboratory Accreditation Program
and/or state specific certification programs as applicable.



Norm Farmer
Technical Director

Client Service contact: Sue Bell 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)
DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
AK, AR, GA, IA, KY, MA, NV, OK, OR, UT, WA

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Test results relate only to samples analyzed.

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Sample Summary

United Technologies Corporation

Job No: FA45296

AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA45296-1	06/20/17	15:23 RH	06/26/17	AQ	Ground Water	M-04-062017
FA45296-2	06/20/17	17:00 RH	06/26/17	AQ	Ground Water	M-03-062017
FA45296-3	06/20/17	18:16 RH	06/26/17	AQ	Ground Water	M-03A-062017
FA45296-4	06/21/17	08:02 RH	06/26/17	AQ	Ground Water	M-02A-062117
FA45296-5	06/21/17	09:31 RH	06/26/17	AQ	Ground Water	M-02-062117
FA45296-6	06/21/17	11:48 RH	06/26/17	AQ	Ground Water	M-19-062117
FA45296-7	06/21/17	14:59 RH	06/26/17	AQ	Ground Water	M-22-062117
FA45296-8	06/21/17	17:12 RH	06/26/17	AQ	Ground Water	M-18-062117
FA45296-8D	06/21/17	17:12 RH	06/26/17	AQ	Water Dup/MSD	M-18-062117
FA45296-8S	06/21/17	17:12 RH	06/26/17	AQ	Water Matrix Spike	M-18-062117
FA45296-9	06/21/17	20:12 RH	06/26/17	AQ	Ground Water	M-23-062117
FA45296-10	06/21/17	00:00 RH	06/26/17	AQ	Ground Water	DUP-01-062117
FA45296-11	06/22/17	08:03 RH	06/26/17	AQ	Ground Water	M-08R-062217



Sample Summary
(continued)

United Technologies Corporation

Job No: FA45296

AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA45296-12	06/22/17	09:31 RH	06/26/17	AQ	Ground Water	M-09-062217
FA45296-13	06/22/17	11:10 RH	06/26/17	AQ	Ground Water	M-10-062217
FA45296-14	06/22/17	12:31 RH	06/26/17	AQ	Ground Water	M-07-062217
FA45296-15	06/22/17	14:16 RH	06/26/17	AQ	Ground Water	M-17-062217
FA45296-16	06/22/17	16:05 RH	06/26/17	AQ	Ground Water	M-14D-062217
FA45296-17	06/22/17	00:00 RH	06/26/17	AQ	Ground Water	DUP-02-062217

SAMPLE DELIVERY GROUP CASE NARRATIVE

2

Client: United Technologies Corporation

Job No: FA45296

Site: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Report Date 6/30/2017 9:53:47 PM

17 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on/ between 06/20/2017 and 06/22/2017 and were received at SGS Accutest Southeast (SASE) on 06/26/2017 properly preserved, at 5.4 Deg. C and intact. These Samples received an SASE job number of FA45296. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ

Batch ID: VM4175

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA45204-2MS, FA45204-2MSD were used as the QC samples indicated.

Matrix: AQ

Batch ID: VN4753

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA45296-8MS, FA45296-8MSD were used as the QC samples indicated.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA45296
Account: United Technologies Corporation
Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA
Collected: 06/20/17 thru 06/22/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA45296-1 M-04-062017						
Methyl Chloride		0.58 J	2.0	0.50	ug/l	SW846 8260B
FA45296-2 M-03-062017						
Acetone		10.9 J	25	10	ug/l	SW846 8260B
Methyl Chloride		0.74 J	2.0	0.50	ug/l	SW846 8260B
FA45296-3 M-03A-062017						
Methyl Chloride		0.66 J	2.0	0.50	ug/l	SW846 8260B
FA45296-4 M-02A-062117						
Acetone		14.0 J	25	10	ug/l	SW846 8260B
n-Butylbenzene		0.29 J	1.0	0.23	ug/l	SW846 8260B
sec-Butylbenzene		0.47 J	1.0	0.24	ug/l	SW846 8260B
Methyl Chloride		1.1 J	2.0	0.50	ug/l	SW846 8260B
n-Propylbenzene		0.94 J	1.0	0.29	ug/l	SW846 8260B
FA45296-5 M-02-062117						
Acetone		23.7 J	25	10	ug/l	SW846 8260B
Methyl Chloride		1.2 J	2.0	0.50	ug/l	SW846 8260B
FA45296-6 M-19-062117						
No hits reported in this sample.						
FA45296-7 M-22-062117						
Acetone		39.6	25	10	ug/l	SW846 8260B
Chloroform		2.4	1.0	0.30	ug/l	SW846 8260B
Methyl Chloride		1.2 J	2.0	0.50	ug/l	SW846 8260B
FA45296-8 M-18-062117						
1,1-Dichloroethylene		1.2	1.0	0.32	ug/l	SW846 8260B
Methyl Chloride		0.65 J	2.0	0.50	ug/l	SW846 8260B
Trichloroethylene		2.3	1.0	0.35	ug/l	SW846 8260B
FA45296-9 M-23-062117						
Chloroform		4.6	1.0	0.30	ug/l	SW846 8260B

Summary of Hits

Job Number: FA45296
Account: United Technologies Corporation
Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA
Collected: 06/20/17 thru 06/22/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Methyl Chloride		0.67 J	2.0	0.50	ug/l	SW846 8260B
FA45296-10	DUP-01-062117					
Acetone		22.1 J	25	10	ug/l	SW846 8260B
Methyl Chloride		0.73 J	2.0	0.50	ug/l	SW846 8260B
FA45296-11	M-08R-062217					
Acetone		57.6	25	10	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		0.28 J	1.0	0.27	ug/l	SW846 8260B
FA45296-12	M-09-062217					
Acetone		12.0 J	25	10	ug/l	SW846 8260B
Benzene		1.3	1.0	0.31	ug/l	SW846 8260B
1,1-Dichloroethane		34.3	1.0	0.34	ug/l	SW846 8260B
1,2-Dichloroethane		0.34 J	1.0	0.31	ug/l	SW846 8260B
1,1-Dichloroethylene		472	10	3.2	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		12.1	1.0	0.28	ug/l	SW846 8260B
Trichloroethylene		12.1	1.0	0.35	ug/l	SW846 8260B
Vinyl Chloride		0.55 J	1.0	0.41	ug/l	SW846 8260B
FA45296-13	M-10-062217					
Acetone		14.3 J	25	10	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		4.7	1.0	0.28	ug/l	SW846 8260B
Methyl Chloride		0.55 J	2.0	0.50	ug/l	SW846 8260B
Trichloroethylene		27.2	1.0	0.35	ug/l	SW846 8260B
FA45296-14	M-07-062217					
Acetone		33.8	25	10	ug/l	SW846 8260B
Benzene		0.81 J	1.0	0.31	ug/l	SW846 8260B
1,1-Dichloroethane		0.63 J	1.0	0.34	ug/l	SW846 8260B
1,1-Dichloroethylene		6.7	1.0	0.32	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		15.0	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.43 J	1.0	0.22	ug/l	SW846 8260B
Trichloroethylene		69.9	1.0	0.35	ug/l	SW846 8260B
Vinyl Chloride		1.7	1.0	0.41	ug/l	SW846 8260B
FA45296-15	M-17-062217					
Acetone		10.7 J	25	10	ug/l	SW846 8260B
1,1-Dichloroethane		1.4	1.0	0.34	ug/l	SW846 8260B

Summary of Hits

Job Number: FA45296**Account:** United Technologies Corporation**Project:** AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA**Collected:** 06/20/17 thru 06/22/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
--------------------------	------------------	-----------------	----	-----	-------	--------

1,1-Dichloroethylene		24.1	1.0	0.32	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		8.5	1.0	0.28	ug/l	SW846 8260B
Methyl Chloride		1.3 J	2.0	0.50	ug/l	SW846 8260B
Trichloroethylene		64.8	1.0	0.35	ug/l	SW846 8260B

FA45296-16 M-14D-062217

Acetone		25.4	25	10	ug/l	SW846 8260B
Benzene		1.1	1.0	0.31	ug/l	SW846 8260B
Chloroform		1.8	1.0	0.30	ug/l	SW846 8260B
1,1-Dichloroethylene		2.9	1.0	0.32	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		11.0	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.30 J	1.0	0.22	ug/l	SW846 8260B
Methyl Chloride		0.85 J	2.0	0.50	ug/l	SW846 8260B
Trichloroethylene		127	2.5	0.86	ug/l	SW846 8260B
Vinyl Chloride		0.49 J	1.0	0.41	ug/l	SW846 8260B

FA45296-17 DUP-02-062217

Benzene		1.3	1.0	0.31	ug/l	SW846 8260B
1,1-Dichloroethane		33.8	1.0	0.34	ug/l	SW846 8260B
1,2-Dichloroethane		0.34 J	1.0	0.31	ug/l	SW846 8260B
1,1-Dichloroethylene		470	10	3.2	ug/l	SW846 8260B
cis-1,2-Dichloroethylene		11.9	1.0	0.28	ug/l	SW846 8260B
Trichloroethylene		11.3	1.0	0.35	ug/l	SW846 8260B
Vinyl Chloride		0.48 J	1.0	0.41	ug/l	SW846 8260B



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	M-04-062017	Date Sampled:	06/20/17
Lab Sample ID:	FA45296-1	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103980.D	1	06/27/17 11:20	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-04-062017	Date Sampled:	06/20/17
Lab Sample ID:	FA45296-1	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	0.58	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	98%		79-125%
2037-26-5	Toluene-D8	96%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-04-062017	Date Sampled:	06/20/17
Lab Sample ID:	FA45296-1	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID:	M-03-062017	Date Sampled:	06/20/17
Lab Sample ID:	FA45296-2	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103981.D	1	06/27/17 11:44	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	10.9	25	10	ug/l	J
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-03-062017	Date Sampled:	06/20/17
Lab Sample ID:	FA45296-2	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	0.74	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	97%		79-125%
2037-26-5	Toluene-D8	96%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-03-062017	Date Sampled:	06/20/17
Lab Sample ID:	FA45296-2	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-03A-062017	Date Sampled:	06/20/17
Lab Sample ID:	FA45296-3	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103982.D	1	06/27/17 12:08	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-03A-062017	Date Sampled:	06/20/17
Lab Sample ID:	FA45296-3	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	0.66	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	96%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-03A-062017	Date Sampled:	06/20/17
Lab Sample ID:	FA45296-3	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID:	M-02A-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-4	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103983.D	1	06/27/17 12:32	WV	n/a	n/a	VN4753
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	14.0	25	10	ug/l	J
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	0.29	1.0	0.23	ug/l	J
135-98-8	sec-Butylbenzene	0.47	1.0	0.24	ug/l	J
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-02A-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-4	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.1	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	0.94	1.0	0.29	ug/l	J
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	95%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-02A-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-4	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID:	M-02-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-5	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103984.D	1	06/27/17 12:55	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	23.7	25	10	ug/l	J
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-02-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-5	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.2	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	94%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-02-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-5	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	102%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.5
4

Report of Analysis

Client Sample ID:	M-19-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-6	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103985.D	1	06/27/17 13:19	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-19-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-6	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	96%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-19-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-6	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	98%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-22-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-7	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103986.D	1	06/27/17 13:43	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	39.6	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	2.4	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-22-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-7	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.2	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	96%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-22-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-7	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID:	M-18-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-8	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103987.D	1	06/27/17 14:11	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	1.2	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-18-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-8	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	0.65	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	2.3	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	94%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-18-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-8	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.8
4

Report of Analysis

Client Sample ID:	M-23-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-9	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103988.D	1	06/27/17 14:35	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	4.6	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-23-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-9	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	0.67	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	93%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-23-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-9	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-10	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103989.D	1	06/27/17 14:59	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	22.1	25	10	ug/l	J
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-10	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	0.73	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	94%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01-062117	Date Sampled:	06/21/17
Lab Sample ID:	FA45296-10	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected

MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

4.10
4

Report of Analysis

Client Sample ID:	M-08R-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-11	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103990.D	1	06/27/17 15:22	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	57.6	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-08R-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-11	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.28	1.0	0.27	ug/l	J
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	95%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-08R-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-11	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.11
4

Report of Analysis

Client Sample ID:	M-09-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-12	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103991.D	1	06/27/17 15:46	WV	n/a	n/a	VN4753
Run #2	M97224.D	10	06/28/17 16:57	WV	n/a	n/a	VM4175

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	12.0	25	10	ug/l	J
71-43-2	Benzene	1.3	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	34.3	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.34	1.0	0.31	ug/l	J
75-35-4	1,1-Dichloroethylene	472 ^a	10	3.2	ug/l	
156-59-2	cis-1,2-Dichloroethylene	12.1	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-09-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-12	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	12.1	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	0.55	1.0	0.41	ug/l	J
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	106%	115%	79-125%
2037-26-5	Toluene-D8	95%	97%	85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-09-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-12	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%	98%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-10-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-13	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103992.D	1	06/27/17 16:10	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	14.3	25	10	ug/l	J
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	4.7	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-10-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-13	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	0.55	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	27.2	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		83-118%
17060-07-0	1,2-Dichloroethane-D4	106%		79-125%
2037-26-5	Toluene-D8	94%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-10-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-13	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.13
4

Report of Analysis

Client Sample ID:	M-07-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-14	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103993.D	1	06/27/17 16:34	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	33.8	25	10	ug/l	
71-43-2	Benzene	0.81	1.0	0.31	ug/l	J
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.63	1.0	0.34	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	6.7	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	15.0	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.43	1.0	0.22	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-07-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-14	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	69.9	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	1.7	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	94%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-07-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-14	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

4.14
4

Report of Analysis

Client Sample ID:	M-17-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-15	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103994.D	1	06/27/17 16:58	WV	n/a	n/a	VN4753
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	10.7	25	10	ug/l	J
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	1.4	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	24.1	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	8.5	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-17-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-15	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.3	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	64.8	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		83-118%
17060-07-0	1,2-Dichloroethane-D4	108%		79-125%
2037-26-5	Toluene-D8	95%		85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-17-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-15	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		83-118%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-14D-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-16	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103995.D	1	06/27/17 17:21	WV	n/a	n/a	VN4753
Run #2	M97225.D	2.5	06/28/17 17:21	WV	n/a	n/a	VM4175

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	25.4	25	10	ug/l	
71-43-2	Benzene	1.1	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	1.8	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	2.9	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	11.0	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.30	1.0	0.22	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-14D-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-16	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	0.85	2.0	0.50	ug/l	J
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	127 ^a	2.5	0.86	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	0.49	1.0	0.41	ug/l	J
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	108%	114%	79-125%
2037-26-5	Toluene-D8	96%	96%	85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	M-14D-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-16	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%	98%	83-118%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.16
4

Report of Analysis

Client Sample ID:	DUP-02-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-17	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0103996.D	1	06/27/17 17:45	WV	n/a	n/a	VN4753
Run #2	M97226.D	10	06/28/17 17:44	WV	n/a	n/a	VM4175

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	1.3	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	33.8	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.34	1.0	0.31	ug/l	J
75-35-4	1,1-Dichloroethylene	470 ^a	10	3.2	ug/l	
156-59-2	cis-1,2-Dichloroethylene	11.9	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-02-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-17	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	11.3	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	0.48	1.0	0.41	ug/l	J
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	107%	112%	79-125%
2037-26-5	Toluene-D8	96%	98%	85-112%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-02-062217	Date Sampled:	06/22/17
Lab Sample ID:	FA45296-17	Date Received:	06/26/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	102%	99%	83-118%

(a) Result is from Run# 2

ND = Not detected

MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

4.17
4

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

FA 45296

Client / Reporting Information										Project Information										SGS Accutest Quote #										SGIFF #									
Company Name: AECOM										Project Name: UTC - Thomson																													
Address: 1360 Peachtree St. NE										Street: 1886 Warren St. Hwy																													
City: Atlanta State: GA Zip: 30309										City: Thomson State: GA Zip: 30824																													
Project Contact: Matthew Pencione Email: mpencione@aecom.com										Project # 60544637																													
Phone # 860-263-5785										Fax #																													
Sampler(s) Name(s) (Printed)										Client Purchase Order #																													
Sampler 1: Rory Hill										Sampler 2:																													
SGS Accutest Sample #										COLLECTION										CONTAINER INFORMATION										Matrix Codes									
Field ID / Point of Collection										DATE TIME SAMPLED BY: MAT'RX										TOTAL # OF BOTTLES OTHER NONE HCl NOH NH3 H2SO4 NH4+2NH3 DI WATER MECH										DW - Drinking Water GW - Ground Water SW - Surface Water SO - Soil SL - Sludge LIQ - Other Liquid AIR - Air SOL - Other Solid									
1 M-04-062017										6/20 1525 RH GW 3										X										X									
2 M-03-062017										6/20 1700 RH GW 3										X										X									
3 M-03A-062017										6/20 1816 RH GW 3										X										X									
4 M-02A-062117										6/21 0802 RH GW 3										X										X									
5 M-02-062117										6/21 0931 RH GW 3										X										X									
6 M-19-062117										6/21 1148 RH GW 3										X										X									
7 M-22-062117										6/21 1454 RH GW 3										X										X									
8 M-18-062117										6/21 1712 RH GW 3										X										X									
9 M-18-062117-MS										6/21 1712 RH GW 3										X										X									
10 M-23-062117										6/21 2012 RH GW 3										X										X									
10 DUP-1										6/21 - RH GW 3										X										X									
Turnaround Time (Business days)										Data Deliverable Information										Comments / Remarks																			
10 Day (Business)										<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input type="checkbox"/> FULLT1 (EPA LEVEL 4) <input type="checkbox"/> EDD'S																													
7 Day																																							
5 Day																																							
3 Day RUSH																																							
2 Day RUSH																																							
1 Day RUSH																																							
Other																																							
Rush T/A Data Available VIA Email or Lablink																																							
Relinquished by Sampler/Affiliation										Sample Custody must be documented below each time samples change possession, including courier delivery.										Relinquished By/Affiliation																			
Date/Time: 6/23 194										Received By/Affiliation: FAIR EX 211758342314										Date/Time: 06-26-17																			
Relinquished by/Affiliation										Date/Time: 6										Received By/Affiliation: 8																			
Lab Use Only : Cooler Temperature (s) Celsius (corrected): 5.4																																							

SGS COC Florida new art 5 2 17 rev 042417 SI

Effective Date 04/24/2017

FA45296: Chain of Custody

Page 1 of 3

[illegible]

SGS Accutest Sample Receipt Summary

Job Number: FA45296

Client: AECOM

Project: UTC THOMSON

Date / Time Received: 6/26/2017 9:00:00 AM

Delivery Method: FX

Airbill #'s: 786977580891

Therm ID: IR 1;

Therm CF: 0.4;

of Coolers: N/A

Cooler Temps (Raw Measured) °C: Cooler 1: (5.0);

Cooler Temps (Corrected) °C: Cooler 1: (5.4);

Cooler Information

Y or N

- | | | |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Temp criteria achieved | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Cooler temp verification | N/A | |
| 5. Cooler media | N/A | |

Trip Blank Information

Y or N N/A

- | | | | |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Trip Blank listed on COC | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | W or S | N/A | |
| 3. Type Of TB Received | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Sample Information

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Sample labels present on bottles | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Samples preserved properly | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 3. Sufficient volume/containers recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Condition of sample | Intact | | |
| 5. Sample recvd within HT | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 6. Dates/Times/IDs on COC match Sample Label | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 7. VOCs have headspace | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 9. Compositing instructions clear | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10. Voa Soil Kits/Jars received past 48hrs? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11. % Solids Jar received? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 12. Residual Chlorine Present? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____
 Test Strip Lot #: pH 0-3 _____ 230315 _____
 Residual Chlorine Test Strip Lot #: _____

Number of 5035 Field Kits: _____
 pH 10-12 _____ 219813A _____

Number of Lab Filtered Metals: _____
 Other: (Specify) _____

Comments

SM001
Rev. Date 05/24/17

Technician: JORGE C

Date: 6/26/2017 9:00:00 AM

Reviewer: PDS

Date: 6/26/2017

FA45296: Chain of Custody

Page 3 of 3

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 3

Job Number: FA45296**Account:** UTC United Technologies Corporation**Project:** AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN4753-MB	N0103979.D	1	06/27/17	WV	n/a	n/a	VN4753

The QC reported here applies to the following samples:**Method:** SW846 8260B

FA45296-1, FA45296-2, FA45296-3, FA45296-4, FA45296-5, FA45296-6, FA45296-7, FA45296-8, FA45296-9, FA45296-10, FA45296-11, FA45296-12, FA45296-13, FA45296-14, FA45296-15, FA45296-16, FA45296-17

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.37	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.23	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.24	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.31	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.22	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.31	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.31	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.24	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	

Method Blank Summary

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Job Number: FA45296**Account:** UTC United Technologies Corporation**Project:** AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN4753-MB	N0103979.D	1	06/27/17	WV	n/a	n/a	VN4753

The QC reported here applies to the following samples:**Method:** SW846 8260B

FA45296-1, FA45296-2, FA45296-3, FA45296-4, FA45296-5, FA45296-6, FA45296-7, FA45296-8, FA45296-9, FA45296-10, FA45296-11, FA45296-12, FA45296-13, FA45296-14, FA45296-15, FA45296-16, FA45296-17

CAS No.	Compound	Result	RL	MDL	Units	Q
87-68-3	Hexachlorobutadiene	0.71	2.0	0.30	ug/l	J
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.21	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.37	ug/l	
75-09-2	Methylene Chloride	2.1	5.0	2.0	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.29	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.63	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.32	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.27	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	100%
17060-07-0	1,2-Dichloroethane-D4	99%

Method Blank Summary

Job Number: FA45296
Account: UTC United Technologies Corporation
Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN4753-MB	N0103979.D	1	06/27/17	WV	n/a	n/a	VN4753

The QC reported here applies to the following samples: Method: SW846 8260B

FA45296-1, FA45296-2, FA45296-3, FA45296-4, FA45296-5, FA45296-6, FA45296-7, FA45296-8, FA45296-9, FA45296-10, FA45296-11, FA45296-12, FA45296-13, FA45296-14, FA45296-15, FA45296-16, FA45296-17

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	95% 85-112%
460-00-4	4-Bromofluorobenzene	102% 83-118%

Method Blank Summary

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Job Number: FA45296

Account: UTC United Technologies Corporation

Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM4175-MB	M97209.D	1	06/28/17	WV	n/a	n/a	VM4175

The QC reported here applies to the following samples:

Method: SW846 8260B

FA45296-12, FA45296-16, FA45296-17

CAS No.	Compound	Result	RL	MDL	Units	Q
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	104% 83-118%
17060-07-0	1,2-Dichloroethane-D4	116% 79-125%
2037-26-5	Toluene-D8	97% 85-112%
460-00-4	4-Bromofluorobenzene	97% 83-118%

Blank Spike Summary

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Job Number: FA45296**Account:** UTC United Technologies Corporation**Project:** AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN4753-BS	N0103978.D	1	06/27/17	WV	n/a	n/a	VN4753

The QC reported here applies to the following samples:**Method:** SW846 8260B

FA45296-1, FA45296-2, FA45296-3, FA45296-4, FA45296-5, FA45296-6, FA45296-7, FA45296-8, FA45296-9, FA45296-10, FA45296-11, FA45296-12, FA45296-13, FA45296-14, FA45296-15, FA45296-16, FA45296-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	136	109	50-147
71-43-2	Benzene	25	27.5	110	81-122
108-86-1	Bromobenzene	25	26.8	107	80-121
74-97-5	Bromochloromethane	25	27.8	111	76-123
75-27-4	Bromodichloromethane	25	25.0	100	79-123
75-25-2	Bromoform	25	22.3	89	66-123
78-93-3	2-Butanone (MEK)	125	121	97	56-143
104-51-8	n-Butylbenzene	25	27.3	109	79-126
135-98-8	sec-Butylbenzene	25	27.7	111	83-133
98-06-6	tert-Butylbenzene	25	27.3	109	80-133
75-15-0	Carbon Disulfide	25	25.4	102	66-148
56-23-5	Carbon Tetrachloride	25	26.0	104	76-136
108-90-7	Chlorobenzene	25	27.2	109	82-124
75-00-3	Chloroethane	25	25.9	104	62-144
67-66-3	Chloroform	25	25.8	103	80-124
95-49-8	o-Chlorotoluene	25	27.9	112	81-127
106-43-4	p-Chlorotoluene	25	27.5	110	83-130
124-48-1	Dibromochloromethane	25	24.7	99	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	21.1	84	64-123
106-93-4	1,2-Dibromoethane	25	24.4	98	75-120
75-71-8	Dichlorodifluoromethane	25	22.7	91	42-167
95-50-1	1,2-Dichlorobenzene	25	26.0	104	82-124
541-73-1	1,3-Dichlorobenzene	25	27.3	109	84-125
106-46-7	1,4-Dichlorobenzene	25	26.0	104	78-120
75-34-3	1,1-Dichloroethane	25	28.9	116	81-122
107-06-2	1,2-Dichloroethane	25	26.7	107	75-125
75-35-4	1,1-Dichloroethylene	25	29.9	120	78-137
156-59-2	cis-1,2-Dichloroethylene	25	26.1	104	78-120
156-60-5	trans-1,2-Dichloroethylene	25	31.0	124	76-127
78-87-5	1,2-Dichloropropane	25	28.2	113	76-124
142-28-9	1,3-Dichloropropane	25	24.0	96	80-118
594-20-7	2,2-Dichloropropane	25	28.7	115	74-139
563-58-6	1,1-Dichloropropene	25	27.7	111	79-131
10061-01-5	cis-1,3-Dichloropropene	25	27.1	108	75-118
10061-02-6	trans-1,3-Dichloropropene	25	28.0	112	80-120
100-41-4	Ethylbenzene	25	27.0	108	81-121

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA45296**Account:** UTC United Technologies Corporation**Project:** AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN4753-BS	N0103978.D	1	06/27/17	WV	n/a	n/a	VN4753

The QC reported here applies to the following samples:**Method:** SW846 8260B

FA45296-1, FA45296-2, FA45296-3, FA45296-4, FA45296-5, FA45296-6, FA45296-7, FA45296-8, FA45296-9, FA45296-10, FA45296-11, FA45296-12, FA45296-13, FA45296-14, FA45296-15, FA45296-16, FA45296-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
87-68-3	Hexachlorobutadiene	25	26.8	107	75-142
591-78-6	2-Hexanone	125	121	97	61-129
98-82-8	Isopropylbenzene	25	27.1	108	83-132
99-87-6	p-Isopropyltoluene	25	27.6	110	79-130
74-83-9	Methyl Bromide	25	26.9	108	59-143
74-87-3	Methyl Chloride	25	22.3	89	50-159
74-95-3	Methylene Bromide	25	25.5	102	78-119
75-09-2	Methylene Chloride	25	27.5	110	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	120	96	66-122
1634-04-4	Methyl Tert Butyl Ether	25	24.3	97	72-117
91-20-3	Naphthalene	25	25.7	103	63-132
103-65-1	n-Propylbenzene	25	29.1	116	82-133
100-42-5	Styrene	25	26.0	104	78-119
630-20-6	1,1,1,2-Tetrachloroethane	25	25.6	102	77-122
79-34-5	1,1,2,2-Tetrachloroethane	25	23.2	93	72-120
127-18-4	Tetrachloroethylene	25	27.1	108	76-135
108-88-3	Toluene	25	26.5	106	80-120
87-61-6	1,2,3-Trichlorobenzene	25	24.9	100	68-131
120-82-1	1,2,4-Trichlorobenzene	25	25.4	102	73-129
71-55-6	1,1,1-Trichloroethane	25	25.5	102	75-130
79-00-5	1,1,2-Trichloroethane	25	25.1	100	76-119
79-01-6	Trichloroethylene	25	28.0	112	81-126
75-69-4	Trichlorofluoromethane	25	27.6	110	71-156
96-18-4	1,2,3-Trichloropropane	25	24.1	96	77-120
95-63-6	1,2,4-Trimethylbenzene	25	27.1	108	79-120
108-67-8	1,3,5-Trimethylbenzene	25	27.0	108	79-120
108-05-4	Vinyl Acetate	125	134	107	43-154
75-01-4	Vinyl Chloride	25	25.1	100	69-159
	m,p-Xylene	50	55.3	111	79-126
95-47-6	o-Xylene	25	26.2	105	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA45296

Account: UTC United Technologies Corporation

Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN4753-BS	N0103978.D	1	06/27/17	WV	n/a	n/a	VN4753

The QC reported here applies to the following samples:

Method: SW846 8260B

FA45296-1, FA45296-2, FA45296-3, FA45296-4, FA45296-5, FA45296-6, FA45296-7, FA45296-8, FA45296-9, FA45296-10, FA45296-11, FA45296-12, FA45296-13, FA45296-14, FA45296-15, FA45296-16, FA45296-17

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	98%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA45296

Account: UTC United Technologies Corporation

Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM4175-BS	M97208.D	1	06/28/17	WV	n/a	n/a	VM4175

The QC reported here applies to the following samples:

Method: SW846 8260B

FA45296-12, FA45296-16, FA45296-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-35-4	1,1-Dichloroethylene	25	24.5	98	78-137
79-01-6	Trichloroethylene	25	23.6	94	81-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: FA45296

Account: UTC United Technologies Corporation

Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA45296-8MS	N0104000.D	1	06/27/17	WV	n/a	n/a	VN4753
FA45296-8MSD	N0104001.D	1	06/27/17	WV	n/a	n/a	VN4753
FA45296-8	N0103987.D	1	06/27/17	WV	n/a	n/a	VN4753

The QC reported here applies to the following samples:

Method: SW846 8260B

FA45296-1, FA45296-2, FA45296-3, FA45296-4, FA45296-5, FA45296-6, FA45296-7, FA45296-8, FA45296-9, FA45296-10, FA45296-11, FA45296-12, FA45296-13, FA45296-14, FA45296-15, FA45296-16, FA45296-17

CAS No.	Compound	FA45296-8 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	125	116	93	125	118	94	2	50-147/21
71-43-2	Benzene	ND	25	27.0	108	25	26.0	104	4	81-122/14
108-86-1	Bromobenzene	ND	25	25.7	103	25	24.9	100	3	80-121/14
74-97-5	Bromochloromethane	ND	25	27.5	110	25	26.0	104	6	76-123/14
75-27-4	Bromodichloromethane	ND	25	25.0	100	25	24.8	99	1	79-123/19
75-25-2	Bromoform	ND	25	17.7	71	25	16.6	66	6	66-123/21
78-93-3	2-Butanone (MEK)	ND	125	110	88	125	105	84	5	56-143/18
104-51-8	n-Butylbenzene	ND	25	26.2	105	25	25.3	101	3	79-126/16
135-98-8	sec-Butylbenzene	ND	25	27.4	110	25	26.5	106	3	83-133/16
98-06-6	tert-Butylbenzene	ND	25	28.1	112	25	27.2	109	3	80-133/16
75-15-0	Carbon Disulfide	ND	25	19.9	80	25	18.3	73	8	66-148/23
56-23-5	Carbon Tetrachloride	ND	25	27.8	111	25	26.4	106	5	76-136/23
108-90-7	Chlorobenzene	ND	25	26.7	107	25	26.1	104	2	82-124/14
75-00-3	Chloroethane	ND	25	27.5	110	25	28.9	116	5	62-144/20
67-66-3	Chloroform	ND	25	27.0	108	25	26.1	104	3	80-124/15
95-49-8	o-Chlorotoluene	ND	25	28.2	113	25	26.9	108	5	81-127/15
106-43-4	p-Chlorotoluene	ND	25	27.3	109	25	26.3	105	4	83-130/15
124-48-1	Dibromochloromethane	ND	25	22.4	90	25	22.1	88	1	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND	25	21.0	84	25	20.5	82	2	64-123/18
106-93-4	1,2-Dibromoethane	ND	25	24.1	96	25	23.9	96	1	75-120/13
75-71-8	Dichlorodifluoromethane	ND	25	25.0	100	25	26.6	106	6	42-167/19
95-50-1	1,2-Dichlorobenzene	ND	25	25.5	102	25	24.7	99	3	82-124/14
541-73-1	1,3-Dichlorobenzene	ND	25	26.8	107	25	25.6	102	5	84-125/14
106-46-7	1,4-Dichlorobenzene	ND	25	25.4	102	25	24.4	98	4	78-120/15
75-34-3	1,1-Dichloroethane	ND	25	29.5	118	25	28.1	112	5	81-122/15
107-06-2	1,2-Dichloroethane	ND	25	28.7	115	25	28.0	112	2	75-125/14
75-35-4	1,1-Dichloroethylene	1.2	25	32.2	124	25	31.1	120	3	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND	25	25.9	104	25	25.3	101	2	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND	25	31.7	127	25	30.3	121	5	76-127/17
78-87-5	1,2-Dichloropropane	ND	25	26.5	106	25	25.4	102	4	76-124/14
142-28-9	1,3-Dichloropropane	ND	25	23.3	93	25	23.2	93	0	80-118/13
594-20-7	2,2-Dichloropropane	ND	25	26.5	106	25	25.1	100	5	74-139/17
563-58-6	1,1-Dichloropropene	ND	25	27.9	112	25	27.5	110	1	79-131/16
10061-01-5	cis-1,3-Dichloropropene	ND	25	24.4	98	25	23.7	95	3	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND	25	25.9	104	25	25.6	102	1	80-120/22
100-41-4	Ethylbenzene	ND	25	27.3	109	25	26.6	106	3	81-121/14

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: FA45296

Account: UTC United Technologies Corporation

Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA45296-8MS	N0104000.D	1	06/27/17	WV	n/a	n/a	VN4753
FA45296-8MSD	N0104001.D	1	06/27/17	WV	n/a	n/a	VN4753
FA45296-8	N0103987.D	1	06/27/17	WV	n/a	n/a	VN4753

The QC reported here applies to the following samples:

Method: SW846 8260B

FA45296-1, FA45296-2, FA45296-3, FA45296-4, FA45296-5, FA45296-6, FA45296-7, FA45296-8, FA45296-9, FA45296-10, FA45296-11, FA45296-12, FA45296-13, FA45296-14, FA45296-15, FA45296-16, FA45296-17

CAS No.	Compound	FA45296-8 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
87-68-3	Hexachlorobutadiene	ND		25	24.6	98	25	24.8	99	1	75-142/19
591-78-6	2-Hexanone	ND		125	112	90	125	107	86	5	61-129/18
98-82-8	Isopropylbenzene	ND		25	27.1	108	25	26.8	107	1	83-132/15
99-87-6	p-Isopropyltoluene	ND		25	27.4	110	25	26.3	105	4	79-130/16
74-83-9	Methyl Bromide	ND		25	29.7	119	25	31.2	125	5	59-143/19
74-87-3	Methyl Chloride	0.65	J	25	23.5	91	25	24.2	94	3	50-159/19
74-95-3	Methylene Bromide	ND		25	27.5	110	25	25.9	104	6	78-119/14
75-09-2	Methylene Chloride	ND		25	25.8	103	25	24.6	98	5	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		125	116	93	125	113	90	3	66-122/16
1634-04-4	Methyl Tert Butyl Ether	ND		25	24.9	100	25	23.8	95	5	72-117/14
91-20-3	Naphthalene	ND		25	24.6	98	25	24.3	97	1	63-132/25
103-65-1	n-Propylbenzene	ND		25	28.1	112	25	27.1	108	4	82-133/15
100-42-5	Styrene	ND		25	24.8	99	25	24.5	98	1	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	25.8	103	25	25.3	101	2	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	22.3	89	25	21.7	87	3	72-120/14
127-18-4	Tetrachloroethylene	ND		25	26.8	107	25	26.3	105	2	76-135/16
108-88-3	Toluene	ND		25	25.7	103	25	25.4	102	1	80-120/14
87-61-6	1,2,3-Trichlorobenzene	ND		25	23.1	92	25	22.9	92	1	68-131/25
120-82-1	1,2,4-Trichlorobenzene	ND		25	24.1	96	25	23.6	94	2	73-129/20
71-55-6	1,1,1-Trichloroethane	ND		25	27.2	109	25	26.3	105	3	75-130/16
79-00-5	1,1,2-Trichloroethane	ND		25	24.5	98	25	24.4	98	0	76-119/14
79-01-6	Trichloroethylene	2.3		25	30.6	113	25	30.1	111	2	81-126/15
75-69-4	Trichlorofluoromethane	ND		25	31.2	125	25	31.5	126	1	71-156/21
96-18-4	1,2,3-Trichloropropane	ND		25	24.5	98	25	23.9	96	2	77-120/16
95-63-6	1,2,4-Trimethylbenzene	ND		25	27.0	108	25	25.9	104	4	79-120/18
108-67-8	1,3,5-Trimethylbenzene	ND		25	26.6	106	25	25.6	102	4	79-120/19
108-05-4	Vinyl Acetate	ND		125	118	94	125	118	94	0	43-154/14
75-01-4	Vinyl Chloride	ND		25	24.0	96	25	25.4	102	6	69-159/18
	m,p-Xylene	ND		50	56.0	112	50	55.2	110	1	79-126/15
95-47-6	o-Xylene	ND		25	26.5	106	25	25.8	103	3	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA45296-8	Limits
1868-53-7	Dibromofluoromethane	108%	107%	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	113%	112%	102%	79-125%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 3 of 3

Job Number: FA45296

Account: UTC United Technologies Corporation

Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA45296-8MS	N0104000.D	1	06/27/17	WV	n/a	n/a	VN4753
FA45296-8MSD	N0104001.D	1	06/27/17	WV	n/a	n/a	VN4753
FA45296-8	N0103987.D	1	06/27/17	WV	n/a	n/a	VN4753

The QC reported here applies to the following samples:

Method: SW846 8260B

FA45296-1, FA45296-2, FA45296-3, FA45296-4, FA45296-5, FA45296-6, FA45296-7, FA45296-8, FA45296-9, FA45296-10, FA45296-11, FA45296-12, FA45296-13, FA45296-14, FA45296-15, FA45296-16, FA45296-17

CAS No.	Surrogate Recoveries	MS	MSD	FA45296-8	Limits
2037-26-5	Toluene-D8	98%	100%	94%	85-112%
460-00-4	4-Bromofluorobenzene	100%	103%	100%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: FA45296

Account: UTC United Technologies Corporation

Project: AECOMGAA: UTC Thomson; 1884 Warrenton Hwy, Thomson, GA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA45204-2MS	M97222.D	50	06/28/17	WV	n/a	n/a	VM4175
FA45204-2MSD	M97223.D	50	06/28/17	WV	n/a	n/a	VM4175
FA45204-2	M97210.D	50	06/28/17	WV	n/a	n/a	VM4175

The QC reported here applies to the following samples:

Method: SW846 8260B

FA45296-12, FA45296-16, FA45296-17

CAS No.	Compound	FA45204-2 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-35-4	1,1-Dichloroethylene	ND	1250	1460	117	1250	1390	111	5	78-137/18
79-01-6	Trichloroethylene	ND	1250	1370	110	1250	1320	106	4	81-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA45204-2	Limits
1868-53-7	Dibromofluoromethane	102%	98%	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	106%	106%	116%	79-125%
2037-26-5	Toluene-D8	99%	100%	98%	85-112%
460-00-4	4-Bromofluorobenzene	101%	97%	97%	83-118%

* = Outside of Control Limits.

Memorandum

To	Matthew Panciera – AECOM Rocky Hill	Page	1
CC			
Subject	Level 2 Data Validation for UTC-Thomson Groundwater Samples		
From	Robert Davis – AECOM Atlanta		
Date	August 14, 2017		

Limited validation was performed on one data package from Accutest Laboratories in Orlando, Florida for groundwater samples. The samples were collected at the former United Technologies Corporation (UTC) facility located at 1884 Warrenton Highway, Thomson, Georgia on June 20-22, 2017.

The data were reviewed for conformance to method specifications and qualifiers were applied using the validation criteria set forth in the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review*, USEPA-540-R-07-003, July 2008, with additional reference to *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA 540/R-99-008, May 1999 as they applied to the methodology used. Inorganic data were evaluated based on method specifications and the validation criteria set forth in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540-R-04-004, January 2010, as they applied to the analytical methods employed.

Field duplicate relative percent difference (RPD) review and applicable control limits were taken from the *USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*, December 1996.

The following method was requested on the chain-of-custody (COC) record.

- Method 8260B - Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS).

Review Elements

Sample data were reviewed for the following parameters:

- Agreement of analyses conducted with COC requests
- Holding times/sample preservation
- Method blanks/trip blanks
- Surrogate results

- Laboratory control sample (LCS) results
- Matrix spike/matrix spike duplicate (MS/MSD) results
- Field duplicate precision results

Samples

SAS Environmental, Inc. collected the following groundwater samples from the former UTC site in Thomson, Georgia as reported under the following laboratory job number.

FA45296

Lab ID	Sample ID	Lab ID	Sample ID
FA45296-1	M-04-062017	FA45296-10	DUP-01-062117
FA45296-2	M-03-062017	FA45296-11	M-08R-062217
FA45296-3	M-03A-062017	FA45296-12	M-09-062217
FA45296-4	M-02A-062117	FA45296-13	M-10-062217
FA45296-5	M-02-062117	FA45296-14	M-07-062217
FA45296-6	M-19-062117	FA45296-15	M-17-062217
FA45296-7	M-22-062117	FA45296-16	M-14D-062217
FA45296-8	M-18-062117	FA45296-17	DUP-02-062217
FA45296-9	M-23-062117		

Analytical Results

In general, the data results are valid as reported and may be used for decision making purposes. None of the sample data required qualification.

Positive results less than the reporting limit, but greater than the method detection limit (MDL) were qualified "J", as estimated concentrations, due to increased uncertainty near the detection limit. These "J" qualifiers were maintained in the data validation.

Discussion

Agreement of Analyses Conducted with COC Requests

Laboratory sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No discrepancies were noted.

Holding Times and Preservation

All samples were analyzed within the holding times required by the methods.

The sample cooler temperatures upon receipt by the laboratory were within the acceptable range of 4±2° C.

All samples that required chemical preservation were chemically preserved to the proper pH.

Method Blanks/Trip Blanks

No analytes were detected at concentrations exceeding the reporting limits for the method blanks or trip blanks with the following exceptions:

- Trip Blanks were not submitted with this sampling event. Contamination picked up in storage or transit could not be assessed.
- Method 8260B: The method blank associated with batch VN4753 had detections for hexachlorobutadiene and methylene chloride. All of the associated samples were non-detect for hexachlorobutadiene and methylene chloride; therefore, data qualification was not required.

Surrogate Results

The surrogate recoveries were acceptable for all organic analyses.

Laboratory Control Sample Results

Laboratory control standards (LCS) for all of the analyses were within the quality control limits.

Matrix Spike/Matrix Spike Duplicate Results

The matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision on designated client sample M-18-062117 were all within the advisory limits.

Field Precision Results

Field duplicates were collected on sample M-02-062117 and MW-09-062217. See Tables 1A and 1B for the RPDs for all compounds for which there were detections. The RPDs between the original and field duplicates were all within the acceptance criteria of 0-30%.

Table 1A
Field Precision

Method	Compound	M-02-062117	DUP-01-062117	Units	% RPD
8260B	Acetone	23.7 J	22.1 J	µg/L	7.0
8260B	Methyl Chloride	1.2 J	0.73 J	µg/L	49 *

% RPD: Relative percent difference between the primary sample result and the sample duplicate result.

* The original sample and duplicate sample are <5X the reporting limit (including non-detects) and the absolute difference between the sample and the duplicate is < the RL (using the RL value for non-detects). Data qualification is not required.

Table 1B
Field Precision

Method	Compound	M-09-062217	DUP-02-062217	Units	% RPD
8260B	Acetone	12.0 J	1.3	µg/L	161 *
8260B	Benzene	1.3	ND	µg/L	NC *
8260B	1,1-Dichloroethane	34.3	33.8	µg/L	1.5
8260B	1,2-Dichloroethane	0.34 J	0.34 J	µg/L	0
8260B	1,1-Dichloroethylene	472	470	µg/L	0.42
8260B	cis-1,2-Dichloroethylene	12.1	11.9	µg/L	1.7
8260B	Trichloroethylene	12.1	11.3	µg/L	6.8
8260B	Vinyl Chloride	0.55 J	0.48 J	µg/L	14

% RPD: Relative percent difference between the primary sample result and the sample duplicate result.

ND: Analyte not detected.

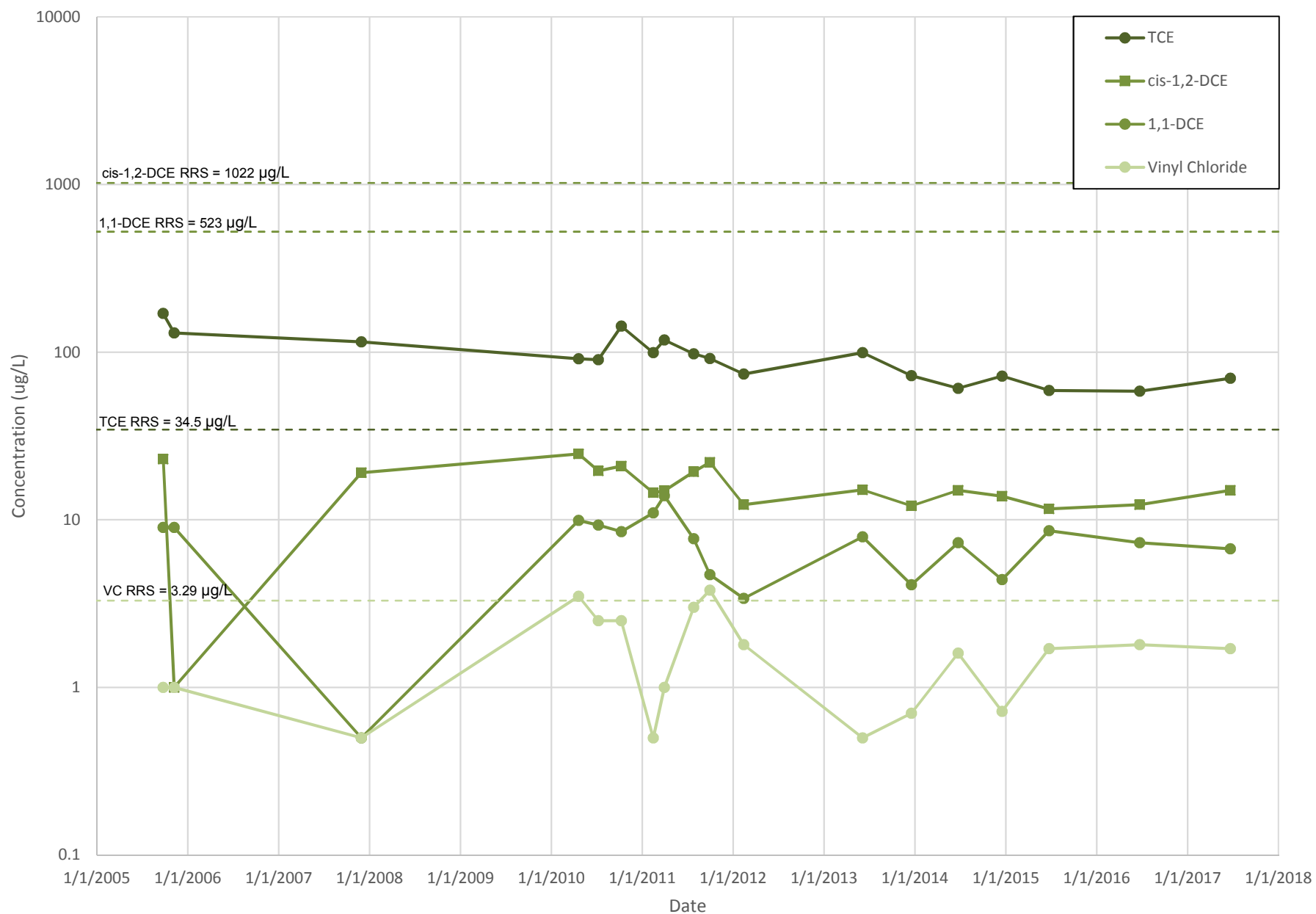
NC: Not calculated.

* The original sample and duplicate sample are <5X the reporting limit (including non-detects) and the absolute difference between the sample and the duplicate is < the RL (using the RL value for non-detects). Data qualification is not required.

Appendix D

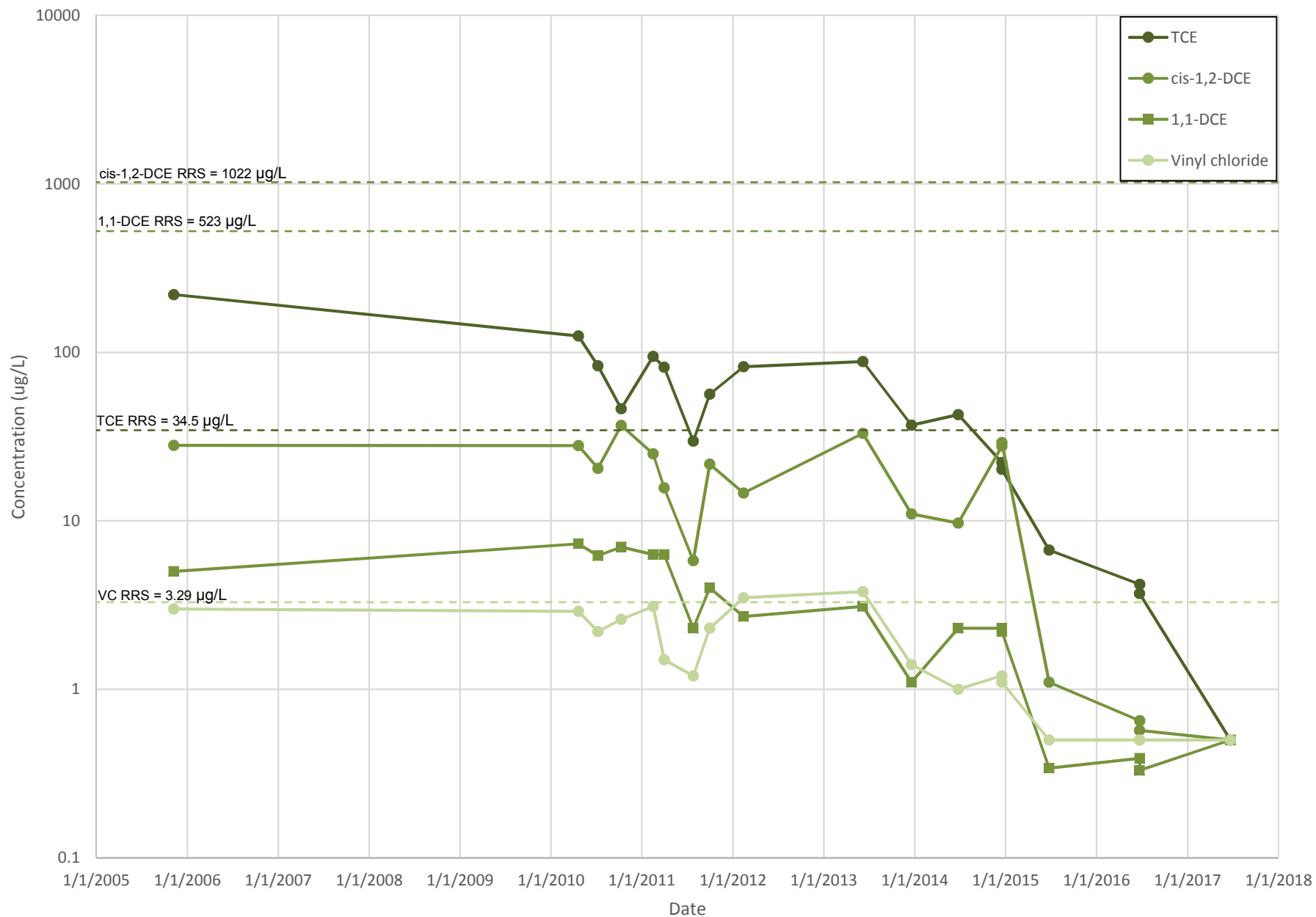
Constituents of Interest Concentration Trend Graphs

Appendix D
Constituents of Interest Concentrations Trend Graphs
Former UTA Facility, Thomson, GA
M-07



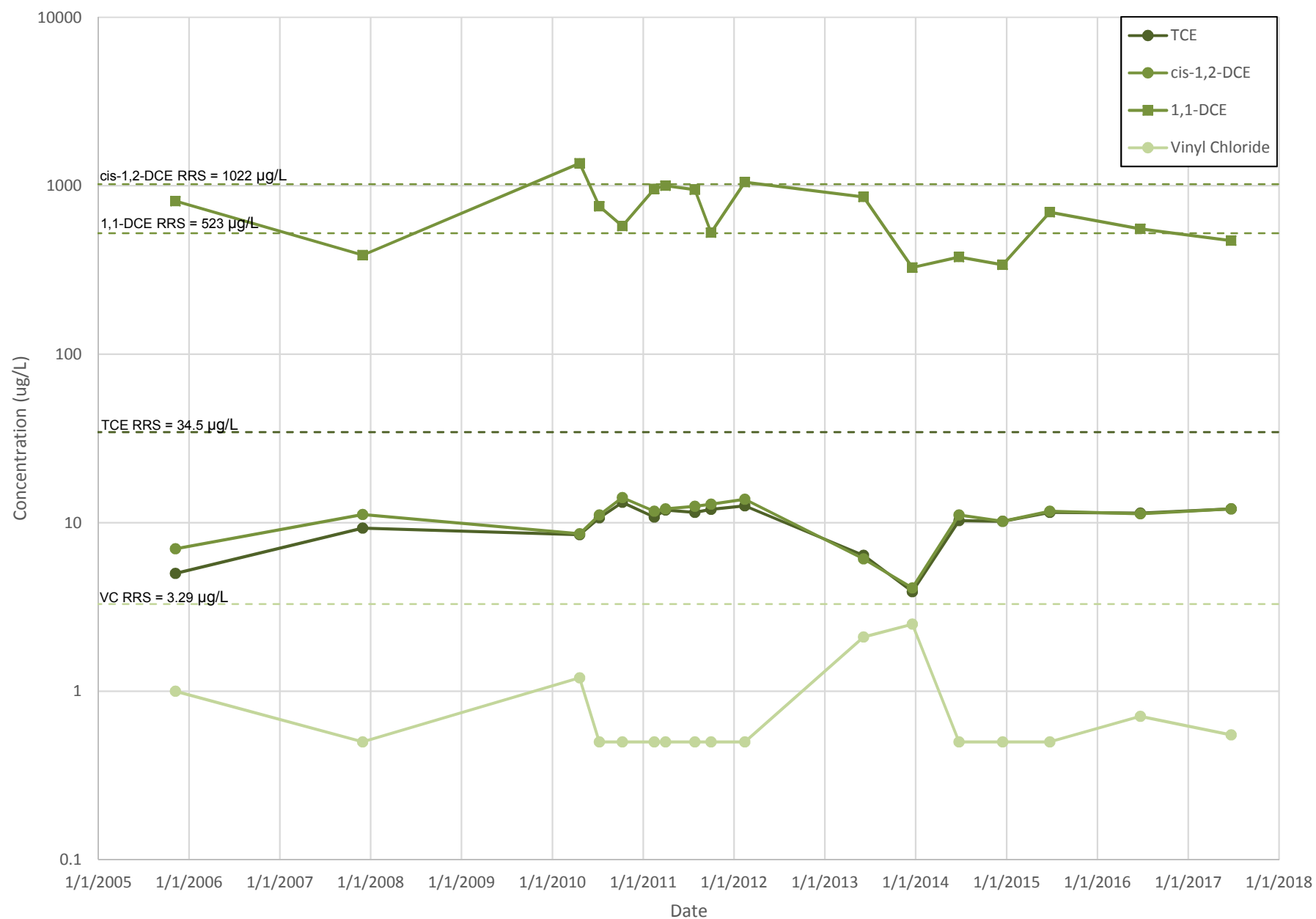
Notes:
 Non-Detect results plotted as half the method detection limit.
 RRS - Site Risk Reduction Standard

Appendix D
Constituents of Interest Concentrations Trend Graphs
Former UTA Facility, Thomson, GA
M-08 & M-08R



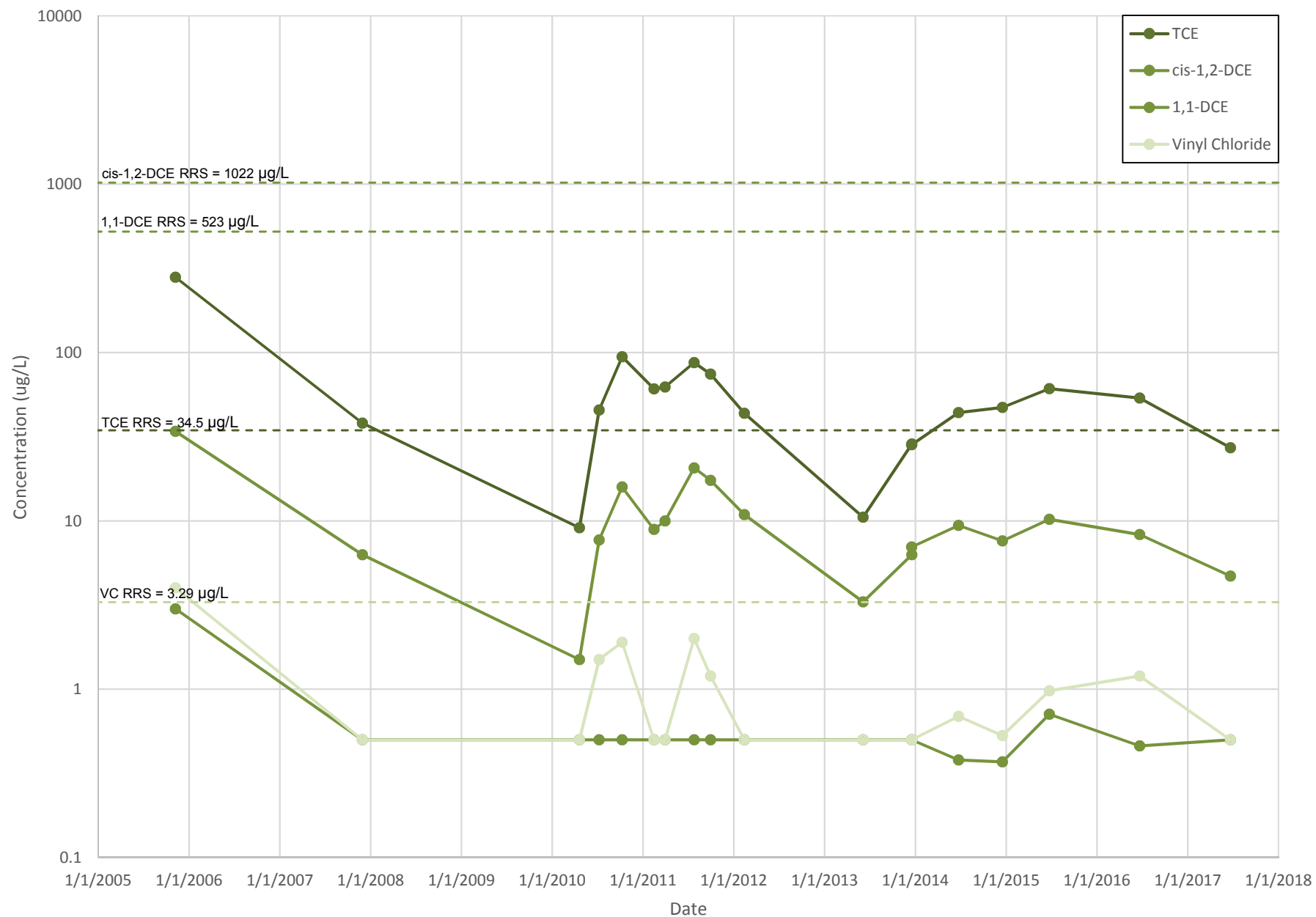
Notes:
 Non-Detect results plotted as half the method detection limit.
 RRS - Site Risk Reduction Standard

Appendix D
Constituents of Interest Concentrations Trend Graphs
Former UTA Facility, Thomson, GA
M-09



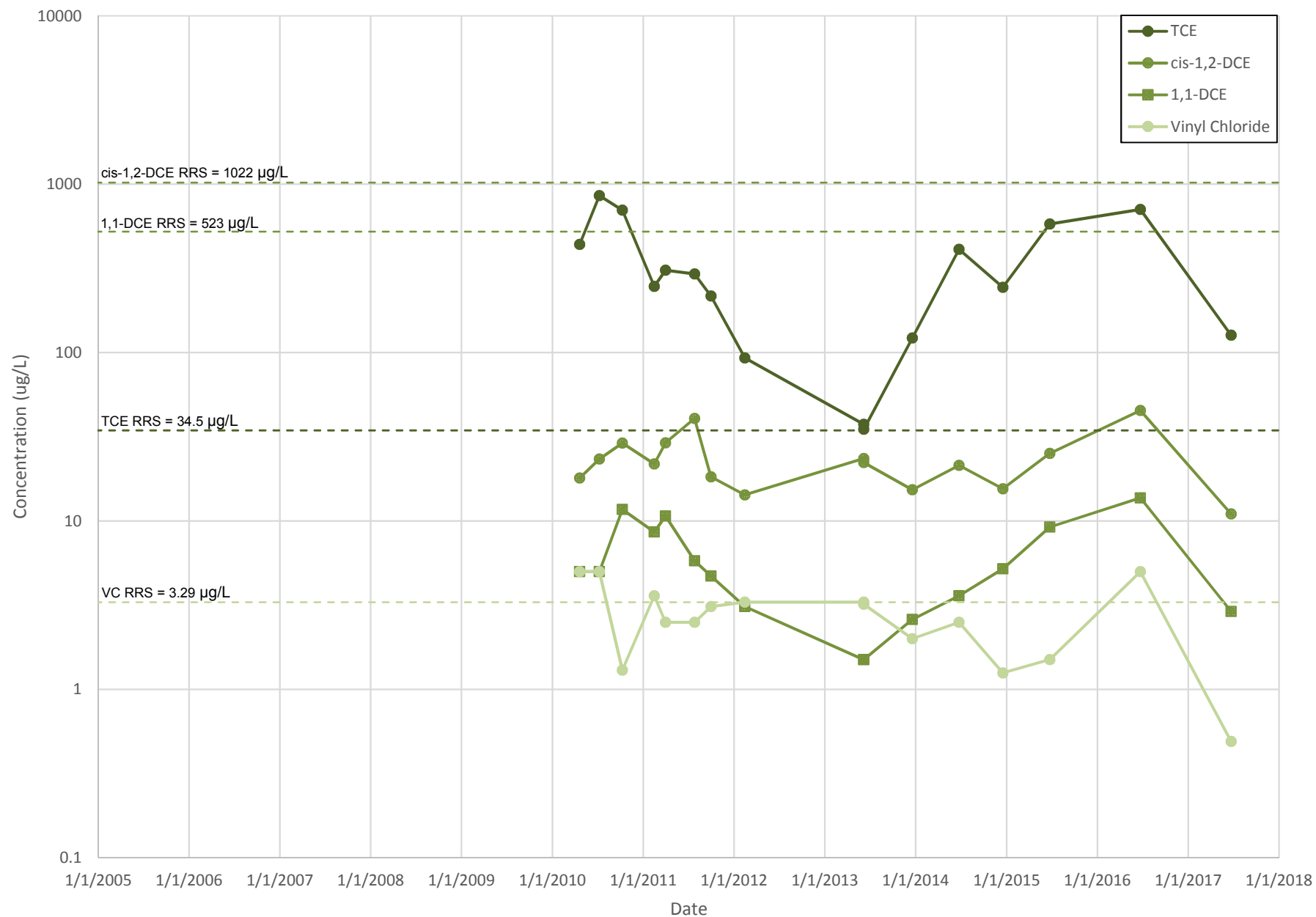
Notes:
Non-Detect results plotted as half the method detection limit.
RRS - Site Risk Reduction Standard

Appendix D
Constituents of Interest Concentrations Trend Graphs
Former UTA Facility, Thomson, GA
M-10



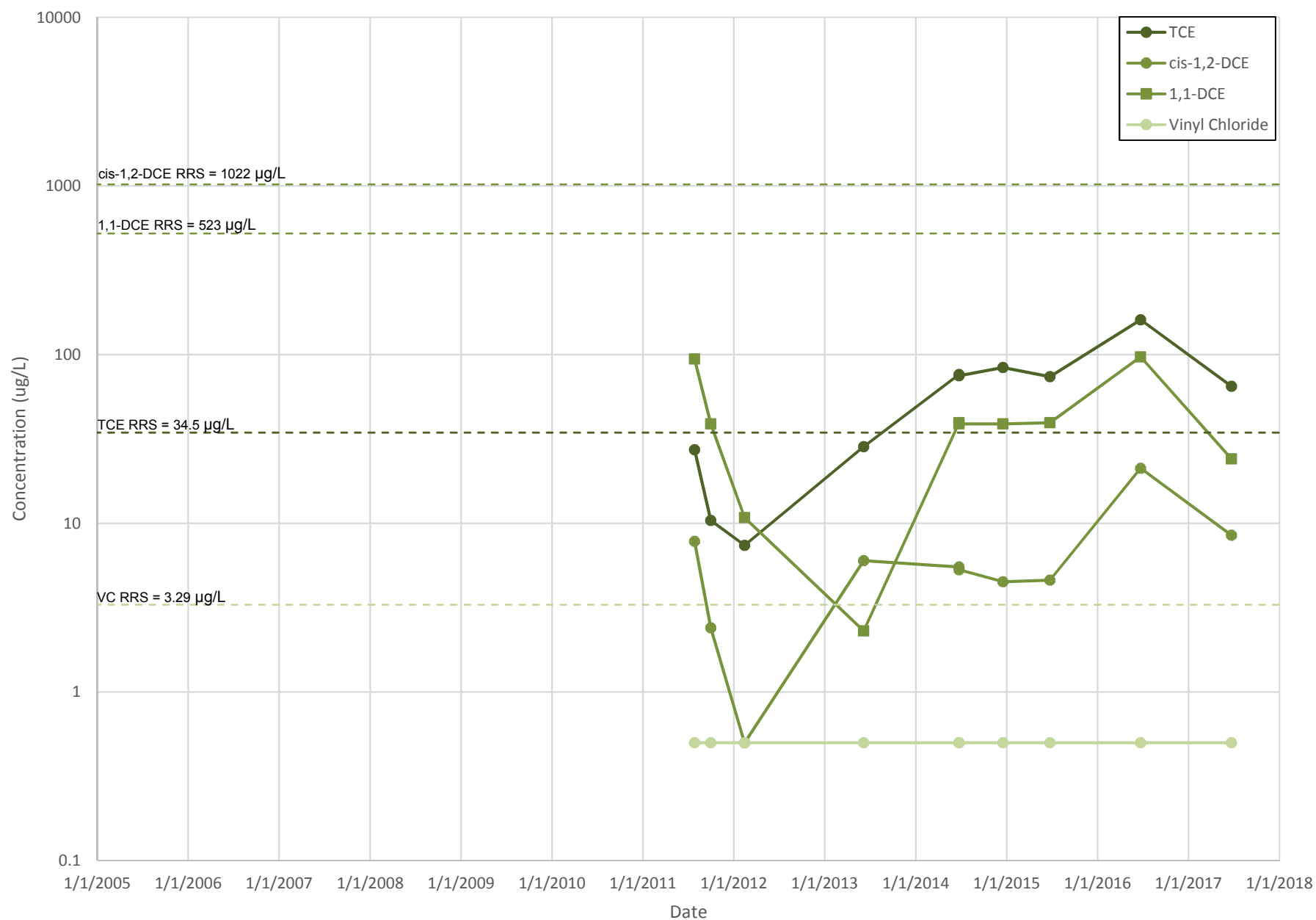
Notes:
 Non-Detect results plotted as half the method detection limit.
 RRS - Site Risk Reduction Standard

Appendix D
Constituents of Interest Concentrations Trend Graphs
Former UTA Facility, Thomson, GA
M-14D



Notes:
 Non-Detect results plotted as half the method detection limit.
 RRS - Site Risk Reduction Standard

Appendix D
Constituents of Interest Concentrations Trend Graphs
Former UTA Facility, Thomson, GA
M-17



Notes:
 Non-Detect results plotted as half the method detection limit.
 RRS - Site Risk Reduction Standard

Appendix E

Mann-Kendall Trend Analysis

MAROS Mann-Kendall Statistics Summary

Project: UTC Thomson

User Name:

Location: Thomson

State: Georgia

Time Period: 9/25/2005 to 6/22/2017

Consolidation Period: No Time Consolidation

Consolidation Type: Median

Duplicate Consolidation: Average

ND Values: 1/2 Detection Limit

J Flag Values : Actual Value

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann- Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
1,1-DICHLOROETHENE								
M-07	T	18	17	0.42	-41	93.4%	No	PD
M-09	S	17	17	0.42	-40	94.6%	No	PD
M-10	T	17	5	4.01	-32	89.8%	No	NT
M-14D	S	15	13	0.59	-14	73.7%	No	S
M-17	S	9	9	0.77	2	54.0%	No	NT
BENZENE								
M-07	T	18	17	0.50	-109	100.0%	No	D
M-09	S	17	12	0.74	-4	54.8%	No	S
M-10	T	17	3	0.67	-39	94.1%	No	PD
M-14D	S	15	12	0.50	-52	99.5%	No	D
M-17	S	9	1	0.07	-6	69.4%	No	S
TRICHLOROETHYLENE (TCE)								
M-07	T	18	18	0.32	-107	100.0%	No	D
M-09	S	17	17	0.27	27	85.6%	No	NT
M-10	T	17	17	0.97	-20	78.0%	No	S
M-14D	S	15	15	0.70	-21	83.6%	No	S
M-17	S	9	9	0.81	18	96.2%	No	I
VINYL CHLORIDE								
M-07	T	18	12	0.63	4	54.5%	No	NT
M-09	S	17	4	0.76	9	62.7%	No	NT
M-10	T	17	9	0.86	-11	65.7%	No	S
M-14D	S	15	8	0.50	-38	96.7%	No	D
M-17	S	9	0	0.00	0	46.0%	Yes	ND

MAROS Mann-Kendall Statistics Summary

Project: UTC Thomson

User Name:

Location: Thomson

State: Georgia

VINYL CHLORIDE

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann- Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
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Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A)-Due to insufficient Data (< 4 sampling events); Source/Tail (S/T)

The Number of Samples and Number of Detects shown above are post-consolidation values.

Attachment C:

**Uniform Environmental
Covenant submitted on
June 13, 2017**

After Recording Return to:
H.P. Pelzer Automotive Systems, Inc.
1175 Crooks Road
Troy, MI 48084
Attn: Lyn Schnepf and Matt Buschbacher

CROSS-REFERENCE:
Deed Book: _____
Page: _____

Environmental Covenant

This instrument is an Environmental Covenant executed pursuant to the Georgia Uniform Environmental Covenants Act (hereinafter "Act"), O.C.G.A. § 44-16-1, *et seq.* This Environmental Covenant is entered into by H.P. Pelzer Automotive Systems, Inc. and the State of Georgia, Department of Natural Resources, Environmental Protection Division (hereinafter "EPD") and subjects the property identified below to the activity and/or use limitations and other requirements, and grants such other rights in favor of EPD, United Technologies Corporation, and H.P. Pelzer Automotive Systems, Inc., as set forth herein.

Fee Simple Owner/Grantor: H.P. Pelzer Automotive Systems, Inc.
1175 Crooks Road
Troy, MI 48084

Grantee/Holder with the power to enforce: United Technologies Corporation
10 Farm Springs Road
Farmington, CT 06032

Grantee/Entity with express power to enforce: State of Georgia
Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive, SE
Suite 1456 East Tower
Atlanta, GA 30334

Persons with Interests other than Fee Simple: None

Property Subject

The property subject to this Environmental Covenant is the former United Technologies Automotive site, located on 1884 Warrenton Highway in Thomson, McDuffie County, Georgia (hereinafter “Property”). This tract of land was conveyed on July 3, 1997 from United Technologies Automotive Systems, Inc. to H.P. Pelzer (Automotive Systems), Inc. recorded in Deed Book 212, Pages 237-238, McDuffie County Records. The Property is located in Land Lot _____ of the 134th and 152nd Districts of McDuffie County, Georgia. The property is 36.57 acres in size less and except 0.144 acres conveyed to McDuffie County, Georgia on January 6, 1999. A complete legal description of the Property is attached as Exhibit A and a map of the Property is attached as Exhibit B.

Tax Parcel ID Number: 00200056 of McDuffie County, Georgia

Environmental Covenant Runs with the Land and is Perpetual

Pursuant to O.C. G.A. §§ 44-16-5(a) and 44-16-9(a), this Environmental Covenant shall run with the land and shall be perpetual unless terminated or amended pursuant to terms herein or in accordance with provisions in the Act. Thus, this Environmental Covenant shall be binding upon H.P Pelzer Automotive Systems, Inc., and all successors, assigns and transferees of any interest in the Property or any portion thereof.

Administrative Records

This Environmental Covenant imposes activity and/or use limitations and other requirements on the Property that arise under corrective action performed and/or being performed at the United Technologies site, Hazardous Site Inventory No. 10543. Records pertaining to this corrective action are available at the following location(s):

Georgia Environmental Protection Division
Response and Remediation Program
2 MLK Jr. Drive, SE, Suite 1054 East Tower
Atlanta, GA 30334
M-F 8:00 AM to 4:30 PM excluding state holidays

United Technologies Corporation
9 Farm Springs Road

Farmington, CT 06032
Attn.: Director Remediation Programs

The property has been listed on the state's hazardous site inventory and has been designated as needing corrective action due to the presence of hazardous wastes, hazardous constituents, or hazardous substances regulated under state law. Contact United Technologies Corporation or the Georgia Environmental Protection Division for further information concerning this Property. This notice is provided in compliance with the Georgia Hazardous Site Response Act.

This Environmental Covenant is required because a release of benzene, ethylbenzene, isopropylbenzene, n-propylbenzene, toluene, vinyl chloride, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, naphthalene, 1,1,1-trichloroethane and trichloroethene to soil and/or groundwater occurred on the Property. The aforementioned constituents are listed as “regulated substances” as defined under the Georgia Hazardous Site Response Act, O.C.G.A. § 12-8-90 *et seq.*, and the rules promulgated thereunder (hereinafter “HSRA” and “Rules”, respectively). Type 1 Risk Reduction Standards for regulated substances released into soil at the Property have been met. All regulated substances released to groundwater at the Property are compliant with Type 4 Risk Reduction Standards with the exception of 1,1-dichloroethene, cis-1,2-dichloroethene, trichloroethene, and vinyl chloride. The Corrective Action consisted of groundwater monitoring, and establishment of institutional controls prohibiting the use or extraction of groundwater at the Property to protect human health and the environment.

Activity and Use Limitations and Other Requirements Arising under Corrective Action

The Property is subject to the following activity and/or use limitations and other requirements arising under the corrective action:

Use Limitations

Real Property

The Property shall be used only for non-residential uses, as defined in Section 391-3-19-.02 of the Rules as of the date of this Environmental Covenant. Any residential use on the Property shall be prohibited. Any activity on the Property that may result in the release or exposure to the regulated substances that were

contained as part of the Corrective Action, or create a new exposure pathway, is prohibited.

Groundwater

The use or extraction of groundwater beneath the Property for drinking water or for any other non-remedial purposes shall be prohibited.

Other

N/A

Other Requirements

Periodic Reporting

Annually, by no later than July 30 following the effective date of this Environmental Covenant, the Owner shall submit to EPD an Annual Report in the format attached hereto as Exhibit C stating whether or not the activity and use limitations in this Environmental Covenant are being abided by.

Notice of Limitations and Requirements in Future Conveyances

Each instrument hereafter conveying any interest in the Property (or any portion thereof) shall include a statement that the Property is subject to this Environmental Covenant, a copy of the Environmental Covenant and the location in the Deed Records where this Environmental Covenant is recorded.

Pursuant to O.C.G.A. § 44-16-6, this Environmental Covenant shall not be construed to authorize a use of the Property that is otherwise prohibited by zoning, ordinance, local law or general law or by a recorded instrument that has priority over this Environmental Covenant.

Rights of Access and Enforcement

Authorized representatives of EPD, United Technologies Corporation and/or H.P. Pelzer Automotive Systems, Inc. shall have the right to enter the Property at reasonable times in connection with implementation, compliance and/or enforcement of this Environmental Covenant. This Environmental Covenant shall be enforceable by EPD, United Technologies Corporation, H.P. Pelzer Automotive Systems, Inc. and other parties as provided in the Act. Such rights of access and enforcement herein shall not limit EPD's authority under other applicable law.

No Interest in Real Property in EPD

EPD's rights under this Environmental Covenant and the Act shall not be considered an interest in real property.

Recording of Environmental Covenant and Service on Other Persons

Within thirty (30) days after execution of this Environmental Covenant by the Director, H.P. Pelzer Automotive Systems, Inc. shall record the Environmental Covenant in every county in which any portion of the Property is located in accordance with the law governing the recording and priority of interests in real property. Within thirty (30) days after recording of the Environmental Covenant, H.P. Pelzer Automotive Systems, Inc. shall send a stamped copy of the recorded Environmental Covenant to EPD and to each of the following: (1) United Technologies Corporation (2) each person holding a recorded interest in the Property; (3) each person in possession of the Property; (4) each municipality, county, consolidated government, or other unit of local government in which the Property is located; and (5) each owner in fee simple whose property abuts the Property.

Representations and Warranties by Grantor

Grantor represents and warrants that:

- 1) H.P. Pelzer Automotive Systems, Inc. has the authority and power to enter into this Environmental Covenant, to carry out all obligations hereunder and to grant the rights provided herein;
- 2) H.P. Pelzer Automotive Systems, Inc. is the sole owner of the Property and holds fee simple title;
- 3) All persons with existing interests other than fee simple in the Property have been identified; the type and status of their interests have been determined; for those interests where the type and/or status make it necessary, the person's agreement to this Environmental Covenant or subordination of the interest has been obtained; and the aforementioned information regarding all interests other than fee simple in the Property has been provided to EPD;

- 4) This Environmental Covenant does not authorize a use of the Property that is otherwise prohibited by zoning, ordinance, local law or general law or by a recorded instrument that has priority over this Environmental Covenant;
- 5) This Environmental Covenant does not violate, contravene and/or constitute a breach or default under any agreement, contract, order or instrument to which H.P. Pelzer Automotive Systems, Inc. is a party or by which H.P. Pelzer Automotive Systems, Inc. may be bound; and
- 6) At least thirty (30) days prior to presenting this Environmental Covenant to EPD for execution, a copy of the proposed final text of this Environmental Covenant has been served on United Technologies Corporation; each person holding a recorded interest in the Property; each person in possession of the Property; each municipality, county, consolidated government, or other unit of local government in which the Property is located; and each owner in fee simple whose property abuts the Property.

Submission of Required Documents and Communications

Documents and communications required by this Environmental Covenant shall be submitted to:

Georgia Environmental Protection Division
Branch Chief
Land Protection Branch
2 Martin Luther King Jr. Drive SE
Suite 1054 East Tower
Atlanta, GA 30334

With a copy to:

United Technologies Corporation
9 Farm Springs Road
Farmington, CT 06032
Attn.: Director Remediation Programs

and

H.P. Pelzer Automotive Systems, Inc.
1175 Crooks Road
Troy, MI 48084
Attn: Lyn Schnepf and Matt Buschbacher

EPD's Environmental Covenants Registry

This Environmental Covenant and any amendment thereto or termination thereof may be included in EPD's registry for environmental covenants.

Severability

Should any provision of this Environmental Covenant be found by a court of competence jurisdiction to be invalid and/or unenforceable in any respect, the remaining provisions shall continue in full force and effect.

Effective Date

This Environmental Covenant shall be effective on the date the fully executed Environmental Covenant is recorded in accordance with O.C.G.A. § 44-16-8(a).

Grantor has caused this Environmental Covenant to be executed pursuant to the Georgia Uniform Environmental Covenants Act on the _____ day of _____, 20____.

Signed, sealed, and delivered in the presence of:

For the Grantor:

Unofficial Witness (*Signature*)

Name of Grantor (*Print*)

Unofficial Witness Name (*Print*)

Grantor's Authorized Representative (*Signature*) (Seal)

Unofficial Witness Address (*Print*)

Authorized Representative Name (*Print*)

Notary Public (*Signature*)

Title of Authorized Representative (*Print*)

My Commission Expires:_____

Dated:_____
(NOTARY SEAL)

Grantee has caused this Environmental Covenant to be executed pursuant to the Georgia Uniform Environmental Covenants Act on the ____ day of _____, 20____.

Signed, sealed, and delivered in the presence of:

For the Holder:

Unofficial Witness (*Signature*)

Name of Grantee (*Print*)

Unofficial Witness Name (*Print*)

Grantee's Authorized Representative (*Signature*) (Seal)

Unofficial Witness Address (*Print*)

Authorized Representative Name (*Print*)

Notary Public (*Signature*)

Title of Authorized Representative (*Print*)

My Commission
Expires:_____

Dated:_____
(NOTARY SEAL)

Signed, sealed, and delivered in the presence of:

**For the State of Georgia
Environmental Protection
Division:**

(Seal)

Unofficial Witness (*Signature*)

(*Signature*)
Richard Dunn

Unofficial Witness Name (*Print*)

Director

Unofficial Witness Address (*Print*)

Dated: _____

(NOTARY SEAL)

Notary Public (*Signature*)

My Commission
Expires: _____

Exhibit A

Legal Description

All that tract or parcel of land, with improvements thereon, situate, lying and being in the 134th and 152nd Districts G.M. of McDuffie County, Georgia, containing 36.57 acres and being more fully described as follows: Beginning at a concrete monument located at the intersection of the northern edge of the right-of-way of U.S. Highway 278 with the western edge of the right-of-way of Wire Road and from said point proceeding South 46 degrees 28 minutes 20 seconds West along the northern edge of the right-of-way of U.S. Highway 278 for a distance of 962.66 feet to a concrete monument; thence proceeding South 84 degrees 5 minutes 47 seconds West for a distance of 45.84 feet to a point; thence proceeding North 43 degrees 31 minutes 11 seconds West for a distance of 563.25 feet to a one inch pipe; thence proceeding North 38 degrees 58 minutes 1 seconds West for a distance of 360.80 feet to a point; thence proceeding north 10 degrees 21 minutes 11 seconds West for a distance of 98.40 feet to a point; thence proceeding North 43 degrees 22 minutes 51 seconds West for a distance of 1162.87 feet to a point; around a curve to the left through a central angle of 52 degrees 5 minutes 33 seconds an arc distance of 434.11 feet a chord bearing of North 71 degrees 02 minutes 06 seconds West a distance of 419.31 feet to a concrete monument; thence proceeding North 70 degrees 32 minutes 9 seconds East for a distance of 46.00 feet to a point; thence proceeding North 19 degrees 27 minutes 51 seconds West for a distance of 20.00 feet to a point at the Georgia Railroad right-of-way; thence proceeding North 70 degrees 32 minutes 9 seconds East along the right-of-way line of Georgia Railroad 404.20 feet to a point; thence proceeding South 46 degrees 53 minutes 11 seconds East for a distance of 996.16 feet to a point; thence proceeding North 71 degrees 2 minutes 59 seconds East for a distance of 375.98 feet to a point; thence proceeding North 70 degrees 26 minutes 41 seconds East for a distance of 148.57 feet to a point; thence proceeding North 70 degrees 26 minutes 39 seconds East for a distance of 181.65 feet to a point located at the western edge of the right-of-way of Wire Road; thence proceeding South 46 degrees 23 minutes 31 seconds East along the western edge of the right-of-way of Wire Road for a 679.11 feet to a point; thence proceeding South 43 degrees 44 minutes 8 seconds West along the right-of-way of Wire Road for a distance of 20 feet to a point; thence proceeding South 45 degrees 54 minutes 29 seconds East along the western edge of the right-of-way of Wire Road for a distance of 337.85 feet to a point; thence proceeding South 20 degrees 50 minutes 45 seconds East along the western edge of the right-of-way of Wire Road for a distance of 109.42 feet to the point of beginning. Said property is bounded: On the West by property of Shaw; on the North by Georgia Railroad; on the East by property of Mrs. Minnie Owens and Wire Road; and on the South by U.S. Highway 278, all as shown according to Plat of Survey thereof prepared by John A. McGill, R.L.S. No. 1753 dated July 2, 1997, copy of which is recorded in Plat Record S, Page 373M in the office of the Clerk of Superior Court of McDuffie County, Georgia.

Less and Except 0.144 acres conveyed to McDuffie County, Georgia at Rural Post Roads Right of Way Deed from H.P. Pelzer (Automotive Systems), Inc. dated January 6, 1999, filed January 8, 1999 and recorded in Deed Book 233, Page 473, McDuffie County, Georgia records.

Exhibit B Map

Consent and Subordination

For valuable consideration received, the undersigned, on behalf of Crestbridge Corporate Trustees Limited, secured party under the Security Deed from H.P. Pelzer Automotive Systems, Inc., granting a security interest against the Property (as defined above and described on Exhibit A attached hereto and made a part hereof), executed on October 9, 2014, and recorded on October 17, 2014 in Deed Book 626, Page 527 in the Public Records of McDuffie County, Georgia, hereby consents to the foregoing Environmental Covenant against the Property and subordinates the Security Deed to those easements.

Crestbridge Corporate Trustees Limited,

By: _____

Title: _____

Date: _____

STATE OF _____)
) SS:
COUNTY OF _____)

Before me, the undersigned, a Notary Public in and for said County and State, personally appeared _____, the _____ of Crestbridge Corporate Trustees Limited, who acknowledged the execution of the foregoing instrument for and on behalf of said entity.

Witness my hand and Notarial Seal this ____ day of _____, 2016.

_____, Notary Public

Residing in _____ County, _____

My Commission Expires:

[NOTE: THIS CONSENT AND SUBORDINATION FORM HAS BEEN EXECUTED]