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March 24, 2017

Ms. Addie Walker
South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED

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SITE ASSESSMENT,
REMEDIATION &
REVITALIZATION

Subject: **Assessment Report**
Former Ducane Company Site
Blackville, Barnwell County, South Carolina
BLWM File # 401356
EarthCon Project No. 02.20160378.00

Dear Ms. Walker:

On behalf of our client Lennox International Inc. (Lennox), EarthCon Consultants, Inc. (EarthCon) is submitting the enclosed Assessment Report for the former Ducane Company Site located in Blackville, Barnwell County, South Carolina (BLWM File # 401356). This report is being submitted in accordance with the requirements of Voluntary Cleanup Contract 16-5848-RP executed on November 17, 2016. Due to the visual nature of Plume Analytics™, we would like to arrange a meeting with you to present the results of the Plume Analytics™ study prior to your final review of the enclosed report.

Please free to call us at (770) 973-2100 if you have any questions or if we can provide any additional information.

Respectfully submitted,
EARTHCON CONSULTANTS, INC.

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ASSESSMENT REPORT

**FORMER DUCANE COMPANY SITE
118 WEST MAIN STREET
BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
BLWM FILE #401356**

PREPARED FOR:

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EarthCon Project No. 02.20160378.00

March 2017

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This Assessment Report for the Former Ducane Company Site, located in Blackville, Barnwell County, South Carolina (BLWM File #401356) is being submitted to satisfy the requirements of Voluntary Cleanup Contract 16-5848-RP executed on November 17, 2016. Groundwater sampling and a Plume Analytics™ study were conducted as described in the Work Plan dated December 9, 2016 and approved by the South Carolina Department of Health and Environmental Control (SCDHEC) on December 29, 2016. This report presents the results of the groundwater sampling and Plume Analytics™ study and provides an interim groundwater monitoring plan and recommendations for additional activities.

1.0 GROUNDWATER SAMPLING

The former Ducane Company Site is located at 118 West Main Street in Blackville, South Carolina (Figure 1). The facility property consists of approximately 105 acres with approximately 19 acres developed with a production building and a research and development building. The property is identified by Barnwell County as consisting of three parcels. One parcel is owned by the Barnwell County Economic Development Corporation. The other two parcels, which include the buildings, are owned by NK Newlook, Inc. and were formerly used for production of wooden commercial display cabinets. The property is currently vacant. Assessment and remediation activities have been ongoing at the Site since 1999. Constituents detected in Site soils and groundwater included chlorinated volatile organic compounds (CVOCs) and petroleum hydrocarbons. Approximately nine in-situ chemical oxidation/bio-remediation injection events were performed at the Site from July 2003 to April 2008.

There are 19 groundwater monitoring wells located at the Site (Figure 2). In October 2014, groundwater samples were collected by others from 15 of the monitoring wells and analyzed for volatile organic compounds (VOCs). It was reported that at that time, monitoring wells MW-5 and MW-9 were not sampled due to access restrictions while wells MW-12 and MW-13 were not accessible due to high water levels caused by a beaver dam.

On November 17, 2016, Lennox International (Lennox) entered into a Voluntary Cleanup Contract 16-5848-RP (the Contract) with the SCDHEC. Section 3A of the Contract required Lennox to perform a comprehensive round of groundwater sampling at all wells and analyze for VOCs to update the plume status. Additionally, Section 3A required analysis of TAL metals from monitoring wells MW-1, MW-3 and a background well using low-flow purge and sampling techniques. The following sections describe the field activities conducted to address these requirements and present the results of the analyses.

1.1 *Field Activities*

A groundwater sampling event was conducted at the Site from January 30 to February 2, 2017. Prior to sampling, the wells were located and the condition of each well was evaluated. Three of the 19 monitoring wells at the Site, MW-8, MW-12 and MW-13, could not be located. Although

monitoring well MW-9 was visually observed, it is located on private property and permission to access this well was not obtained. The locations of the monitoring wells are shown on Figure 2.

Static water levels and total well depths were measured on January 30, 2017 from the 15 located wells. The monitoring well construction details, including total well depths measured on January 30, 2017, are presented in Table 1 and the water level measurements are presented in Table 2. A water level could not be measured at well MW-2 due to what appeared to be artesian conditions causing water to flow out of the well. Once this condition was observed the well cap was reinstalled to prevent the free-flowing water.

Groundwater samples were collected from 15 of the 19 wells using low flow purge and sampling techniques. Wells MW-8, MW-12, MW-13 could not be located and permission to sample well MW-9, which is located on adjacent private property, was not obtained. Prior to sampling, each well was purged and the field parameters temperature, specific conductance, dissolved oxygen (DO), oxidation reduction potential (ORP), ferrous iron and turbidity were measured. A description of the field procedures is provided in Appendix A. Field parameters measured during the sampling event are summarized in Table 3 and the field sampling forms are provided in Appendix B.

1.2 Groundwater Flow

The water level measurements collected on January 30, 2017 (Table 2) were used to develop a potentiometric surface map for the Site. As shown on Figure 3, groundwater elevation data indicate groundwater flow to the northwest. This is consistent with groundwater flow presented in the *Ground Water and Soil Assessment Report*, dated January 2013.

1.3 Groundwater Analytical Results

Groundwater samples were analyzed for VOCs using EPA Method 8260 and 1,4-dioxane using EPA Method 8260 SIM. The groundwater samples were also analyzed for the monitored natural attenuation (MNA) parameters nitrate, sulfate, sulfide, chloride, alkalinity, total organic carbon (TOC) and dissolved gases (methane, ethane, ethene). In addition, groundwater samples from wells MW-1, MW-3 and MW-6R were analyzed for TAL metals.

A summary of the VOC analyses is provided in Table 4, the TAL metals results are summarized in Table 5 and the MNA parameter results are summarized in Table 6. The laboratory analytical reports from Shealy Environmental Services, Inc. (DHEC Certification No. 32010) are provided in Appendix C. Due to elevated reporting limits caused by dilutions during laboratory analyses, J-flag values were included in Table 4.

As shown in Table 4, concentrations of VOCs were not detected above the practical quantitation limit (PQL) in groundwater samples collected from downgradient wells MW-10, MW-11 and MW-14 and upgradient wells MW-15 and MW-6R. VOCs were not detected at concentrations above their respective US EPA maximum contaminant levels (MCLs) in groundwater samples collected

from downgradient wells MW-2, and MW-4 or from wells MW-1D, MW-2D and MW-3D screened in the deeper zone. Additionally, the concentration of tetrachloroethene (PCE) in the groundwater sample collected from deep well MW-4D is 5.3 micrograms per liter ($\mu\text{g/l}$) which is only slightly above its MCL of 5.0 $\mu\text{g/l}$.

As shown in Table 4, concentrations of 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), PCE, trichloroethene (TCE), and/or vinyl chloride (VC) were detected at concentrations above their respective MCLs in samples collected from wells MW-1, MW-3, MW-5 and/or MW-7. Additionally, concentrations of 1,1-dichloroethane (1,1-DCA) and 1,4-dioxane were detected at concentrations above their respective US EPA Regional Screening Levels (RSL) for Tap Water in wells MW-3 and MW-5. A summary of historical results is provided in Appendix D.

As shown in Table 5, except for iron concentrations (and possibly sodium). TAL metals in wells MW-1 and MW-3 are generally similar to or less than those in background well MW-6R. The elevation of iron in MW-1 and MW-3 is likely due to the zero valent iron injected during a previous ABC Plus injection event in the area of those wells. Based upon a review of the TAL metals concentrations there does not appear to be any concerns or a reason to continue sampling for metals at the Site.

2.0 PLUME ANALYTICS™

EarthCon conducted a Plume Analytics™ Services (Plume Analytics™) Evaluation, including a Ricker Method® Plume Stability Analysis for the upper shallow aquifer at the Site using groundwater analytical data provided by Environmental Resources Management (ERM) through 2014 and analytical data collected by EarthCon in 2017. The Plume Analytics™ evaluation was conducted for the following constituents of concern (COC):

Chloroethenes

- Tetrachloroethene (PCE)
- Trichloroethene (TCE);
- cis-1,2-Dichloroethene (cis-1,2-DCE);
- trans-1,2-Dichloroethene (trans-1,2-DCE);
- 1,1-Dichloroethene (1,1-DCE);
- Vinyl chloride; and
- Total chloroethenes (molar)

Chloroethanes

- 1,1,1-trichloroethane (1,1,1-TCA);
- 1,1,2-trichloroethane (1,1,2-TCA)
- 1,1-dichloroethane (1,1-DCA);
- 1,2-dichloroethane (1,2-DCA); and
- Total chloroethanes (molar)

Aromatic Hydrocarbons

- Toluene
- Ethylbenzene
- Xylenes

This Plume Analytics™ evaluation included the following elements:

- Ricker Method® Plume Stability Analysis;
- Total molar trend and molar ratio analysis for chloroethenes and chloroethanes;
- Plume difference over time evaluation (aka Spatial Change Indicator™ evaluation); and
- Geochemical MNA isopleths (ethene, ethane, methane, etc.).

The plume stability analysis is performed using procedures described in *A Practical Method to Evaluate Ground Water Contaminant Plume Stability* (Ricker, 2008). The Ricker Method® plume stability analysis compares relative changes in contaminant plume characteristics over time, including area, average concentration, and mass indicator. Note that the term “mass indicator” does not necessarily represent the entire mass in the subsurface, but rather an expression of it based on a fixed assumption of aquifer thickness and porosity. Calculation of the actual plume mass is often a very complicated exercise and typically more data/inputs are needed than are available from typical delineation and/or remediation well information. Because the plume mass value is not necessarily an indication of actual contaminant mass, the term “mass indicator” is used to describe this plume characteristic.

To demonstrate that a plume is decreasing or stable, temporal changes in these calculated values should result in an overall decreasing or stable trend. An increasing trend in any of these values may indicate that the plume is not stable and/or is possibly expanding.

The center of plume mass and plume spread are also calculated. Evaluation of center of mass movement should be considered in conjunction with the other plume characteristics. For example, a stable or decreasing plume may actually show migration of center of mass in the downgradient direction in instances when focused remediation occurred in a source area of a site. In this case, this downgradient shift is due to the rapid loss of mass in the upgradient portion of the plume, as opposed to a gradual migration resulting from advective transport.

In addition to the metrics described above, CVOC groundwater data is also evaluated on a molar basis for both total chloroethenes and total chloroethanes. To evaluate the CVOC plumes on a molar basis, the total moles of the plume as well as the molar ratio of each constituent to the total are calculated. It is known that during reductive dechlorination, a parent compound degrades to a daughter compound resulting in a reduction of total CVOC mass due to the loss of one chlorine atom. However, the number of moles does not decrease since one molecule of a parent compound (e.g., PCE) produces one molecule of its respective daughter compound (e.g., TCE). The total moles only decrease once the parent constituent has been completely mineralized to benign end products (i.e., carbon dioxide, water, and chloride ions). Additionally, once a parent compound is reduced to a daughter product, the molar ratio of the parent compound to the total moles decreases. Therefore, the trend of total moles of a plume is better evaluated by calculating the moles of each species and the resulting total moles of the entire degradation series. A decreasing total moles trend provides evidence of complete mineralization of CVOC compounds. Conversely, an increasing total moles trend might indicate potential new or episodic releases within a plume. Also, observing the molar ratios of the individual constituents along with the trend

in total moles can provide further insight into various attenuation processes that may be occurring on the Site. For example, a decreasing trend in total moles with an increasing ratio of daughter (i.e. cis-1,2-DCE) to parent (i.e. TCE) constituents may indicate the presence of biological reductive dechlorination. Whereas a decreasing trend in total moles with individual constituent ratios that remain relatively constant may indicate the occurrence of non-selective destructive processes such as abiotic chemical reduction, anthropogenic recovery or others.

Spatial differences in constituent concentrations over time were also evaluated. Through the Spatial Change Indicator™ process, spatial difference maps (or “plume difference maps”) were prepared that illustrate where concentrations increase or decrease between two sample events. Each spatial plume difference map depicts the location and relative magnitude where the dissolved constituent plume differed between the two sampling events. Areas of red and blue shading indicate areas of concentration increase and decrease, respectively.

2.1 Data Assessment and Input File Development

Data used in the Ricker Method® plume stability analysis for the constituents listed above for the upper shallow aquifer at the Site are included in Table 1 of Appendix E. Groundwater analytical data provided to EarthCon from Lennox and their previous consultant ERM, showed that the monitoring well network and monitoring frequency at the Site varied over a period from approximately 1999 through February 2017. Sampling events occurred at varying frequencies with annual monitoring in 1999 and 2000, semi-annual monitoring from 2001 through 2010, and three monitoring events conducted since 2010 (2012, 2014, and Feb-2017). Not all monitoring points were sampled during each sampling event, and sampling gaps were filled by either interpolating between those events with available data or by extrapolating prior to or subsequent to events with available data. Other scientific and/or statistical assumptions and adjustments to the data, consistent with the Ricker Method®, were necessary to complete the analysis. These adjustments are identified in the Ricker Method® input data set summarized in Table 1 of Appendix E. The assumptions and adjustments used in the analysis include the following:

- Monitoring points in which 100 percent of the data were non-detect for a particular constituent were assumed always to be non-detect for that constituent, even during sampling events when no analytical data were reported. Instances where these non-detect values are assigned are indicated by purple shading in Table 1 of Appendix E.
- In most cases, non-detect concentrations were evaluated with an assigned concentration value of one-half of the stated detection limit. Also, in cases where non-detect concentrations with elevated detection limits were encountered, professional judgment was used. For example, in some cases, the actual elevated detection limit value is used, in others a fraction of the value is used, and in some cases it is assigned non-detect at the standard detection limit. In every case the assigned value was based on actual results (detectable value or non-detect at a lower detection limit) from other sampling events in the same well or in nearby wells.

- For sampling events where a particular monitoring point was not sampled but analytical data prior to and subsequent to are available, the events were assigned values by interpolating between the closest prior and subsequent sampling event. Instances where these values are assigned are indicated by orange shading in Table 1 of Appendix E.

2.2 Groundwater Plume Map Development

COC concentration isopleth maps were developed for the period of September 1999 through February 2017. Plume maps were created using procedures discussed above for each COC in the upper shallow aquifer. COC concentration isopleth maps, or plume maps, for each COC were delineated to concentration limits of 5.0 µg/l or to the applicable MCL. In some instances, the plume map was delineated to 5.0 µg/l and a secondary boundary representing the MCL was also included in the plume map animation if the MCL was above 5.0 µg/l.

The area of the COC-specific plume for each year was calculated using the mathematical features of the contouring software used to develop the isopleth maps (i.e., Surfer® by Golden Software, Inc.). The kriging gridding method was used with the default linear variogram to develop the isopleth maps. Surfer® was also used for the computation of the average concentration of each plume, as described in Ricker (2008). The plume area and average concentrations were then used to calculate the plume mass indicator for each year. To calculate the plume mass indicator, a value for porosity of 30% was used. An assumed aquifer thickness of 10 feet was also used based on most well screen lengths installed in the shallow aquifer.

Plume map videos for each of the COCs are included in Attachment 1 to Appendix E. As discussed above, plume stability characteristics were calculated for each of the sampling events included in the analysis. The plume stability characteristics of area, average concentration, and mass indicator, as well as the location of the center of mass, are shown on each plume map.

2.3 Statistical Methodology

To evaluate the stability of each constituent plume, temporal trends of the characteristics for each plume were evaluated statistically. The area, average concentration, and mass indicator for each year were initially plotted to observe changes in each parameter from event to event. The results of the plume stability analyses for each constituent are discussed further below in Section 2.5.

The temporal trends in the plume characteristic values were statistically evaluated using both linear regression techniques and the Mann-Kendall Test. Linear regression analyses were conducted using the regression analysis utility in Microsoft Excel. The Mann-Kendall Tests were also conducted using Microsoft Excel spreadsheets based on procedures described in Gilbert (1987). Linear regression is a parametric statistical procedure that is typically used for analyzing trends in data over time. The Mann-Kendall Test is a non-parametric statistical test; therefore, it is not dependent upon the magnitude of the data, assumptions of distribution, or regularly spaced sampling events.

The Mann-Kendall Test is used to assess whether a data set exhibits an increasing or decreasing trend, at a predetermined level of significance, α . The test requires the calculation of a statistic “S”, which is the difference between the number of paired differences that are positive, minus the number that are negative. If S is a large positive value, then there is evidence of an increasing trend in the data. If S is a large negative value, then there is evidence of a decreasing trend in the data. The null hypothesis, H_0 , for the Mann-Kendall Test is that there is no temporal trend in the data. The alternative hypothesis, H_A , is that of either an upward trend or a downward trend.

If the null hypothesis is not rejected (i.e., no trend could be established statistically), it is expected that the plume is stable. However, a stable plume may not in fact be evident because the statistical test does not take into account magnitude or variation in the data. For example, a data set can exhibit a large amount of scatter, yet the test could conclude that the plume is stable. A methodology to counter the problem of scatter in the data involves comparing the calculated S statistic, a calculated confidence factor ($1-\alpha$), and the coefficient of variation for the data set. The S statistic indicates the direction of the trend, the confidence factor shows how strong the trend is, and the coefficient of variation indicates the degree of scatter in the data.

When evaluating trends using linear regression, trends may be obscured by scatter in the data. This condition is typically indicated by a low coefficient of determination (R^2) value. Even with low R^2 values (i.e., high degree of scatter), a confidence interval can still be constructed on the slope of the regression line. As described in AFCEE (2006), assuming the sign (i.e., positive or negative) of the estimated log-slope is correct, a level of confidence that the slope is not zero can be easily determined. The overall trend in the data may thus still be determined, where low levels of confidence correspond to stable or indeterminate trends and higher levels of confidence (e.g., > 90%) indicate the stronger likelihood of a trend.

For the plume stability analysis, significant trends are established when the calculated confidence factor is greater than 90%. If the confidence factor is less than 90%, the plume is considered stable if the coefficient of variation is small (i.e., <1). If the coefficient of variation is high (i.e., >1), then a conclusion of indeterminate trend is made.

In many cases, the statistical results for both linear regression and Mann-Kendall Test agree with each other. In the case where two different results are obtained (e.g., one stable trend and one decreasing trend), visual analysis and professional judgment are used to determine the overall trend result.

For the purposes of this evaluation we were most interested in the trends of each COC since the last remediation event which reportedly occurred in April 2008. By doing so we are able to observe the relative stability of the plume since that last remedial event. As such, each trend analysis described herein starts at April 2008 and continues through the February 2017 sampling event. The trends for each COC over this time period are summarized below in Section 2.5 and are also shown in Attachment 1 to Appendix E.

2.4 Spatial Change Indicator™ Methodology

The Spatial Change Indicator™ evaluation (patent pending) shows relative changes in the plume over time. For this analysis, each plume map in a particular time period is compared to the first plume map in the series. In essence, the current plume is subtracted from the original plume to create a new isopleth map that shows areas of the plume that decreased in concentration (indicated by blue shading), increased in concentration (indicated by red shading), or did not change (indicated by clear or no shading). The visual aspect of this analysis allows the viewer to observe patterns of plume behavior over time.

This analysis also has a quantitative component. Each Spatial Change Indicator™ map also shows the percent change (increase or decrease) of the plume between the two events in terms of area, average concentration, and mass indicator. Additionally, for areas that increased or decreased in concentration, a representative mass is calculated using Ricker Method® procedures. That is, the magnitude of mass increase (red shaded areas) and mass decrease (blue shaded areas) is also shown on each map. The full Spatial Change Indicator™ analysis is included in Attachment 1 to Appendix E.

2.5 Plume Analytics™ Results

One of the primary benefits of the Plume Analytics™ process is the conversion of data into graphical and video outputs that make data more understandable. As such, we highly recommend that a meeting be convened with SCDHEC that will allow for the presentation of the graphical and visual animations of the data which will provide better context for the information reported herein. The following is provided as a textual summary of the visual outputs.

A Ricker Method® Plume Stability Analysis was conducted for the Site using groundwater data for each of the constituents from 1999 to 2017. However, throughout Site history, numerous remedial efforts and monitoring well installations were performed. April 2008 is significant because it marks the end of all remedial activity for the Site. Due to the various remedial efforts and monitoring well network expansions prior to April 2008, statistical trends were performed on the data from September 2008 through February 2017. This date range was chosen to provide insight into current plume behavior and any lasting effects of previous remedial activities. Due to the lack of delineation of the plume to the north of MW-3, the analysis was conducted inside a prescribed “window” of the plume. This plume window is defined by the lateral extents of the monitoring well network and therefore the plume contours were truncated at the boundary of the window.

As mentioned above, a Ricker Method® plume stability analysis was conducted on each COC. The following table summarizes the plume stability trends since April 2008 of area, average concentration, and mass indicator for each of the COCs. The individual trends for area, average concentration, and mass indicator as well as spread for each constituent are included in Figures 1 through 19 of Appendix E.

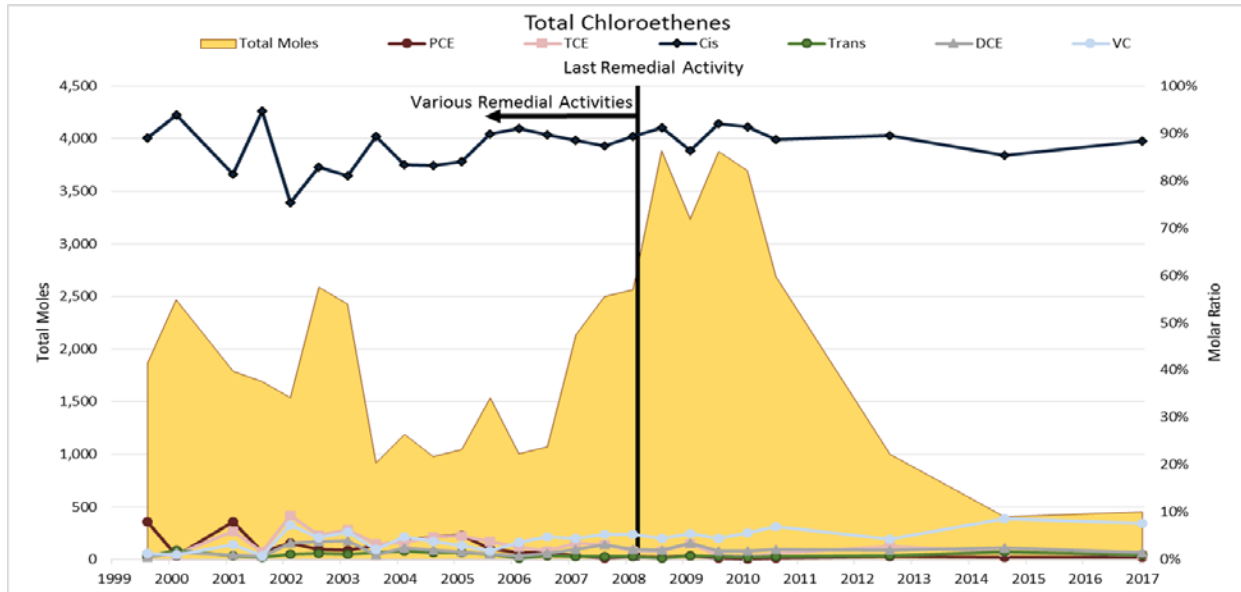
Constituent	Area	Average Concentration	Mass Indicator
Total Chloroethenes	No Trend	Decreasing	Decreasing
PCE	No Trend	Decreasing	Decreasing
TCE	No Trend	Decreasing	Decreasing
Cis-1,2-DCE	Decreasing	Decreasing	Decreasing
Trans-1,2-DCE	Decreasing	Decreasing	Decreasing
1,1-DCE	Decreasing	Decreasing	Decreasing
Vinyl Chloride	No Trend	Decreasing	Decreasing
Total Chloroethanes	No Trend/Decreasing	Decreasing	Decreasing
1,1,1-TCA	Decreasing	Decreasing	Decreasing
1,1,2-TCA	Decreasing	Decreasing	Decreasing
1,1-DCA	Decreasing	Decreasing	Decreasing
1,2-DCA	Increasing	Increasing	Increasing
Toluene	Decreasing	Decreasing	Decreasing
Ethylbenzene	Decreasing	Decreasing	Decreasing
Xylenes	No Trend	Decreasing	Decreasing

The results summarized above indicate that the chloroethene, chloroethane, and aromatic hydrocarbon (toluene, ethylbenzene, and xylenes) plumes are all decreasing since April 2008. Additional characteristics of each of these plumes are discussed further below:

Chloroethenes

The results indicate that each of the individual chloroethene plumes are decreasing since April 2008 and on a total molar basis the chloroethene plume is also decreasing as observed in the figure below. It is noted that the total chloroethene plume (indicated by the solid yellow graph) is

in units of moles on the primary y axis, whereas the individual constituent ratios are shown in percent on the secondary y axis.

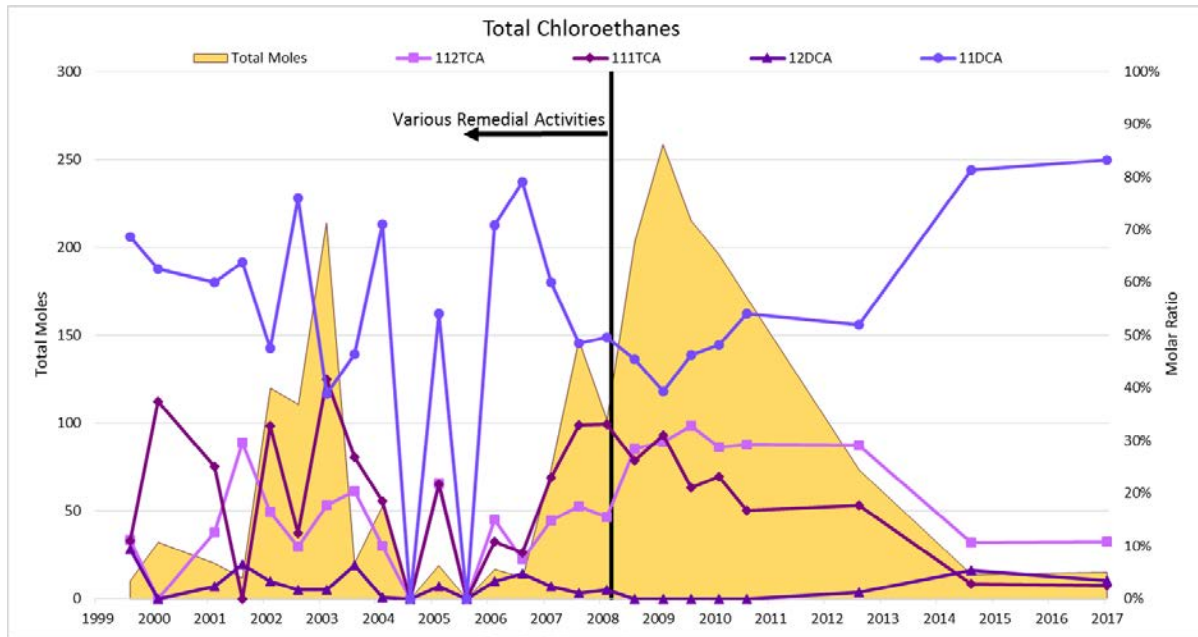


The above figure demonstrates that in addition to the strong decreasing trend since April 2008, the predominate constituent of the chloroethene plume is cis-1,2-DCE. As observed, cis-1,2-DCE represents roughly 80% to 90% of the total chloroethene plume on a molar ratio basis. It is known that during biological reductive dechlorination, the vast majority of dichloroethene (DCE) produced by the breakdown of PCE to TCE and eventually to DCE will occur as cis-1,2-DCE. The presence of a high percentage of ethenes as cis-1,2-DCE is a strong indicator that reductive dechlorination has occurred at the Site. However, the molar ratios of individual chloroethenes are remaining relatively constant since 1999. The combination of decreasing total moles with constant molar ratios is likely the result of chemical reductions across the plume from various in-situ remediation events.

The Spatial Change Indicator™ analysis shows that there is no apparent sourcing of chloroethenes occurring in the monitored area. Additionally, although the footprint of the plume shows stability and a reduction in size of 4% in area since April 2008, the average concentration and mass indicator of the chloroethene plume has shown a decrease of 88% for both metrics over that same time period.

Chloroethanes

Except for 1,2-DCA, each chloroethane plume is decreasing. It is known that 1,2-DCA is a daughter product derived from the dechlorination of 1,1,2-TCA and as observed in the following figure, 1,2-DCA is not a significant component of the total chloroethane plume:



As observed in the above figure, the chloroethanes exhibit similar behavior to the chloroethenes with a decreasing trend in mass indicator (total moles) since the cessation of remedial activities. Additionally, since the cessation of remedial activities the ratios of 1,1,2-TCA and 1,1,1-TCA (parents) are showing a decreasing trend in molar ratio while the daughter product 1,1-DCA is increasing in molar ratio. The combination of decreasing total moles with decreasing parent ratios and increasing daughter ratios is a good indication of biological reductive dechlorination.

The Spatial Change Indicator™ analysis shows that there is no apparent sourcing of chloroethanes occurring in the monitored area. Additionally, although the footprint of the total chloroethane plume shows stability and a reduction in size of 6% in area since April 2008, the average concentration and mass indicator of the chloroethane plume is decreasing 92% and 93%, respectively over that time period.

Aromatic Hydrocarbons

Toluene, ethylbenzene and xylenes are all exhibiting decreasing trends from September 2008 to February 2017. Additionally, no wells exceeded US EPA MCLs for toluene, ethylbenzene or xylenes during the February 2017 event.

MNA Parameters

Isopleth maps were produced for each of the MNA parameters sampled. The MNA isopleths show strong correlation and evidence that natural attenuation via degradation is occurring. For example, there is evidence of biodegradation through the observation of reduced electron acceptors (dissolved oxygen, nitrate, and sulfate); accumulation of metabolic byproducts (chloride, sulfide, methane, ethane, and ethene), and reducing conditions (e.g., negative

oxidation-reduction potential) at key locations within the plume. MNA isopleths are included in Figures 20 – 30 of Appendix E.

Data Gaps

As mentioned previously, to conduct this plume analysis a window had to be developed around the known site plumes. We noticed that during this exercise that there is an apparent data gap north of MW-3 where the plume is not delineated to non-detect or relatively low concentrations. We recommend the installation of a monitoring well to the north of MW-3 to close this data gap.

Additionally, based on the strong decreasing trends being observed at the site, we recommend continuing with a sampling program and continuing to update the plume stability analysis as data becomes available. Additional sampling events will help us assess whether the plumes will continue to decrease or whether additional remedial activities may be warranted. Based on current observations it appears that monitored natural attenuation may be a viable remedial approach but further analysis will help confirm that opinion. We recommend semi-annual groundwater sampling for a period of at least two years and updates to the Plume Analytics™ evaluation annually to evaluate the current behavior of the plume and feasibility of monitored natural attenuation to serve as an adequate remedy going forward.

3.0 INTERIM GROUNDWATER MONITORING PLAN

Based on the Plume Analytics™ study presented in Section 2.0, the evidence suggests that the plumes at the site are decreasing since the last remedial event. Additionally, the Plume Analytics™ study indicates that parent-daughter molar ratios suggest natural attenuation is occurring at the Site. To confirm these trends are sustained and to assist in developing Site remedial recommendations, additional groundwater data acquisition is required.

Lennox proposes to conduct semi-annual groundwater sampling for a period of two years (four sampling events). The groundwater sampling activities will be conducted in general accordance with the United States Environmental Protection Agency (USEPA) Region 4 Science and Ecosystem Support Division (SESD) Operating Procedures (OPs) for Groundwater (SESDPROC-301-R3, March 2013). The field activities to be conducted during each semi-annual groundwater monitoring event are described below:

- **Groundwater Level Measurements** – Prior to sampling, depth to groundwater measurements will be collected at all accessible wells. The groundwater level elevations will be used to prepare a potentiometric surface map for the Site.
- **Groundwater Sampling/Analysis** – Prior to sampling, each well will be purged using low-flow techniques. The field parameters of temperature, specific conductance, DO, ORP, ferrous iron and turbidity will be measured. When the pH and specific conductance of the

water have stabilized and the turbidity has either stabilized or is below 10 NTU the groundwater sample will be collected using low flow techniques.

A peristaltic pump and polyethylene tubing will be used to collect the groundwater samples. The groundwater samples will be collected from the intake end of the dedicated polyethylene discharge tubing after the peristaltic pump is stopped and the tubing is removed from the borehole. The groundwater samples will be placed into clean, laboratory-provided containers, labeled, recorded on a Chain-of-Custody form, and submitted to Shealy Environmental Services, Inc. (DHEC Certification No. 32010) located in Columbia, SC. The groundwater samples will be analyzed for VOCs using EPA Method 8260 and 1,4-dioxane using EPA Method 8260 SIM.

The samples will also be analyzed for the MNA parameters nitrate, sulfate, sulfide, chloride, alkalinity, TOC and dissolved gases (methane, ethane, ethane) to assist in the interpretation of the Plume Analytics™ outputs.

- **IDW Management** – Investigation derived waste (IDW) in the form of development/purge water will be generated during the groundwater sampling event. IDW will be managed in general accordance with the US EPA Region 4 SESD OP for Management of Investigation Derived Waste (SESDPROC-202-R3, July 3, 2014). Initially, IDW will be containerized, labeled, and stored onsite. Upon receipt of sampling results, the IDW will be properly disposed in accordance with the US EPA guidance.

As required in the Contract, Lennox via EarthCon will inform DHEC in writing at least five (5) days in advance of all scheduled field activities. We assume that email correspondence to the DHEC project manager will fulfill the “in writing” requirement.

Upon receipt of the laboratory data, EarthCon will conduct a cursory data validation and compile the data into an electronic database format (Excel). The data will then be incorporated into the Plume Analytics evaluation. A copy of the laboratory analytical report will be provided to SCDHEC after each semi-annual sampling event as part of the Section 6 required 6-month progress report. Within 90 days after completion of the fourth semi-annual sampling event, an updated Plume Analytics™ study will be presented in person to SCDHEC.

4.0 RECOMMENDATIONS

Based on the results of the well condition survey, summarized in Appendix A, minor well repairs are needed. They include replacement of flush mount well covers and repair of hinges on stick-up covers.

Results of the Plume Analytics™ study indicate a data gap and subsequent need for additional shallow groundwater data in the area north of well MW-3. To address this data gap, Lennox recommends installing one additional shallow monitoring well (MW-16) north of MW-3 in the location shown on Figure 4.

The well installation and repair activities described above can be conducted concurrent with the first semi-annual sampling event. This will allow sampling of the newly installed monitoring well during all four of the proposed semi-annual events.

Lastly, due to the visual nature of Plume Analytics™, Lennox strongly recommends that a meeting be held to present the results of the Plume Analytics™ study to SCDHEC. This meeting should be held as soon as practical but prior to final SCDHEC review of this document.

TABLES

TABLE 1. MONITORING WELL CONSTRUCTION DETAILS

Former Ducane Company Site
 Blackville, Barnwell County, South Carolina
 BLWM File # 401356

Monitoring Well	Installation Date	Well Completion	Top of Casing (TOC) Elevation feet, MSL	Screened Interval feet, bgs		Screen Length feet	Total Depth feet, bgs	Total Depth Measured on 1/30/17 feet, bTOC
				Top	Bottom			
MW-1	09/01/99	Stick-up	281.95	5	20	15	20	21.90
MW-1D	09/01/99	Stick-up	281.94	48	53	5	53	49.95
MW-2	09/01/99	Flush	274.03	5	15	10	15	14.11
MW-2D	09/01/99	Flush	274.14	39	44	5	44	40.79
MW-3	09/01/99	Stick-up	279.55	5	15	10	15	17.96
MW-3D	09/01/99	Stick-up	279.80	20	25	5	25	28.12
MW-4	09/01/99	Stick-up	279.70	8	18	10	18	20.78
MW-4D	06/25/01	Stick-up	279.83	86	96	10	96	78.75**
MW-5	05/12/00	Flush	NA	15	20	5	20	19.70
MW-6R	09/24/12	Flush	277.11	5	15	10	15	14.30
MW-7	03/20/01	Stick-up*	277.93	2	12	10	12	11.98
MW-8	03/20/01	Stick-up	277.03	2	12	10	12	NL
MW-9	03/20/01	Stick-up	278.07	2	12	10	12	no access
MW-10	03/20/01	Stick-up	277.04	2	12	10	12	12.33
MW-11	03/20/01	Stick-up	279.94	2	12	10	12	9.59
MW-12	03/20/01	Stick-up	272.02	2	12	10	12	NL
MW-13	10/14/02	Stick-up	275.41	3	10	7	10	NL
MW-14	10/14/02	Stick-up	280.12	2	12	10	12	13.41
MW-15	09/24/12	Stick-up	282.73	9	19	10	19	21.81

Well construction information obtained from the *Groundwater and Soil Assessment Report*, dated January 2013

Notes

bgs - below ground surface

NL - well not located

NA - not available

bTOC - below top of casing

MSL - mean sea level

* Well MW-7 surface completion consists of less than 6-inch stick up of 1-inch PVC pipe

**Pump lowered into well MW-4D encountered a "hard" bottom; no apparent sediment in well

Prepared by: KMD 3/3/17

Checked by: CDN 3/17/17

TABLE 2. WATER LEVEL MEASUREMENTS

Former Ducane Company Site
Blackville, Barnwell County, South Carolina
BLWM File # 401356

Monitoring Well	Top of Casing (TOC) Elevation feet, MSL	January 30, 2017	
		Depth to Water feet below TOC	Groundwater Elevation feet, MSL
MW-1	281.95	5.66	276.29
MW-1D	281.94	7.77	274.17
MW-2	274.03	NM	NC
MW-2D	274.14	0.56	273.58
MW-3	279.55	3.79	275.76
MW-3D	279.80	4.11	275.69
MW-4	279.70	4.87	274.83
MW-4D	279.83	8.60	271.23
MW-5	NA	5.23	NC
MW-6R	277.11	0.74	276.37
MW-7	277.93	1.22	276.71
MW-8	277.03	NL	NC
MW-9	278.07	no access	NC
MW-10	277.04	3.98	273.06
MW-11	279.94	6.54	273.40
MW-12	272.02	NL	NC
MW-13	275.41	NL	NC
MW-14	280.12	6.55	273.57
MW-15	282.73	6.32	276.41

Notes

MSL - mean sea level

NA - not available

NM - not measured due to flowing water

NL - well not located

NC - elevation not calculated

Prepared by: KMD 3/3/17

Checked by: CDN 3/17/17

TABLE 3. FIELD PARAMETERS
Former Ducane Company Site
Blackville, Barnwell County, South Carolina
BLWM File # 401356

Monitoring Well	Sample Date	Purge Volume Gallons	Temperature °C	pH Standard Units	Dissolved Oxygen mg/L	ORP mV	Conductivity µs/cm	Turbidity NTU	Ferrous Iron mg/L
MW-1	1/31/17	2.0	21.26	4.58	0.34	-48.8	99	7.81	0.25
MW-1D	1/31/17	1.40	21.99	5.50	4.94	98.4	20	0.09	0.01
MW-2	2/1/17	2.35	17.65	4.49	0.91	193.5	46	1.30	1.19
MW-2D	2/1/17	1.30	17.60	5.26	1.08	191.3	40	2.60	1.14
MW-3	1/31/17	1.30	18.86	4.65	1.04	-97.1	128	1.86	1.14
MW-3D	1/31/17	2.00	17.34	3.91	4.04	132.4	92	0.82	0.09
MW-4	2/2/17	1.40	17.67	4.46	1.83	255.9	53	13.11	0.74
MW-4D	2/2/17	1.0	15.64	4.96	1.34	124.5	28	5.82	0.03
MW-5	2/1/17	0.95	17.80	4.54	1.18	142.1	89	3.29	1.17
MW-6R	1/31/17	1.75	14.90	4.61	1.45	163.3	87	0.94	0.00
MW-7	1/31/17	3.0	15.97	5.92	0.98	-64.9	88	93.38	1.04
MW-10	2/1/17	1.45	17.60	4.62	0.36	53.8	47	6.14	1.17
MW-11	2/1/17	2.30	16.94	5.89	0.35	23.6	228	7.61	4.86
MW-14	2/1/17	1.30	17.77	4.86	0.32	103.1	50	4.72	5.4
MW-15	2/1/17	1.25	17.39	5.69	0.93	102.0	118	1.43	0.00

Notes

mg/L - milligrams per liter
mV - millivolts
µs/cm - microsiemens per centimeter
NTU - nephelometric turbidity units

Prepared by: CDN 3/1/17
Checked by: KMD 3/3/17

TABLE 4. SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - ORGANICS

Former Ducane Company Site
 Blackville, Barnwell County, South Carolina
 BLWM File # 401356

Constituent (ug/L)		Acetone	Chloroform	1,1-Dichloroethane	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	Ethylbenzene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride	Xylenes	1,4-Dioxane*
MCL (ug/L)		NA	NA	NA	100	70	7	700	100	5	1000	5	2	10000	NA
RSL (ug/L)		14000	0.22	2.8	--	--	--	--	--	--	--	--	--	--	0.46
Well	Date Sampled														
MW-1	1/31/17	<400	<20	<20	<20	1800	<20	81	8.7 J	<20	15 J	<20	67	380	<1.0
MW-1D	1/31/17	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.7	<1.0	0.77 J	<1.0	<1.0	<1.0
MW-2	2/1/17	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.8	<1.0	<1.0	<1.0
MW-2D	2/1/17	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	0.50 J	<1.0
MW-3	1/31/17	<4000	<200	890	85 J	11000	420	130 J	<200	<200	<200	<200	700	530	190
MW-3D	1/31/17	<20	0.63J	<1.0	<1.0	0.55 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-4	2/2/17	<20	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	0.67 J	<1.0	1.3	<1.0	<1.0	<1.0
MW-4D	2/2/17	3.5 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.3	<1.0	0.42 J	<1.0	<1.0	<1.0
MW-5	2/1/17	<100	<5.0	3.7 J	9.2	800	<5.0	<5.0	<5.0	120	<5.0	170	6.6	<5.0	14
MW-6R	1/31/17	<20	0.62 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	1/31/17	<100	<5.0	<5.0	<5.0	640	<5.0	84	<5.0	<5.0	<5.0	<5.0	200	320	<1.0
MW-10	2/1/17	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	2/1/17	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-14	2/1/17	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	2/1/17	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes

ug/L - micrograms per liter
 < less than the noted practical quantitation limit
 J - estimated concentration
 * - 1,4-dioxane reported to the method detection limit
 MCL - US EPA Maximum Contaminant Level
 RSL - US EPA Regional Screening Level for Tap Water
 NA - not available

Prepared by: KMD 3/3/17
 Checked by: CDN 3/17/17

TABLE 5. SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - INORGANICS

Former Ducane Company Site
 Blackville, Barnwell County, South Carolina
 BLWM File # 401356

Analyte (mg/L)	MCL (mg/L)	Secondary MCL (mg/L)	RSL (mg/L)	Monitoring Well/Sample Date		
				MW-1	MW-3	MW-6R
				1/31/17	1/31/17	1/31/17
Aluminum	--	0.2	--	0.12 J	<0.40	0.22 J
Antimony	0.006	--	--	<0.020	<0.020	<0.020
Arsenic	0.01	--	--	<0.015	<0.015	<0.015
Barium	2	--	--	0.054	0.017 J	0.041
Beryllium	0.004	--	--	<0.0050	<0.0050	<0.0050
Cadmium	0.005	--	--	<0.0050	<0.0050	<0.0050
Calcium	--	--	--	0.57 J	1.2 J	2.1 J
Chromium	0.1	--	--	<0.010	0.00080 J	0.0011 J
Cobalt	--	--	0.006	<0.025	<0.025	<0.025
Copper	1.3	1	--	<0.010	<0.010	0.0039 J
Iron	--	0.3	--	0.66	6.6	<0.10
Lead	0.015	--	--	<0.010	<0.010	<0.010
Magnesium	--	--	--	1.1 J	0.85 J	1.8 J
Manganese	--	0.05	--	0.015	0.0091 J	0.028
Mercury	0.002	--	--	<0.00010	<0.00010	<0.00010
Nickel	--	--	0.39	<0.040	<0.040	<0.040
Potassium	--	--	--	1.5 J	0.31 J	1.2 J
Selenium	0.05	--	--	<0.020	<0.020	<0.020
Silver	--	0.1	--	<0.010	<0.010	<0.010
Sodium	--	--	--	11	15	5.1
Thallium	0.002	--	--	<0.050	<0.050	<0.050
Vanadium	--	--	0.086	<0.050	<0.050	<0.050
Zinc	--	5	--	0.0022 J	0.025	0.0067 J

Notes

mg/L - milligrams per liter

J - estimated concentration

MCL - US EPA Maximum Contaminant Level

RSL - US EPA Regional Screening Level for Tap Water

Prepared by: CDN 3/1/17

Checked by: KMD 3/3/17

TABLE 6. GROUNDWATER MNA RESULTS

Former Ducane Company Site
 Blackville, Barnwell County, South Carolina
 BLWM File # 401356

Monitoring Well	Sample Date	Alkalinity mg/L	Chloride mg/L	Nitrate-N mg/L	Sulfate mg/L	Sulfide mg/L	TOC mg/L	Ethane ug/L	Ethene ug/L	Methane ug/L	Propane ug/L
MW-1	1/31/17	3.3 J	19	<0.020	7.30	<1.0	1.8	<10	9.7 J	520 J	<10
MW-1D	1/31/17	3.7 J	2.1	0.21	0.43 J	<1.0	0.50 J	<10	<10	<10	<10
MW-2	2/1/17	<10	6.7	1.0	0.33 J	<1.0	0.57 J	<10	<10	<10	<10
MW-2D	2/1/17	7.6 J	2.4	<0.020	4.6	<1.0	0.74 J	<10	<10	<10	<10
MW-3	1/31/17	5.8 J	26	0.015 J	<1.0	4.4	14	4.3 J	20	6100	<10
MW-3D	2/1/17	<10	12	4.7	0.52 J	<1.0	0.50 J	<10	<10	<10	<10
MW-4	2/2/17	<10	9.2	<0.020	4.2	<1.0	1.4	<10	<10	<10	<10
MW-4D	2/2/17	2.0 J	2.0	0.078	1.9	<1.0	0.47 J	<10	<10	<10	<10
MW-5	2/1/17	<10	20	0.013 J	3.9	<1.0	0.85 J	<10	<10	2000	<10
MW-6R	1/31/17	<10	11	2.4	7.6	<1.0	0.73 J	<10	<10	<10	<10
MW-7	1/31/17	30	5.3	0.072	<1.0	<1.0	4.8	4.7 J	21	360 J	<10
MW-10	2/1/17	2.0 J	5.5	<0.020	4.8	<1.0	1.4	<10	<10	13	<10
MW-11	2/1/17	100	3.1	<0.020	5.3	<1.0	2.9	<10	<10	180	<10
MW-14	2/1/17	10	1.7	<0.020	5.0	<1.0	1.7	<10	<10	50	<10
MW-15	2/1/17	26	6.8	0.075	11	<1.0	0.87 J	<10	<10	270	<10

Notes

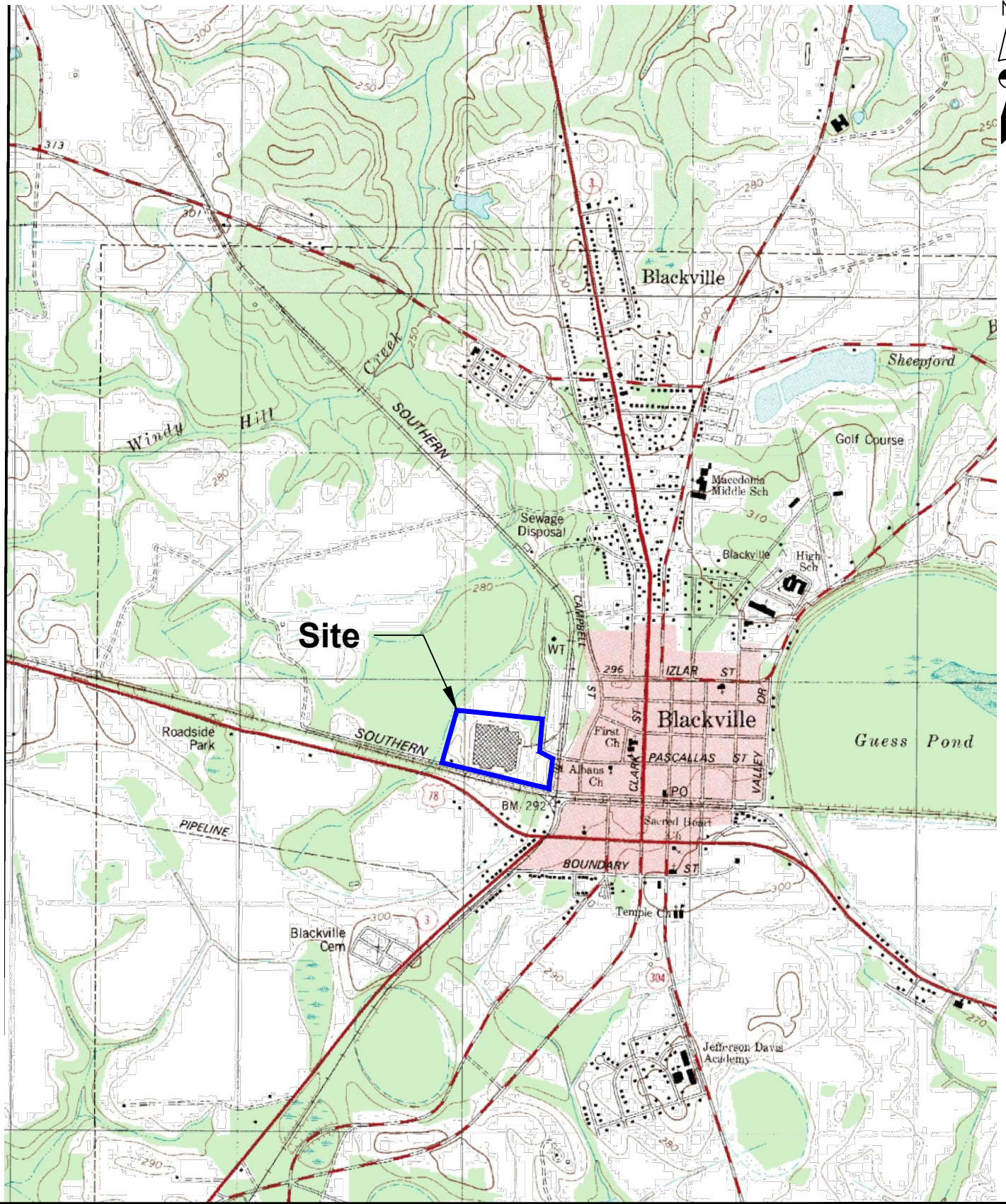
mg/L - milligrams per liter
 ug/L - micrograms per liter
 TOC - total organic carbon
 J - estimated concentration

Prepared by: CDN 3/1/17

Checked by: KMD 3/3/17

FIGURES

FILE NAME: s:\Premier\Projects\Clients\Lennox International\Blackville, SC\Drawings\Lennox_Main_2017.dwg (Site Location) 03/20/17 15:08 - jwiggins



FORMER DUNCANE COMPANY SITE
 BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
 BLWM FILE # 401356



SITE LOCATION MAP

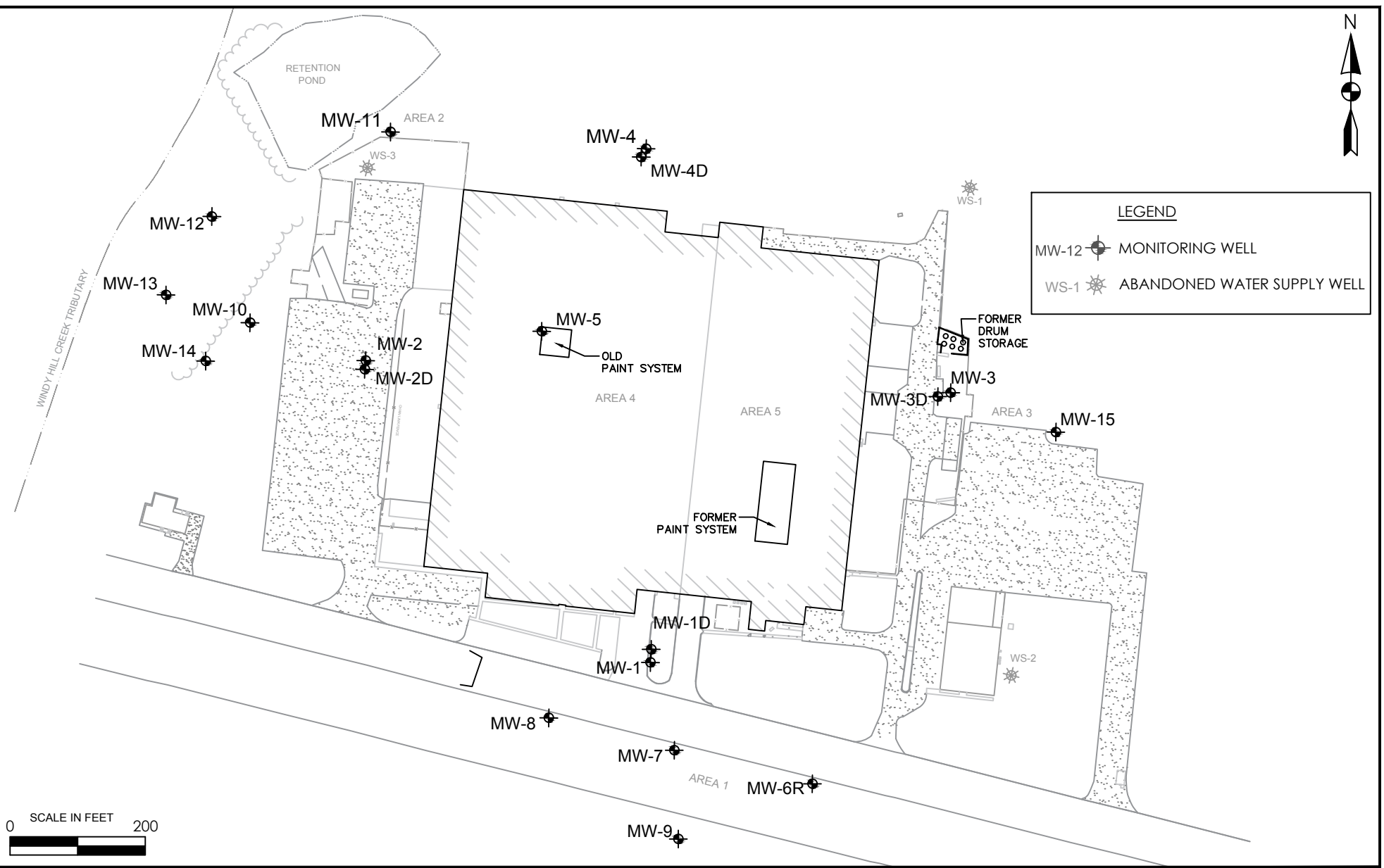
PROJECT NO. 02.20160378.00

EarthCon Consultants, Inc.

1880 WEST OAK PKWY, BLDG 100, STE 106, MARIETTA, GA, 30062

DRAWN: JMW	CHECKED: CDN	DATE: 03/20/2017	FIGURE: 1
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FORMER DUNCANE COMPANY SITE
 BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
 BLWM FILE # 401356

PROJECT NO. 02.20160378.00



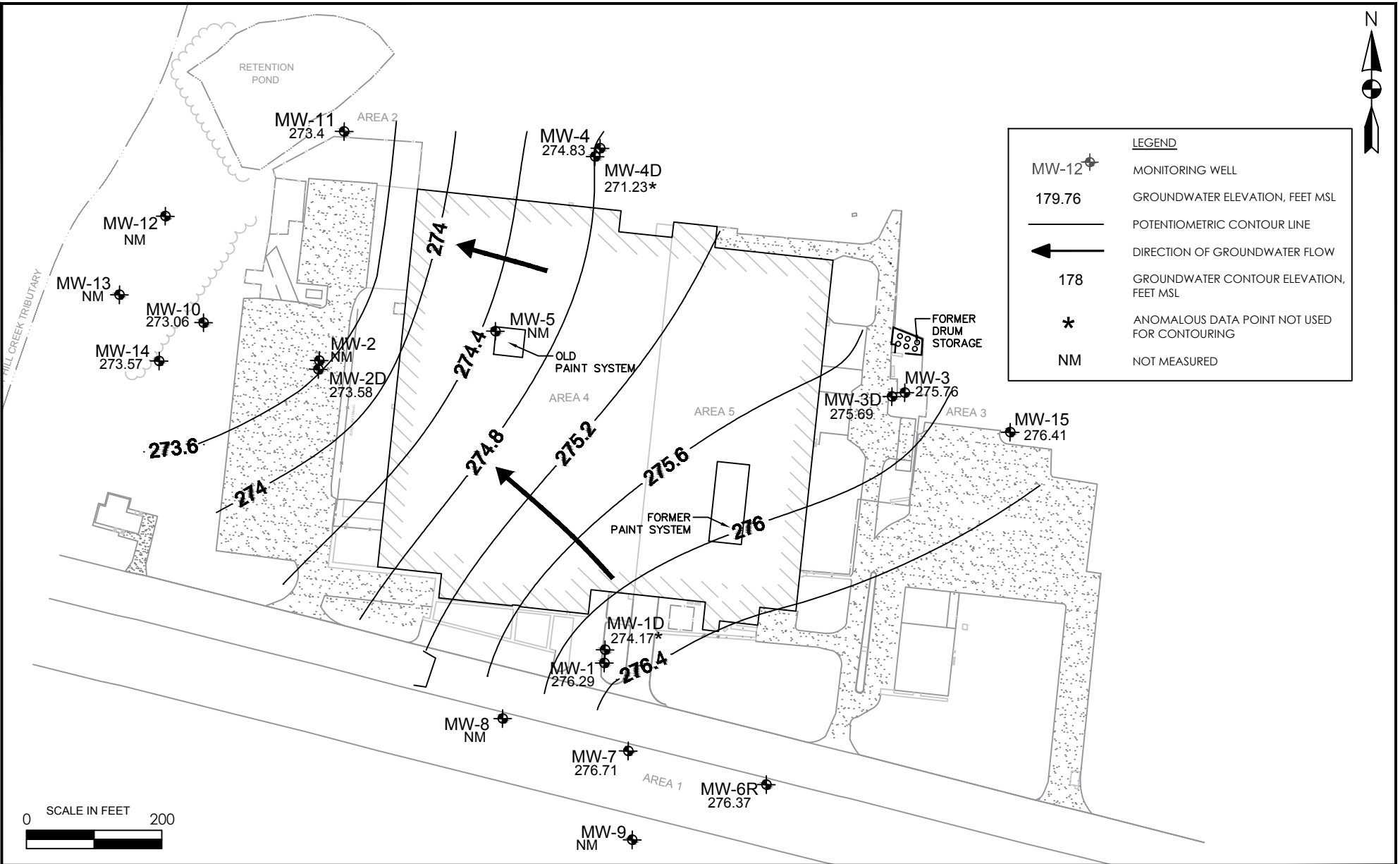
EarthCon Consultants, Inc.

1880 WEST OAK PKWY, BLDG 100, STE 106, MARIETTA, GA, 30062

SITE LAYOUT

DRAWN: JMW	CHECKED: CDN	DATE: 03/20/2017	FIGURE: 2
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FILE NAME: S:\Premier\Projects\Clients\Lennox International\Blackville, SC\Drawings\Lennox_Main_2017.dwg (POTMAP JAN 17) 03/21/17 14:48 - jwg/gins



FORMER DUNCANE COMPANY SITE
 BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
 BLWM FILE # 401356

PROJECT NO. 02.20160378.00



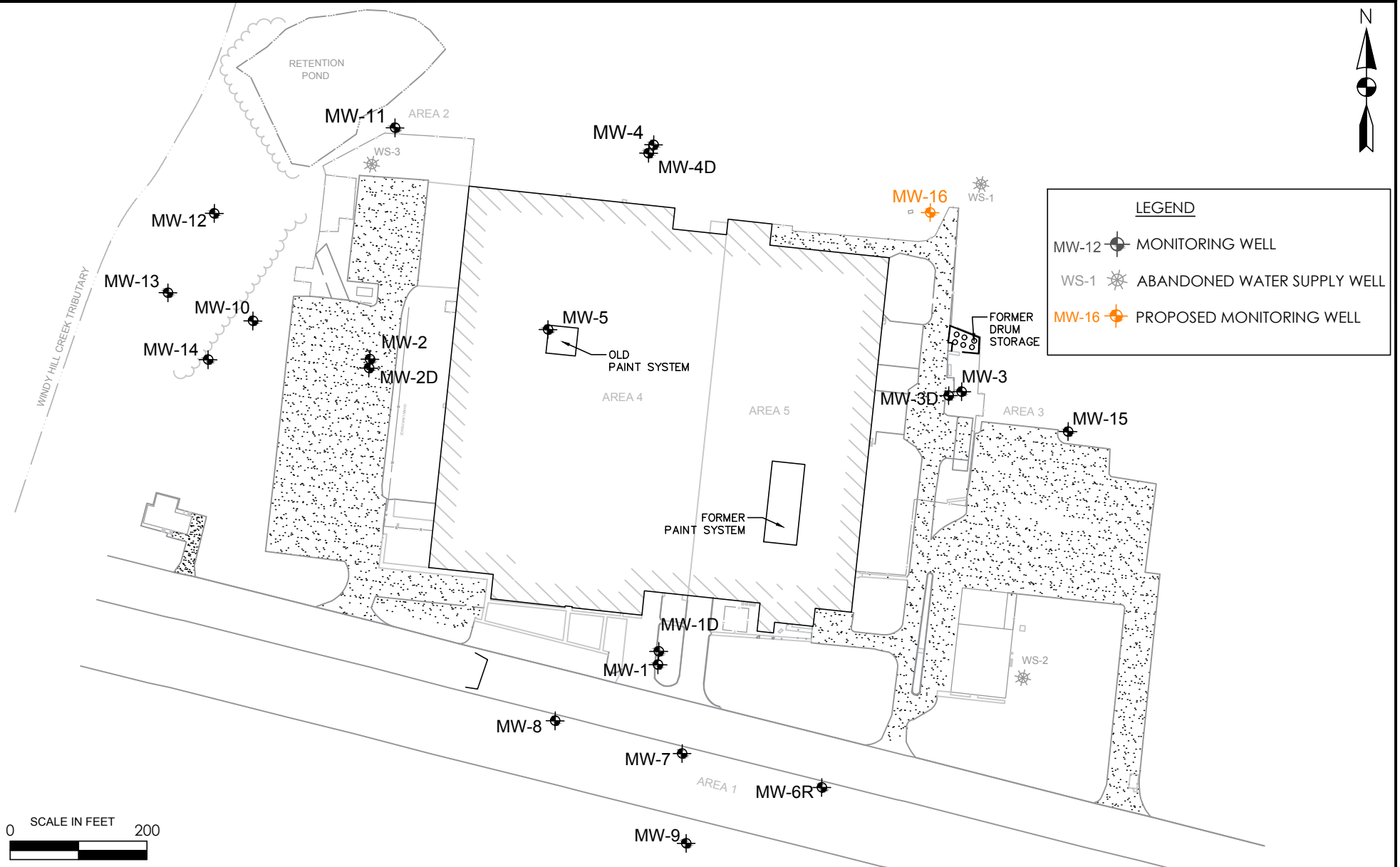
EarthCon Consultants, Inc.

1880 WEST OAK PKWY, BLDG 100, STE 106, MARIETTA, GA, 30062

POTENTIOMETRIC MAP
 JANUARY 30, 2017

DRAWN: JMW	CHECKED: CDN	DATE: 03/21/2017	FIGURE: 3
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FILE NAME: S:\Premier\Projects\Clients\Lennox International\Blackville, SC\Drawings\Lennox_Main_2017.dwg (PROPOSED MW) 03/20/17 16:33 - hpham



FORMER DUNCANE COMPANY SITE
BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
BLWM FILE # 401356

PROJECT NO. 02.20160378.00



EarthCon Consultants, Inc.

1880 WEST OAK PKWY, BLDG 100, STE 106, MARIETTA, GA, 30062

PROPOSED MONITORING WELL LOCATION

DRAWN: JMW	CHECKED: CDN	DATE: 03/20/2017	FIGURE: 4
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APPENDICES

APPENDIX A
SUMMARY OF FIELD PROCEDURES

APPENDIX A: SUMMARY OF FIELD PROCEDURES

Sampling events were conducted in January and February 2017 at the Former Ducane Company Site. The field activities are described in the following sections. Field sampling forms are provided in Appendix B. Laboratory analytical reports are provided in Appendix C.

GROUNDWATER SAMPLING

The groundwater sampling event was conducted from January 30 through February 2, 2017. During this event, 15 of the 19 monitoring wells were sampled. Monitoring wells MW-8, MW-12 and MW-13 could not be located while monitoring well MW-9 is located on private property and access could not be obtained.

Groundwater sampling was conducted in general accordance with the United States Environmental Protection Agency (USEPA) Region 4 Science and Ecosystem Support Division (SESD) Operating Procedure (OP) for *Groundwater Sampling* (SESDPROC-301-R3, March 2013) using low-flow techniques. Prior to sampling, water level measurements were collected from each well and water quality parameters were measured. Water level measurements are presented in Table 2 of the report. The field parameters measured at the time of groundwater sampling are provided on the field forms in Appendix B and presented in Table 3 of the report.

Well Inspection Survey

Well inspections were performed on January 30, 2017 for each well that could be located. The inspection included evaluating the condition of each well pad, protective cover, and cap to determine if repairs were needed. The padlocks on each well were replaced with new, keyed alike locks. Total depths of the wells were also measured and compared to historical information provided in the *Ground Water and Soil Assessment Report*, dated January 2013. A summary of the well conditions/repairs needed is provided below.

Well Number	Protective Cover	Well Condition	Repairs Needed
MW-1	Stick-up	Well cap present; well pad in good condition; protective cover locked and in good condition	None
MW-1D	Stick-up	Well cap present; well pad in good condition	Protective cover hinge broken; repairs needed
MW-2	Flush mount	Well cap present; well pad in good condition	Flush mount cover needs to be replaced
MW-2D	Flush mount	Well cap present; well pad in good condition	Flush mount cover needs to be replaced
MW-3	Stick-up	Well cap present; well pad in good condition	Protective cover hinge broken; repairs needed

Well Number	Protective Cover	Well Condition	Repairs Needed
MW-3D	Stick-up	Well cap present; well pad in good condition; protective cover locked and in good condition	None
MW-4	Stick-up	Well cap present; well pad in good condition	Protective cover hinge broken; repairs needed
MW-4D	Stick-up	Well cap present; well pad in good condition; protective cover locked and in good condition	None
MW-5	Flush mount	Well pad in good condition	Needs new well cap; flush mount cover needs bolts
MW-6R	Flush mount	Well cap present; well pad in good condition	Flush mount cover needs bolts
MW-7	None	Well pad in good condition; well cap missing, no protective cover	Needs flush mount cover and 1" well cap (temporary PVC cap affixed)
MW-10	Stick-up	Well cap present; well pad in good condition	Protective cover hinge broken; repairs needed
MW-11	Stick-up	Well cap present; well pad in good condition	Protective cover hinge broken; repairs needed
MW-14	Stick-up	Well cap present; well pad in good condition; protective cover locked and in good condition	None
MW-15	Stick-up	Well cap present; well pad in good condition; protective cover locked and in good condition	None

Note: wells MW-8, MW-12 and MW-13 could not be located or inspected; access to well MW-9 was not granted

Sample Containers

The laboratory provided sample containers that met the sampling requirements of the study. The laboratory verified the cleanliness of each batch of containers prior to use. The laboratory supplied the necessary preservation solutions and shipped these with the sample containers.

The field samplers took responsibility for properly identifying the location of each sample taken and for recording the sample date, the type of sample, the preservative used, and the applicable project number. This information was documented in the field book/field form. This same information was then placed on the sample identification label and the chain-of-custody record. Sample labels were filled out with indelible ink. If the field sampler determined that additional information was pertinent to a sample being taken, such data was recorded in the field book/field form.

Groundwater Level Measurement

Prior to well sampling, depth to groundwater and total well depth were measured using an electronic tape or water level indicator. A fixed point was marked with an indelible marker on each well to serve as a reference point for measurement. Depths were measured to the nearest 0.01 foot and recorded on the field sheet. The tape was cleaned with phosphate-free laboratory detergent and water, and rinsed with distilled water prior to each use.

Well Purging

The monitoring wells were purged using a low flow/low volume method with a peristaltic pump and dedicated, disposable, polyethylene tubing. The groundwater parameters of temperature, pH, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity were measured during purging.

Purging continued until a minimum of three consecutive stable readings were measured with five to fifteen-minute intervals between readings. Pumping rates were reduced as much as possible to reduce the amount of drawdown in the wells.

Purging was considered complete after the depth to water and water quality parameters stabilized. Purge water from the wells was temporarily placed in five-gallon buckets and emptied into a 55-gallon steel drum. Additional information regarding the purging and sampling activities including the volume of water in each well, purge rate, and depth to water during the purge process are provided in the field sampling forms in Appendix B.

Groundwater Sampling and Analysis

Groundwater samples were collected after the water level in the well stabilized and after the pH and specific conductance measurements stabilized. A peristaltic pump and polyethylene tubing were used to collect the groundwater samples. The groundwater samples were collected from the intake end of the dedicated polyethylene discharge tubing after the peristaltic pump was stopped and the tubing was removed from the well. The groundwater samples were placed into laboratory supplied pre-preserved containers, labeled, and recorded on a Chain-of-Custody form. The containers were then placed in a cooler on ice, and transported to Shealy Environmental Services, Inc. (DHEC Certification No. 32010) in Columbia, SC.

The groundwater samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8260 and 1,4-dioxane using EPA Method 8260 SIM. Groundwater samples were also analyzed for the monitored natural attenuation (MNA) parameters nitrate, sulfate, sulfide, chloride, alkalinity, total organic carbon (TOC) and dissolved gasses (methane, ethane, and ethene). Field measurements of ferrous iron were also collected. Groundwater samples from monitoring wells MW-1, MW-3 and MW-6R were also analyzed for TAL metals.

Decontamination Procedures

Decontamination procedures consisted of the use of dedicated, disposable tubing at each sampling location. Equipment such as the water level indicator and field measurement instrumentation were cleaned with phosphate-free laboratory detergent and rinsed with distilled water in general accordance with the EPA SESD OP for *Field Equipment Cleaning and Decontamination* (SESDPROC-205-R2, December 2011). The equipment was allowed to air dry. Nitrile gloves were also worn and changed between each sampling location.

Equipment Calibration

Equipment used to perform field testing on groundwater samples included a YSI 556 with flow thru cell and a Scientific Micro TPW, HF Scientific, or Lamotte turbidity meter to measure pH, specific conductivity, temperature, dissolved oxygen, ORP, and turbidity. Equipment calibration was verified on a daily basis.

Field Sampling Forms

Field personnel maintained a permanently bound, water resistant field notebook. Field activities were recorded with indelible ink. Additionally, sampling field forms were completed for each sample. The notebook, sampling forms, and chain-of-custody records contain sufficient information to allow reconstruction of the sample collection and handling procedures at a later time.

Chain-of-Custody

Sample custody was documented from the time of sample collection when the labeled sample was placed into an iced cooler in the possession of the sampling technician. A corresponding line item on the chain-of-custody record was filled out and initialed by the sampling technicians. The chain-of-custody record is used to track custody of samples during transport and shipping. Upon completion of appropriate line items, or upon sample pick-up, the field representative signed, dated, listed the time, and confirmed the completeness of descriptive information contained on the form. The chain-of-custody form accompanied the samples and terminated upon laboratory receipt of samples. All entries were recorded in ink. Each sample had a corresponding entry on a chain-of-custody record.

Analytical Procedures and QA/QC

Groundwater samples were transported to Shealy Environmental Services, Inc. under chain-of-custody protocols. The samples were analyzed for VOCs by EPA Method 8260 and 1,4-dioxane by EPA Method 8260 SIM. Quality control samples, consisting of a blind duplicate, trip blanks, and laboratory method blanks were also collected and analyzed for these parameters.

APPENDIX B
FIELD SAMPLING FORMS



Groundwater Sampling Record

WELL No. MW-1	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE 1/31/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge	/EarthCon
SAMPLE TIME: 1530	SITE :	FIELD CONDITIONS/WEATHER Sunny 22°	

Well Condition Inspection (circle one) cover: <input checked="" type="radio"/> locked <input type="radio"/> not locked number: <input checked="" type="radio"/> legible <input type="radio"/> not legible outer casing: <input checked="" type="radio"/> good <input type="radio"/> fair <input type="radio"/> poor inner casing: <input checked="" type="radio"/> good <input type="radio"/> fair <input type="radio"/> poor well photographed: <input checked="" type="radio"/> yes <input type="radio"/> no		Equipment Cleaning Procedures - potable water and phosphate-free soap ✓ - potable water rinse - water rinse: distilled ✓ deionized - solvent rinse: acetone hexane - air dry
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Casing Diameter: (circle one) 2" 4" 6" Other: _____

Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 21.90 4.68	Measuring Point Elevation (feet): _____
Depth of Well (feet): 20 21.90	Groundwater Surface Elevation: _____
Water Column (feet): 17.22	LNAPL present: _____ thickness: _____
Casing Volume (gallons/liters): 2.81	DNAPL present: _____ thickness: _____
Calculated Purge Volume (gallons/liters): 8.43	Remarks: _____
Actual Purge Volume (gallons/liters): 2.0	
Pump Intake Depth (feet): 2.22'	Ferrous Iron (mg/L): 0.25 0.25

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
1358	0								PURGE START
1403	-	21.03	4.76	3.95	43.0	104	35.78	4.81	
1410	0.25	21.03	4.34	2.59	40.9	99	19.02	4.81	
1420	0.70	21.95	4.33	0.79	13.7	98	18.26	4.80	
1430	1.0	20.95	4.43	0.59	-13.9	99	13.82	4.82	
1440	1.4	21.00	4.51	0.42	-32.3	98	10.92	4.82	
1450	1.75	21.26	4.58	0.34	-48.8	99	7.81	4.80	

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	1/31/17
Turbidity	HF Scientific	Micro TPW 20000	1/31/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	
1	TAL Metals	250 ml HDPE / HNO3	

DUP-1 collected

Start Purge 1358

End Purge 1451

Sample 1530

WELL No. MW-1D	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE 1/31/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge /EarthCon	
SAMPLE TIME: 1345	SITE :	FIELD CONDITIONS/WEATHER Sunny	

Well Condition Inspection (circle one) cover: <input checked="" type="radio"/> locked not locked number: <input checked="" type="radio"/> legible not legible outer casing: good fair <input checked="" type="radio"/> poor inner casing: <input checked="" type="radio"/> good fair poor well photographed: <input checked="" type="radio"/> yes no	Equipment Cleaning Procedures - potable water and phosphate-free soap ✓ - potable water rinse - water rinse: distilled ✓ deionized <i>Hot water breaker</i> - solvent rinse: acetone hexane - air dry
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Casing Diameter: (circle one) <input checked="" type="radio"/> 4" Other: _____ <input type="radio"/> 6"	Casing Volume Calculation: $(\pi r^2 h) \times 7.48 \text{ gal/ft}^3$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56
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Depth to Water (feet): <u>2.79</u> Depth of Well (feet): <u>83.4995</u> Water Column (feet): <u>42.16</u> Casing Volume (gallons/liters): <u>6.89</u> Calculated Purge Volume (gallons/liters): <u>20.64</u> Actual Purge Volume (gallons/liters): <u>1.40</u> Pump Intake Depth (feet): <u>~47'</u>	Measuring Point Elevation (feet): _____ Groundwater Surface Elevation: _____ LNAPL present: _____ thickness: _____ DNAPL present: _____ thickness: _____ Remarks: _____ Ferrous Iron (mg/L): <u>0.01</u>
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Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
1247	0								PURGE START
1246	-	21.88	6.48	15.40	31.8	26	6.63	8.41	
1255	0.4	21.85	5.67	6.89	87.6	20	0.21	8.53	
1305	0.75	21.84	5.50	5.49	98.0	20	1.75	8.53	
1315	1.0	22.06	5.57	5.14	96.0	20	0.25	8.50	
1325	1.25	21.99	5.50	4.94	98.4	20	0.09	8.50	

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	1/31/17
Turbidity	HF Scientific	Micro TPW 20000	1/31/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

START Purge -1247 End Purge -1326 Sample 1345



Groundwater Sampling Record

WELL No. MW-2 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 2/01/17
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge /EarthCon
 SAMPLE TIME: SITE: FIELD CONDITIONS/WEATHER Sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air dry

Casing Diameter: (circle one) 2" 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 0 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 15 14.1 Groundwater Surface Elevation: _____
 Water Column (feet): 14.1 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 2.38 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): 6.90 Remarks: _____
 Actual Purge Volume (gallons/liters): 2.35
 Pump Intake Depth (feet): _____ Ferrous Iron (mg/L): 1.19

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
1040	0								PURGE START
1045	0.45	15.72	3.31	2.24	263.1	46	3.45	0	Clear Clear
1050	0.90	16.61	4.19	1.13	212.7	47	2.79	0	"
1055	1.40	17.22	4.43	0.93	198.7	47	2.07	0	"
1100	1.85	17.42	4.42	0.81	195.1	47	1.67	0	"
1105	2.35	17.65	4.49	0.91	193.5	46	1.30	0	"

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	2/01/17
Turbidity	HI Scientific Lamotte	Micro TPW 20000	2/01/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	



Groundwater Sampling Record

WELL No. MW-2D	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE <u>2/01/17</u>
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge	
SAMPLE TIME:	SITE :	FIELD CONDITIONS/WEATHER <u>Sunny</u>	

Well Condition Inspection (circle one) cover: locked <input type="checkbox"/> not locked <input checked="" type="checkbox"/> number: legible <input checked="" type="checkbox"/> not legible <input type="checkbox"/> outer casing: good fair <input type="checkbox"/> poor <input type="checkbox"/> inner casing: good <input checked="" type="checkbox"/> fair <input type="checkbox"/> poor <input type="checkbox"/> well photographed: yes <input checked="" type="checkbox"/> no <input type="checkbox"/>		Equipment Cleaning Procedures - potable water and phosphate-free soap <input checked="" type="checkbox"/> - potable water rinse <input type="checkbox"/> - water rinse: distilled <input checked="" type="checkbox"/> deionized <input type="checkbox"/> - solvent rinse: acetone <input type="checkbox"/> hexane <input type="checkbox"/> - air dry <input type="checkbox"/>	
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Casing Diameter: (circle one) 2" 4" 6" Other: _____

Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): <u>0.57</u>	Measuring Point Elevation (feet): _____
Depth of Well (feet): <u>44</u> <u>40.97</u>	Groundwater Surface Elevation: _____
Water Column (feet): <u>40.40</u>	LNAPL present: _____ thickness: _____
Casing Volume (gallons/liters): <u>6.59</u>	DNAPL present: _____ thickness: _____
Calculated Purge Volume (gallons/liters): <u>19.76</u>	Remarks: _____
Actual Purge Volume (gallons/liters): _____	
Pump Intake Depth (feet): _____	Ferrous Iron (mg/L): <u>1.14</u>

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
0855	0								PURGE START
0900	0	15.86	5.25	10.37	171.8	49	3.51	1.30	slightly cloudy
0905	0.35	16.04	5.15	5.05	187.1	42	2.93	2.02	" "
0910	0.50	16.10	5.21	4.41	188.3	41	2.47	2.37	" "
0915	0.60	16.17	5.24	4.47	190.6	40	2.30	2.44	" "
0925	0.70	16.42	5.26	4.02	191.4	40	2.41	2.48	" "
0930	0.80	16.39	5.28	3.53	190.6	40	2.51	2.54	" "
0935	0.90	16.65	5.27	1.64	192.0	40	2.10	2.67	" "
0940	1.00	17.29	5.27	1.28	191.1	40	3.15	2.87	" "
0945	1.10	17.50	5.31	1.11	187.7	40	2.66	2.95	" "
0950	1.20	17.59	5.28	1.08	190.0	40	2.57	3.01	" "
10:00	1.30	17.60	5.26	1.08	191.3	40	2.60	3.05	" "
Sampled @ 10:05									

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	2/01/17
Turbidity	HANNA LaMotte	Micro TPW 2000	2/01/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	



Groundwater Sampling Record

WELL No. MW-3	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE: 1/31/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge /EarthCon	
SAMPLE TIME:	SITE :	FIELD CONDITIONS/WEATHER: Sunny 70°	

Well Condition Inspection (circle one) cover: locked <input type="checkbox"/> not locked <input checked="" type="checkbox"/> number: legible <input checked="" type="checkbox"/> not legible <input type="checkbox"/> outer casing: good fair <input type="checkbox"/> poor <input type="checkbox"/> inner casing: good <input checked="" type="checkbox"/> fair <input type="checkbox"/> poor <input type="checkbox"/> well photographed: yes <input checked="" type="checkbox"/> no <input type="checkbox"/>	Equipment Cleaning Procedures - potable water and phosphate-free soap <input checked="" type="checkbox"/> - potable water rinse - water rinse: distilled <input type="checkbox"/> deionized <input checked="" type="checkbox"/> - solvent rinse: acetone <input type="checkbox"/> hexane <input type="checkbox"/> - air dry	<i>needs new Hange</i>
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Casing Diameter: (circle one) 2" 4" 6" Other: _____

Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): <u>3.71</u>	Measuring Point Elevation (feet): _____
Depth of Well (feet): <u>15.1796</u>	Groundwater Surface Elevation: _____
Water Column (feet): <u>14.25</u>	LNAPL present: _____ thickness: _____
Casing Volume (gallons/liters): <u>2.32</u>	DNAPL present: _____ thickness: _____
Calculated Purge Volume (gallons/liters): <u>6.97</u>	Remarks: _____
Actual Purge Volume (gallons/liters): <u>1.30</u>	
Pump Intake Depth (feet): _____	Ferrous Iron (mg/L): <u>1.14</u>

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
1455	0								PURGE START
1505	0.36	18.60	4.42	4.10	-95.0	131	2.61	4.84	Clear
1510	0.45	18.14	4.46	3.41	-107.3	128	2.49	5.64	"
1515	0.55	18.81	4.14	3.00	-60.9	129	1.70	6.19	"
1520	0.70	18.91	4.55	2.41	-91.3	128	1.70	6.55	"
1525	0.85	18.62	4.57	1.85	-106.3	128	1.88	6.91	"
1530	0.95	18.60	4.61	1.94	-111.3	128	2.04	7.00	"
1535	1.10	18.73	4.64	0.94	-99.3	129	2.24	7.15	"
1540	1.20	18.80	4.65	1.04	-102.3	128	2.27	7.31	"
1545	1.30	18.86	4.65	1.00	-97.1	128	1.86	7.50	"

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	1/31/17
Turbidity	HF Scientific <i>LaMotte</i>	Micro TPW 2000 <i>2020012</i>	1/31/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	
1	TAL Metals	250 ml HDPE / HNO3	



Groundwater Sampling Record

WELL No. MW-3D	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE 1/31/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge /EarthCon	
SAMPLE TIME:	SITE :	FIELD CONDITIONS/WEATHER Clear 50°	

Well Condition Inspection (circle one) cover: <u>locked</u> not locked number: <u>legible</u> not legible outer casing: <u>good</u> <u>fair</u> poor inner casing: <u>good</u> fair poor well photographed: <u>yes</u> no	Equipment Cleaning Procedures <u>potable water and phosphate-free soap</u> - potable water rinse - water rinse: distilled <u>deionized</u> - solvent rinse: acetone hexane - air dry
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Casing Diameter: (circle one) <u>2"</u> 4" 6" Other: _____	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56
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Depth to Water (feet): <u>4.14</u> Depth of Well (feet): <u>-25 28.12</u> Water Column (feet): <u>23.98</u> Casing Volume (gallons/liters): <u>3.91</u> Calculated Purge Volume (gallons/liters): <u>11.73</u> Actual Purge Volume (gallons/liters): _____ Pump Intake Depth (feet): _____	Measuring Point Elevation (feet): _____ Groundwater Surface Elevation: _____ LNAPL present: _____ thickness: _____ DNAPL present: _____ thickness: _____ Remarks: _____ Ferrous Iron (mg/L): <u>0.09</u>
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Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
1640	0								PURGE START
1645	0.10	18.03	4.44	11.51	47.8	96	1.01	4.37	Clean
1655	0.20	17.85	3.98	4.06	111.3	91	0.92	4.38	"
1705	0.40	17.75	4.06	3.82	121.5	92	0.91	4.35	"
1715	0.80	17.67	4.05	3.68	110.9	92	0.85	4.35	"
1725	1.25	17.45	3.90	3.82	132.9	92	0.81	4.34	"
1735	1.60	17.40	3.90	4.06	136.2	92	0.82	4.34	"
1745	2.00	17.34	3.91	4.04	132.4	92	0.82	4.34	"
Purge 2 1/31/17 p.m.									
Sampled 2/01/17 a.m @ 0745									

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	1/31/17
Turbidity	HF Scientific LaMotte	Micro TRW 20000	1/31/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	



Groundwater Sampling Record

WELL No. MW-4	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE 2/01/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge	
SAMPLE TIME:	SITE :	FIELD CONDITIONS/WEATHER Sunny 50°	

Well Condition Inspection (circle one) cover: locked <input type="checkbox"/> not locked <input checked="" type="checkbox"/> number: legible <input checked="" type="checkbox"/> not legible <input type="checkbox"/> outer casing: good fair <input type="checkbox"/> poor <input checked="" type="checkbox"/> inner casing: good <input checked="" type="checkbox"/> fair <input type="checkbox"/> poor <input type="checkbox"/> well photographed: yes <input checked="" type="checkbox"/> no <input type="checkbox"/>		Equipment Cleaning Procedures <input checked="" type="checkbox"/> potable water and phosphate-free soap <input type="checkbox"/> potable water rinse water rinse: distilled <input checked="" type="checkbox"/> deionized solvent rinse: acetone hexane <input type="checkbox"/> air dry	
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Casing Diameter: (circle one) 2" 4" 6" Other: _____

Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 5.22	Measuring Point Elevation (feet): _____
Depth of Well (feet): -8 20.78	Groundwater Surface Elevation: _____
Water Column (feet): 15.58	LNAPL present: _____ thickness: _____
Casing Volume (gallons/liters): 2.54	DNAPL present: _____ thickness: _____
Calculated Purge Volume (gallons/liters): 7.62	Remarks: _____
Actual Purge Volume (gallons/liters): 1.40	
Pump Intake Depth (feet): _____	Ferrous Iron (mg/L): 0.74

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
1600	0								PURGE START
1615	0.20	17.31	4.02	3.28	273.8	52	13.36	6.20	Cloudy
1625	0.30	17.41	4.17	2.82	265.8	52	11.10	6.25	"
1635	0.75	17.78	4.52	2.13	252.0	53	11.10	6.75	"
1645	1.00	17.92	4.51	1.82	253.4	53	12.53	6.70	"
1655	1.40	17.67	4.46	1.83	255.9	53	13.11	6.70	"
Purged on 2/01/17									
Sampled on 2/02/17 @ 0815									

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	2/01/17
Turbidity	HE Scientific Jomoto	Memo TPW 20000	2/01/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	



Groundwater Sampling Record

WELL No. MW-4D	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE: 2/2/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge	/EarthCon
SAMPLE TIME: 0930	SITE :	FIELD CONDITIONS/WEATHER: Clear 50°	

Well Condition Inspection (circle one) cover: <input checked="" type="radio"/> locked not locked number: <input checked="" type="radio"/> legible not legible outer casing: <input checked="" type="radio"/> good fair poor inner casing: <input checked="" type="radio"/> good fair poor well photographed: <input checked="" type="radio"/> yes no	Equipment Cleaning Procedures - potable water and phosphate-free soap <input checked="" type="checkbox"/> - potable water rinse - water rinse: distilled <input checked="" type="checkbox"/> deionized - solvent rinse: acetone hexane - air dry
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Casing Diameter: (circle one) <input checked="" type="radio"/> 2" 4" 6" Other: _____	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56
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Depth to Water (feet): 8.29 Depth of Well (feet): 96 Water Column (feet): 78.75 Casing Volume (gallons/liters): 11.46 Calculated Purge Volume (gallons/liters): 34.25 Actual Purge Volume (gallons/liters): 1.0 Pump Intake Depth (feet): 278'	Measuring Point Elevation (feet): _____ Groundwater Surface Elevation: _____ LNAPL present: _____ thickness: _____ DNAPL present: _____ thickness: _____ Remarks: _____ Ferrous Iron (mg/L): 0.03
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Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
0754	0								PURGE START
0824	-	13.36	5.04	6.77	138.6	30	5.91	9.59	
0835	0.2	15.37	5.25	2.58	109.7	29	5.61	10.40	
0845	0.5	15.39	5.10	1.77	116.0	31	4.70	10.59	
0855	0.7	15.26	4.98	1.47	121.8	28	3.42	10.74	
0905	0.9	15.44	4.96	1.34	124.5	28	5.82	10.88	

Measurement and Sampling Equipment Type: Water Quality Manufacturer: YSI Model #: 556 Calibration Date: 2/2/17 Turbidity: HF Scientific Micro TPW 20000 Calibration Date: 2/2/17 Bladder Pump: QED Well Wizard Micro Purge

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Alk	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

Start Purge 0817 End Purge 0906 Sample 0930



Groundwater Sampling Record

WELL No. MW-5	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE: 2/01/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge	
SAMPLE TIME:	SITE :	FIELD CONDITIONS/WEATHER	

Well Condition Inspection (circle one) cover: locked not locked number: legible not legible outer casing: good fair poor inner casing: good fair poor well photographed: yes no		Equipment Cleaning Procedures - potable water and phosphate-free soap - potable water rinse - water rinse: distilled deionized - solvent rinse: acetone hexane - air dry	
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Casing Diameter (circle one) 2" 4" 6" Other: _____	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56
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$r = \phi.045$

Depth to Water (feet): 5.30	Measuring Point Elevation (feet): _____
Depth of Well (feet): 28.170	Groundwater Surface Elevation: _____
Water Column (feet): 14.40	LNAPL present: _____ thickness: _____
Casing Volume (gallons/liters): 0.65	DNAPL present: _____ thickness: _____
Calculated Purge Volume (gallons/liters): 1.95	Remarks: _____
Actual Purge Volume (gallons/liters): 0.95	
Pump Intake Depth (feet): _____	Ferrous Iron (mg/L): 1.17

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
1320	0								PURGE START
1335	0.15	17.46	4.06	4.64	251.0	93	8.30	5.33	Clear
1340	0.40	17.69	4.47	1.86	202.6	91	6.00	5.33	"
1345	0.65	17.73	4.53	1.49	163.4	90	4.50	5.33	"
1350	0.75	17.74	4.55	1.23	150.7	90	3.20	5.33	"
1405	0.85	17.77	4.54	1.07	145.0	89	3.01	5.33	"
1410	0.95	17.80	4.54	1.18	142.1	89	3.29	5.33	"
Sampled @ 1425									

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	2/01/17
Turbidity	HF Scientific <i>Samtlo</i>	Micro TPW 20000 2020 WE	2/01/17
Bladder Pump	QED	Well Wizard Micro Purge	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	



Groundwater Sampling Record

WELL No. MW-6R	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE 1/31/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge /EarthCon	
SAMPLE TIME: 1010	SITE :	FIELD CONDITIONS/WEATHER Sunny 40°	

Well Condition Inspection (circle one) cover: <input checked="" type="radio"/> locked not locked number: <input checked="" type="radio"/> legible not legible outer casing: <input checked="" type="radio"/> good fair poor inner casing: <input checked="" type="radio"/> good fair poor well photographed: <input checked="" type="radio"/> yes no		Equipment Cleaning Procedures - potable water and phosphate-free soap <input checked="" type="checkbox"/> - potable water rinse - water rinse: distilled <input checked="" type="checkbox"/> deionized - solvent rinse: acetone hexane - air dry	
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Casing Diameter: (circle one) <input checked="" type="radio"/> 2" 4" <input type="radio"/> 6" Other: _____	Casing Volume Calculation: $(\pi r^2 h) / 7.48 \text{ gal/ft}^3$ Casing Volume (gallons/ft) for 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for 2" = 0.618; 4" = 2.47; 6" = 5.56
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Depth to Water (feet): 0.75	Measuring Point Elevation (feet): _____
Depth of Well (feet): 18.14.30	Groundwater Surface Elevation: _____
Water Column (feet): 13.55	LNAPL present: _____ thickness: _____
Casing Volume (gallons/liters): 2.21	DNAPL present: _____ thickness: _____
Calculated Purge Volume (gallons/liters): 6.43	Remarks: _____
Actual Purge Volume (gallons/liters): 1.75	
Pump Intake Depth (feet): ~13.5	Ferrous Iron (mg/L): 0.00

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
0839	0								PURGE START
0844	-	12.20	5.37	7.10	136.0	93	0.92	0.84	
0855	0.3	13.76	4.95	3.31	148.2	92	7.68	0.84	
0905	0.6	13.61	4.66	2.59	150.7	89	6.61	0.84	
0915	0.7	13.05	4.53	2.31	149.8	88	4.43	0.84	
0925	1.0	14.41	4.66	1.81	164.3	88	3.22	0.84	
0935	1.25	14.84	4.64	1.70	160.9	87	2.31	0.85	
0945	1.60	14.90	4.61	1.45	163.3	87	0.94	0.85	

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	1/31/17
Turbidity	HF Scientific	Micro TPW 20000	1/31/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	
1	TAL Metals	250 ml HDPE / HNO3	

Start purge - 0839 End purge - 0946 Sample - 1010



Groundwater Sampling Record

WELL No. MW-7	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE 1/31/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge /EarthCon	
SAMPLE TIME: 1140	SITE :	FIELD CONDITIONS/WEATHER Clear 40°	

Well Condition Inspection (circle one) cover: locked <input type="checkbox"/> not locked <input checked="" type="checkbox"/> number: legible <input checked="" type="checkbox"/> not legible <input type="checkbox"/> outer casing: good fair poor inner casing: good fair poor well photographed: yes <input checked="" type="checkbox"/> no <input type="checkbox"/>	Equipment Cleaning Procedures - potable water and phosphate-free soap ✓ - potable water rinse - water rinse: distilled ✓ deionized - solvent rinse: acetone hexane - air dry	NO PROT. COVER 6" SU
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Casing Diameter: (circle one) 2" 4" 6" Other: 1"	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56	$1" = 0.045 \text{ gal/ft}$
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Depth to Water (feet): 2.98	Measuring Point Elevation (feet):
Depth of Well (feet): 12.98	Groundwater Surface Elevation:
Water Column (feet): 2.98 9.00	LNAPL present: thickness:
Casing Volume (gallons/liters): 0.41	DNAPL present: thickness:
Calculated Purge Volume (gallons/liters): 1.23	Remarks:
Actual Purge Volume (gallons/liters): 3.0	
Pump Intake Depth (feet): 210'	Ferrous Iron (mg/L): 1.04

Well Evacuation
 Water level recovery is: very slow slow moderate **fast** Bailed dry: yes **no**

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
0830	0								PURGE START
0835	0	8.43	6.03	10.0	96.9	68	83.6	*	Very cloudy
0845	0.20	9.04	5.95	7.76	132.9	63	98.0	*	"
0855	0.45	11.52	6.00	4.91	133.9	67	91.5	*	"
0905	0.70	12.36	5.90	4.36	26.9	70	84.1	*	"
0910	0.85	12.50	5.98	4.46	9.7	69	70.8	*	"
0915	1.00	12.56	5.98	4.54	-10.3	68	45.7	*	"
1037	1.65	14.88	5.69	2.00	25.2	84	49.27	2.73	
1045	1.80	15.11	5.72	2.56	-2.0	84	35.60	2.80	
1055	2.20	15.46	5.88	1.71	-29.0	84	52.70	2.96	
1105	2.50	15.75	5.91	1.56	-47.1	85	99.69	3.02	
1115	2.75	15.97	5.92	0.98	-64.9	88	93.38	2.89	

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	1/31/17
Turbidity	MF Scientific Lamotte	Micro TPW-20000 2020 use	1/31/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

* - water level meter not working START 1032 END 1116 Sample 1140



Groundwater Sampling Record

WELL No. MW-10	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE 2/1/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge /EarthCon	
SAMPLE TIME: 1350	SITE :	FIELD CONDITIONS/WEATHER Sunny 70°	

Well Condition Inspection (circle one) cover: <input checked="" type="radio"/> locked not locked number: <input checked="" type="radio"/> legible not legible outer casing: good fair <input checked="" type="radio"/> poor inner casing: <input checked="" type="radio"/> good fair poor well photographed: <input checked="" type="radio"/> yes no		Equipment Cleaning Procedures - potable water and phosphate-free soap ✓ - potable water rinse - water rinse: distilled ✓ deionized - solvent rinse: acetone hexane - air dry	
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Prot. Cover Loose Broken

Casing Diameter: (circle one) 2" 4" 6" Other: 1"	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56	0.045 gal/ft
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Depth to Water (feet): 4.01	Measuring Point Elevation (feet):
Depth of Well (feet): 12.33	Groundwater Surface Elevation:
Water Column (feet): 8.32	LNAPL present: thickness:
Casing Volume (gallons/liters): 0.37	DNAPL present: thickness:
Calculated Purge Volume (gallons/liters): 1.12	Remarks:
Actual Purge Volume (gallons/liters): 1.45	
Pump Intake Depth (feet): ~11.0	Ferrous Iron (mg/L): 1.17

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
1242	0								PURGE START
1249	—	18.65	5.24	4.68	30.5	51	174.2	4.24	
1300	0.4	17.96	4.54	1.33	69.5	44	77.18	4.24	
1310	0.75	18.18	4.73	0.75	62.5	47	24.78	4.24	
1320	1.0	17.79	4.66	0.48	55.3	47	10.89	4.24	
1330	1.25	17.60	4.62	0.36	53.8	47	6.14	4.24	

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	2/1/17
Turbidity	HF Scientific	Micro TPW 20000	2/1/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Alk	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

Start Purge - 1242

End Purge - 1330

Sample 1350



Groundwater Sampling Record

WELL No. MW-11	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE 2/11/17
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge /EarthCon	
SAMPLE TIME: 1055	SITE :	FIELD CONDITIONS/WEATHER Sunny 55°	

Well Condition Inspection (circle one) cover: locked <input type="checkbox"/> not locked <input checked="" type="checkbox"/> number: legible <input checked="" type="checkbox"/> not legible <input type="checkbox"/> outer casing: good fair <input checked="" type="checkbox"/> poor <input type="checkbox"/> inner casing: good <input checked="" type="checkbox"/> fair <input type="checkbox"/> poor <input type="checkbox"/> well photographed: yes <input checked="" type="checkbox"/> no <input type="checkbox"/>	Equipment Cleaning Procedures - potable water and phosphate-free soap <input checked="" type="checkbox"/> - potable water rinse <input checked="" type="checkbox"/> - water rinse: distilled <input checked="" type="checkbox"/> deionized <input type="checkbox"/> - solvent rinse: acetone <input type="checkbox"/> hexane <input type="checkbox"/> - air dry <input type="checkbox"/>
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Prot. Cover Damage Broken

Casing Diameter: (circle one) 2" 4" 6" Other: 14"	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56	0.0459 gal/ft
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Depth to Water (feet): 6.40	Measuring Point Elevation (feet):
Depth of Well (feet): 12 9.59	Groundwater Surface Elevation:
Water Column (feet): 2.99	LNAPL present: thickness:
Casing Volume (gallons/liters): 0.134	DNAPL present: thickness:
Calculated Purge Volume (gallons/liters): 0.40	Remarks:
Actual Purge Volume (gallons/liters): 2.30	
Pump Intake Depth (feet): ≈ 9'	Ferrous Iron (mg/L): 2.43 50% dilution = 4.86

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
0921	0								PURGE START
0927	-	15.78	5.22	6.55	93.3	73	91.8	6.79	
0935	0.2	16.07	5.13	1.77	99.2	80	48.9	6.78	
0945	0.6	16.34	5.24	0.80	106.9	122	25.90	6.80	
0955	0.9	16.40	5.49	0.51	94.3	161	15.38	6.82	
1005	1.25	16.55	5.65	0.47	71.5	186	12.12	6.82	
1015	1.50	16.76	5.76	0.35	54.7	204	9.73	6.82	
1025	1.80	16.84	5.85	0.31	36.6	218	7.55	6.80	
1035	2.20	16.94	5.89	0.35	23.6	228	7.61	6.81	

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	2/1/17
Turbidity	HF Scientific	Micro TPW 20000	2/1/17
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

Start Purge @ 0921 End Purge 1035 Sample 1055



Groundwater Sampling Record

WELL No. MW-14	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE <u>2/1/17</u>
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge /EarthCon	
SAMPLE TIME: <u>1515</u>	SITE :	FIELD CONDITIONS/WEATHER <u>Sunny 75°</u>	

Well Condition Inspection (circle one) cover: <input checked="" type="radio"/> locked not locked number: <input checked="" type="radio"/> legible not legible outer casing: <input checked="" type="radio"/> good fair poor inner casing: <input checked="" type="radio"/> good fair poor well photographed: <input checked="" type="radio"/> yes no		Equipment Cleaning Procedures - potable water and phosphate-free soap - potable water rinse - water rinse: distilled deionized - solvent rinse: acetone hexane - air dry
---	--	--

Casing Diameter: (circle one) 2" 4" 6" Other: <u>1"</u>	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56	<u>0.045 gal / Ft</u>
---	---	-----------------------

Depth to Water (feet): <u>6.61</u>	Measuring Point Elevation (feet): _____
Depth of Well (feet): <u>+2 13.41'</u>	Groundwater Surface Elevation: _____
Water Column (feet): <u>6.8</u>	LNAPL present: _____ thickness: _____
Casing Volume (gallons/liters): <u>0.30</u>	DNAPL present: _____ thickness: _____
Calculated Purge Volume (gallons/liters): <u>0.92</u>	Remarks: _____
Actual Purge Volume (gallons/liters): <u>1.30</u>	
Pump Intake Depth (feet): <u>~ 12'</u>	Ferrous Iron (mg/L): <u>2.70 50% dilution = 5.4</u>

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
<u>1411</u>	<u>0</u>								PURGE START
<u>1416</u>	<u>0.3</u>	<u>18.36</u>	<u>4.85</u>	<u>3.17</u>	<u>146.1</u>	<u>61</u>	<u>24.67</u>	<u>6.61</u>	
<u>1425</u>	<u>0.7</u>	<u>17.98</u>	<u>4.67</u>	<u>0.77</u>	<u>142.8</u>	<u>53</u>	<u>11.91</u>	<u>6.60</u>	
<u>1435</u>	<u>0.9</u>	<u>18.05</u>	<u>4.85</u>	<u>0.44</u>	<u>120.6</u>	<u>51</u>	<u>7.40</u>	<u>6.65</u>	
<u>1445</u>	<u>1.20</u>	<u>18.10</u>	<u>4.90</u>	<u>0.35</u>	<u>109.5</u>	<u>51</u>	<u>4.98</u>	<u>6.65</u>	
<u>1455</u>	<u>1.20</u>	<u>17.77</u>	<u>4.86</u>	<u>0.32</u>	<u>103.1</u>	<u>50</u>	<u>4.72</u>	<u>6.63</u>	

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	<u>2/1/17</u>
Turbidity	HF Scientific	Micro TPW 20000	<u>2/1/17</u>
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

Start Purge - 1411 End Purge 1456 Sample 1515

WELL No. MW-15	PROJECT # 02.20160378.00	LOCATION: Blackville, SC	DATE <u>2/1/17</u>
SAMPLE No.	PROJECT NAME: Lennox, Blackville, SC	FIELD PERSONNEL/COMPANY: K. Davis, G. Ethridge	
SAMPLE TIME: <u>0840</u>	SITE :	FIELD CONDITIONS/WEATHER <u>Clear 50°</u>	

Well Condition Inspection (circle one) cover: <u>locked</u> not locked number: <u>legible</u> not legible outer casing: <u>good</u> fair poor inner casing: <u>good</u> fair poor well photographed: <u>yes</u> no	Equipment Cleaning Procedures - potable water and phosphate-free soap <input checked="" type="checkbox"/> - potable water rinse - water rinse: distilled <input checked="" type="checkbox"/> deionized - solvent rinse: acetone hexane - air dry
--	---

Casing Diameter: (circle one) <input checked="" type="radio"/> 4" <input type="radio"/> 6" Other: _____	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56
---	---

Depth to Water (feet): <u>4.40</u> Depth of Well (feet): <u>21.31'</u> Water Column (feet): <u>17.41</u> Casing Volume (gallons/liters): <u>2.84</u> Calculated Purge Volume (gallons/liters): <u>8.52</u> Actual Purge Volume (gallons/liters): <u>1.25</u> Pump Intake Depth (feet): <u>≈ 19'</u>	Measuring Point Elevation (feet): _____ Groundwater Surface Elevation: _____ LNAPL present: _____ thickness: _____ DNAPL present: _____ thickness: _____ Remarks: _____ Ferrous Iron (mg/L): <u>0.00</u>
---	---

Well Evacuation Water level recovery is: very slow slow moderate <u>(fast)</u>	Bailed dry: yes <u>(no)</u>
--	--

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
<u>0743</u>	0								PURGE START
<u>0748</u>	-	<u>16.45</u>	<u>5.57</u>	<u>6.02</u>	<u>126.2</u>	<u>129</u>	<u>22.09</u>	<u>5.52</u>	
<u>0800</u>	<u>0.5</u>	<u>16.91</u>	<u>5.71</u>	<u>1.36</u>	<u>108.8</u>	<u>125</u>	<u>10.98</u>	<u>5.53</u>	
<u>0810</u>	<u>0.75</u>	<u>17.26</u>	<u>5.70</u>	<u>1.11</u>	<u>103.4</u>	<u>122</u>	<u>3.77</u>	<u>5.54</u>	
<u>0820</u>	<u>1.15</u>	<u>17.39</u>	<u>5.69</u>	<u>0.93</u>	<u>102.0</u>	<u>118</u>	<u>1.43</u>	<u>5.53</u>	

Measurement and Sampling Equipment			
Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	<u>2/1/17</u>
Turbidity	HF Scientific	Micro TPW 20000	<u>2/1/17</u>
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

Start Purge - 0743
End Purge 0820
Sample 0840

APPENDIX C
LABORATORY ANALYTICAL REPORTS

Report of Analysis

EarthCon Consultants, Inc.

1880 West Oak Parkway
Building 100, Suite 106
Marietta, GA 30062
Attention: Carol Northern

Project Name: **Lennox, Blackville, SC**

Project Number: **02.20160378.00**

Lot Number: **SB01014**

Date Completed: **02/09/2017**



Lucas Odom

Project Manager



This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

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

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative EarthCon Consultants, Inc. Lot Number: SB01014

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

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

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

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

VOCs by GC/MS

The LCS associated with batch 33405 recovered multiple compounds above method criteria. No corrective action is required as all associated samples are non-detect for these compounds.

Dissolved Gases

The Method Blank associated with batch 33294 yielded a "J" value detection for Methane. No corrective action is required as this is an estimated value recovered below the PQL. All associated samples have been qualified with a "B".

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary EarthCon Consultants, Inc. Lot Number: SB01014

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-6R	Aqueous	01/31/2017 1010	02/01/2017
002	MW-7	Aqueous	01/31/2017 1140	02/01/2017
003	MW-1D	Aqueous	01/31/2017 1345	02/01/2017
004	DUP-1	Aqueous	01/31/2017	02/01/2017
005	MW-1	Aqueous	01/31/2017 1530	02/01/2017
006	MW-3	Aqueous	01/31/2017 1550	02/01/2017
007	TRIP BLANK	Aqueous	01/31/2017	02/01/2017

(7 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary EarthCon Consultants, Inc. Lot Number: SB01014

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-6R	Aqueous	Chloride	9056A	11		mg/L	7
001	MW-6R	Aqueous	Nitrate - N	9056A	2.4		mg/L	7
001	MW-6R	Aqueous	Sulfate	9056A	7.6		mg/L	7
001	MW-6R	Aqueous	TOC	9060A	0.73	J	mg/L	7
001	MW-6R	Aqueous	Chloroform	8260B	0.62	J	ug/L	7
001	MW-6R	Aqueous	Aluminum	6010C	0.22	J	mg/L	9
001	MW-6R	Aqueous	Barium	6010C	0.041		mg/L	9
001	MW-6R	Aqueous	Calcium	6010C	2.1	J	mg/L	9
001	MW-6R	Aqueous	Chromium	6010C	0.0011	J	mg/L	9
001	MW-6R	Aqueous	Copper	6010C	0.0039	J	mg/L	9
001	MW-6R	Aqueous	Magnesium	6010C	1.8	J	mg/L	9
001	MW-6R	Aqueous	Manganese	6010C	0.026		mg/L	9
001	MW-6R	Aqueous	Potassium	6010C	1.2	J	mg/L	9
001	MW-6R	Aqueous	Sodium	6010C	5.1		mg/L	9
001	MW-6R	Aqueous	Zinc	6010C	0.0067	J	mg/L	10
002	MW-7	Aqueous	Alkalinity	SM 2320B-	30		mg/L	11
002	MW-7	Aqueous	Chloride	9056A	5.3		mg/L	11
002	MW-7	Aqueous	Nitrate - N	9056A	0.072		mg/L	11
002	MW-7	Aqueous	TOC	9060A	4.8		mg/L	11
002	MW-7	Aqueous	cis-1,2-Dichloroethene	8260B	640		ug/L	12
002	MW-7	Aqueous	Ethylbenzene	8260B	84		ug/L	12
002	MW-7	Aqueous	Vinyl chloride	8260B	200		ug/L	12
002	MW-7	Aqueous	Xylenes (total)	8260B	320		ug/L	12
002	MW-7	Aqueous	Ethane	RSK - 175	4.7	J	ug/L	13
002	MW-7	Aqueous	Ethene	RSK - 175	21		ug/L	13
002	MW-7	Aqueous	Methane	RSK - 175	360	B	ug/L	13
003	MW-1D	Aqueous	Alkalinity	SM 2320B-	3.7	J	mg/L	14
003	MW-1D	Aqueous	Chloride	9056A	2.1		mg/L	14
003	MW-1D	Aqueous	Nitrate - N	9056A	0.21		mg/L	14
003	MW-1D	Aqueous	Sulfate	9056A	0.43	J	mg/L	14
003	MW-1D	Aqueous	TOC	9060A	0.50	J	mg/L	14
003	MW-1D	Aqueous	Tetrachloroethene	8260B	4.7		ug/L	15
003	MW-1D	Aqueous	Trichloroethene	8260B	0.77	J	ug/L	15
004	DUP-1	Aqueous	Alkalinity	SM 2320B-	4.4	J	mg/L	17
004	DUP-1	Aqueous	Chloride	9056A	19		mg/L	17
004	DUP-1	Aqueous	Sulfate	9056A	8.0		mg/L	17
004	DUP-1	Aqueous	Sulfide	SM 4500-S2 F-	1.6		mg/L	17
004	DUP-1	Aqueous	TOC	9060A	1.7		mg/L	17
004	DUP-1	Aqueous	cis-1,2-Dichloroethene	8260B	2200		ug/L	18
004	DUP-1	Aqueous	Ethylbenzene	8260B	95		ug/L	18
004	DUP-1	Aqueous	Vinyl chloride	8260B	91		ug/L	18
004	DUP-1	Aqueous	Xylenes (total)	8260B	430		ug/L	18
004	DUP-1	Aqueous	Ethene	RSK - 175	9.9	J	ug/L	19
004	DUP-1	Aqueous	Methane	RSK - 175	520	B	ug/L	19
004	DUP-1	Aqueous	Aluminum	6010C	0.17	J	mg/L	19

Executive Summary (Continued)

Lot Number: SB01014

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
004	DUP-1	Aqueous	Barium	6010C	0.056		mg/L	19
004	DUP-1	Aqueous	Calcium	6010C	0.59	J	mg/L	19
004	DUP-1	Aqueous	Chromium	6010C	0.00079	J	mg/L	19
004	DUP-1	Aqueous	Iron	6010C	0.63		mg/L	19
004	DUP-1	Aqueous	Magnesium	6010C	1.1	J	mg/L	19
004	DUP-1	Aqueous	Manganese	6010C	0.016		mg/L	19
004	DUP-1	Aqueous	Potassium	6010C	1.5	J	mg/L	19
004	DUP-1	Aqueous	Sodium	6010C	11		mg/L	19
004	DUP-1	Aqueous	Zinc	6010C	0.0039	J	mg/L	20
005	MW-1	Aqueous	Alkalinity	SM 2320B-	3.3	J	mg/L	21
005	MW-1	Aqueous	Chloride	9056A	19		mg/L	21
005	MW-1	Aqueous	Sulfate	9056A	7.3		mg/L	21
005	MW-1	Aqueous	TOC	9060A	1.8		mg/L	21
005	MW-1	Aqueous	cis-1,2-Dichloroethene	8260B	1800		ug/L	22
005	MW-1	Aqueous	Ethylbenzene	8260B	81		ug/L	22
005	MW-1	Aqueous	Styrene	8260B	8.7	J	ug/L	22
005	MW-1	Aqueous	Toluene	8260B	15	J	ug/L	22
005	MW-1	Aqueous	Vinyl chloride	8260B	67		ug/L	22
005	MW-1	Aqueous	Xylenes (total)	8260B	380		ug/L	22
005	MW-1	Aqueous	Ethene	RSK - 175	9.7	J	ug/L	23
005	MW-1	Aqueous	Methane	RSK - 175	520	B	ug/L	23
005	MW-1	Aqueous	Aluminum	6010C	0.12	J	mg/L	23
005	MW-1	Aqueous	Barium	6010C	0.054		mg/L	23
005	MW-1	Aqueous	Calcium	6010C	0.57	J	mg/L	23
005	MW-1	Aqueous	Iron	6010C	0.66		mg/L	23
005	MW-1	Aqueous	Magnesium	6010C	1.1	J	mg/L	23
005	MW-1	Aqueous	Manganese	6010C	0.015		mg/L	23
005	MW-1	Aqueous	Potassium	6010C	1.5	J	mg/L	23
005	MW-1	Aqueous	Sodium	6010C	11		mg/L	23
005	MW-1	Aqueous	Zinc	6010C	0.0022	J	mg/L	24
006	MW-3	Aqueous	Alkalinity	SM 2320B-	5.8	J	mg/L	25
006	MW-3	Aqueous	Chloride	9056A	26		mg/L	25
006	MW-3	Aqueous	Nitrate - N	9056A	0.015	J	mg/L	25
006	MW-3	Aqueous	Sulfide	SM 4500-S2 F-	4.4		mg/L	25
006	MW-3	Aqueous	TOC	9060A	14		mg/L	25
006	MW-3	Aqueous	1,4-Dioxane	8260B (SIM	190		ug/L	25
006	MW-3	Aqueous	1,1-Dichloroethane	8260B	890		ug/L	26
006	MW-3	Aqueous	trans-1,2-Dichloroethene	8260B	85	J	ug/L	26
006	MW-3	Aqueous	cis-1,2-Dichloroethene	8260B	11000		ug/L	26
006	MW-3	Aqueous	1,1-Dichloroethene	8260B	420		ug/L	26
006	MW-3	Aqueous	Ethylbenzene	8260B	130	J	ug/L	26
006	MW-3	Aqueous	Vinyl chloride	8260B	700		ug/L	26
006	MW-3	Aqueous	Xylenes (total)	8260B	530		ug/L	26
006	MW-3	Aqueous	Ethane	RSK - 175	4.3	J	ug/L	27
006	MW-3	Aqueous	Ethene	RSK - 175	20		ug/L	27
006	MW-3	Aqueous	Methane	RSK - 175	6100		ug/L	27
006	MW-3	Aqueous	Barium	6010C	0.017	J	mg/L	27
006	MW-3	Aqueous	Calcium	6010C	1.2	J	mg/L	27

Executive Summary (Continued)

Lot Number: SB01014

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
006	MW-3	Aqueous	Chromium	6010C	0.00080	J	mg/L	27
006	MW-3	Aqueous	Iron	6010C	6.6		mg/L	27
006	MW-3	Aqueous	Magnesium	6010C	0.85	J	mg/L	27
006	MW-3	Aqueous	Manganese	6010C	0.0091	J	mg/L	27
006	MW-3	Aqueous	Potassium	6010C	0.31	J	mg/L	27
006	MW-3	Aqueous	Sodium	6010C	15		mg/L	27
006	MW-3	Aqueous	Zinc	6010C	0.025		mg/L	28

(100 detections)

Description: MW-6R

Matrix: Aqueous

Date Sampled: 01/31/2017 1010

Date Received: 02/01/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/02/2017 1613	DMA		33384
1		(Chloride) 9056A	1	02/01/2017 2029	TAF		33278
1		(Nitrate - N) 9056A	1	02/01/2017 2029	TAF		33283
1		(Sulfate) 9056A	1	02/01/2017 2029	TAF		33280
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/01/2017 2212	DMA		33227

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	ND		10	2.0	mg/L	1
Chloride		9056A	11		1.0	0.20	mg/L	1
Nitrate - N		9056A	2.4		0.020	0.0050	mg/L	1
Sulfate		9056A	7.6		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	0.73	J	1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/02/2017 1340	ECB		33348

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1
Surrogate		Run 1 Q % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		75	70-130					

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/02/2017 1607	TML		33336

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	0.62	J	1.0	0.40	ug/L	1

TOC Range: 0.703 - 0.751

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

Description: MW-6R

Matrix: Aqueous

Date Sampled: 01/31/2017 1010

Date Received: 02/01/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/02/2017 1607	TML		33336		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-6R

Matrix: Aqueous

Date Sampled: 01/31/2017 1010

Date Received: 02/01/2017

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		102	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/01/2017 2155	JJG		33294

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

TAL Metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	02/03/2017 2341	SLS	02/02/2017 2316	33398
1	3005A	6010C	1	02/07/2017 1502	CJZ	02/02/2017 0900	33301

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Aluminum	7429-90-5	6010C	0.22	J	0.40	0.095	mg/L	1
Antimony	7440-36-0	6010C	ND		0.020	0.0066	mg/L	1
Arsenic	7440-38-2	6010C	ND		0.015	0.0022	mg/L	1
Barium	7440-39-3	6010C	0.041		0.025	0.0019	mg/L	1
Beryllium	7440-41-7	6010C	ND		0.0050	0.00022	mg/L	1
Cadmium	7440-43-9	6010C	ND		0.0050	0.00054	mg/L	1
Calcium	7440-70-2	6010C	2.1	J	5.0	0.13	mg/L	1
Chromium	7440-47-3	6010C	0.0011	J	0.010	0.00072	mg/L	1
Cobalt	7440-48-4	6010C	ND		0.025	0.0013	mg/L	1
Copper	7440-50-8	6010C	0.0039	J	0.010	0.0018	mg/L	1
Iron	7439-89-6	6010C	ND		0.10	0.033	mg/L	1
Lead	7439-92-1	6010C	ND		0.010	0.0047	mg/L	1
Magnesium	7439-95-4	6010C	1.8	J	5.0	0.26	mg/L	1
Manganese	7439-96-5	6010C	0.026		0.015	0.00081	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000028	mg/L	1
Nickel	7440-02-0	6010C	ND		0.040	0.0028	mg/L	1
Potassium	7440-09-7	6010C	1.2	J	5.0	0.30	mg/L	1
Selenium	7782-49-2	6010C	ND		0.020	0.0085	mg/L	1
Silver	7440-22-4	6010C	ND		0.010	0.0021	mg/L	1
Sodium	7440-23-5	6010C	5.1		5.0	0.33	mg/L	1
Thallium	7440-28-0	6010C	ND		0.050	0.0049	mg/L	1
Vanadium	7440-62-2	6010C	ND		0.050	0.0026	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

TAL Metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	02/03/2017 2341	SLS	02/02/2017 2316	33398
1	3005A	6010C	1	02/07/2017 1502	CJZ	02/02/2017 0900	33301

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Zinc	7440-66-6	6010C	0.0067	J	0.020	0.0022	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-7

Matrix: Aqueous

Date Sampled: 01/31/2017 1140

Date Received: 02/01/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/02/2017 1618	DMA		33384
1		(Chloride) 9056A	1	02/01/2017 2053	TAF		33278
1		(Nitrate - N) 9056A	1	02/01/2017 2053	TAF		33283
1		(Sulfate) 9056A	1	02/01/2017 2053	TAF		33280
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/01/2017 2350	DMA		33227

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	30		10	2.0	mg/L	1
Chloride		9056A	5.3		1.0	0.20	mg/L	1
Nitrate - N		9056A	0.072		0.020	0.0050	mg/L	1
Sulfate		9056A	ND		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	4.8		1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/02/2017 1405	ECB		33348

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1
Surrogate		Run 1 Q % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		75	70-130					

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	02/02/2017 1741	TML		33336

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		100	10	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	2.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	2.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	2.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		10	2.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		50	10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	2.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	2.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	2.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		10	2.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	2.0	ug/L	1

TOC Range: 4.687 - 4.791

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

Description: MW-7

Matrix: Aqueous

Date Sampled: 01/31/2017 1140

Date Received: 02/01/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	5	02/02/2017 1741	TML		33336		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	2.0	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		5.0	2.0	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	2.0	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		5.0	2.0	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	2.0	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	2.0	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	2.0	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	2.0	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		10	2.0	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	2.0	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	2.0	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	2.0	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	640		5.0	2.0	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	2.0	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	2.0	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	2.0	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	2.0	ug/L	1	
Ethylbenzene	100-41-4	8260B	84		5.0	2.0	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		50	10	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		5.0	2.0	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		5.0	2.0	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	2.0	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		50	10	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		25	2.0	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		5.0	2.0	ug/L	1	
Styrene	100-42-5	8260B	ND		5.0	2.0	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	2.0	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		5.0	2.0	ug/L	1	
Toluene	108-88-3	8260B	ND		5.0	2.0	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	2.0	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	2.0	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	2.0	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	2.0	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		5.0	2.0	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	2.0	ug/L	1	
Vinyl chloride	75-01-4	8260B	200		5.0	2.0	ug/L	1	
Xylenes (total)	1330-20-7	8260B	320		5.0	2.0	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Surrogate	Run 1		Acceptance Limits
	Q	% Recovery	
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		98	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/01/2017 2208	JJG		33294

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethene	74-85-1	RSK - 175	21		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	360	B	10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-1D

Matrix: Aqueous

Date Sampled: 01/31/2017 1345

Date Received: 02/01/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/02/2017 1624	DMA		33384
1		(Chloride) 9056A	1	02/01/2017 2117	TAF		33278
1		(Nitrate - N) 9056A	1	02/01/2017 2117	TAF		33283
1		(Sulfate) 9056A	1	02/01/2017 2117	TAF		33280
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/02/2017 0023	DMA		33227

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	3.7	J	10	2.0	mg/L	1
Chloride		9056A	2.1		1.0	0.20	mg/L	1
Nitrate - N		9056A	0.21		0.020	0.0050	mg/L	1
Sulfate		9056A	0.43	J	1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	0.50	J	1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/02/2017 1429	ECB		33348

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1
Surrogate		Run 1 Q % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		78	70-130					

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/03/2017 0011	ECP		33405

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1

TOC Range: 0.495 - 0.516

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

Description: MW-1D

Matrix: Aqueous

Date Sampled: 01/31/2017 1345

Date Received: 02/01/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/03/2017 0011	ECP		33405		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	4.7		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	0.77	J	1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		106	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/01/2017 2221	JJG		33294

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: DUP-1

Matrix: Aqueous

Date Sampled: 01/31/2017

Date Received: 02/01/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/02/2017 1635	DMA		33384
1		(Chloride) 9056A	1	02/01/2017 2005	TAF		33278
1		(Nitrate - N) 9056A	1	02/01/2017 2005	TAF		33283
1		(Sulfate) 9056A	1	02/01/2017 2005	TAF		33280
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/02/2017 0158	DMA		33227

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	4.4	J	10	2.0	mg/L	1
Chloride		9056A	19		1.0	0.20	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	8.0		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	1.6		1.0	0.62	mg/L	1
TOC		9060A	1.7		1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/02/2017 1454	ECB		33348

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4		76	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	02/03/2017 0453	ECP		33405

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		1000	100	ug/L	1
Benzene	71-43-2	8260B	ND		50	20	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		50	20	ug/L	1
Bromoform	75-25-2	8260B	ND		50	20	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		100	20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		500	100	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		50	20	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		50	20	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		50	20	ug/L	1
Chloroethane	75-00-3	8260B	ND		100	20	ug/L	1
Chloroform	67-66-3	8260B	ND		50	20	ug/L	1

TOC Range: 1.703 - 1.75

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

Description: DUP-1

Matrix: Aqueous

Date Sampled: 01/31/2017

Date Received: 02/01/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	50	02/03/2017 0453	ECP		33405		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		50	20	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		50	20	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		50	20	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		50	20	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		50	20	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		50	20	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		50	20	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		50	20	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		100	20	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		50	20	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		50	20	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		50	20	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	2200		50	20	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		50	20	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		50	20	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		50	20	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		50	20	ug/L	1	
Ethylbenzene	100-41-4	8260B	95		50	20	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		500	100	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		50	20	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		50	20	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		50	20	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		500	100	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		250	20	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		50	20	ug/L	1	
Styrene	100-42-5	8260B	ND		50	20	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		50	20	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		50	20	ug/L	1	
Toluene	108-88-3	8260B	ND		50	20	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		50	20	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		50	20	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		50	20	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		50	20	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		50	20	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		50	20	ug/L	1	
Vinyl chloride	75-01-4	8260B	91		50	20	ug/L	1	
Xylenes (total)	1330-20-7	8260B	430		50	20	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: DUP-1

Matrix: Aqueous

Date Sampled: 01/31/2017

Date Received: 02/01/2017

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		106	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/01/2017 2233	JJG		33294

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	9.9	J	10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	520	B	10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

TAL Metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	02/03/2017 2348	SLS	02/02/2017 2316	33398
1	3005A	6010C	1	02/07/2017 1507	CJZ	02/02/2017 0900	33301

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Aluminum	7429-90-5	6010C	0.17	J	0.40	0.095	mg/L	1
Antimony	7440-36-0	6010C	ND		0.020	0.0066	mg/L	1
Arsenic	7440-38-2	6010C	ND		0.015	0.0022	mg/L	1
Barium	7440-39-3	6010C	0.056		0.025	0.0019	mg/L	1
Beryllium	7440-41-7	6010C	ND		0.0050	0.00022	mg/L	1
Cadmium	7440-43-9	6010C	ND		0.0050	0.00054	mg/L	1
Calcium	7440-70-2	6010C	0.59	J	5.0	0.13	mg/L	1
Chromium	7440-47-3	6010C	0.00079	J	0.010	0.00072	mg/L	1
Cobalt	7440-48-4	6010C	ND		0.025	0.0013	mg/L	1
Copper	7440-50-8	6010C	ND		0.010	0.0018	mg/L	1
Iron	7439-89-6	6010C	0.63		0.10	0.033	mg/L	1
Lead	7439-92-1	6010C	ND		0.010	0.0047	mg/L	1
Magnesium	7439-95-4	6010C	1.1	J	5.0	0.26	mg/L	1
Manganese	7439-96-5	6010C	0.016		0.015	0.00081	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000028	mg/L	1
Nickel	7440-02-0	6010C	ND		0.040	0.0028	mg/L	1
Potassium	7440-09-7	6010C	1.5	J	5.0	0.30	mg/L	1
Selenium	7782-49-2	6010C	ND		0.020	0.0085	mg/L	1
Silver	7440-22-4	6010C	ND		0.010	0.0021	mg/L	1
Sodium	7440-23-5	6010C	11		5.0	0.33	mg/L	1
Thallium	7440-28-0	6010C	ND		0.050	0.0049	mg/L	1
Vanadium	7440-62-2	6010C	ND		0.050	0.0026	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

TAL Metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	02/03/2017 2348	SLS	02/02/2017 2316	33398
1	3005A	6010C	1	02/07/2017 1507	CJZ	02/02/2017 0900	33301

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Zinc	7440-66-6	6010C	0.0039	J	0.020	0.0022	mg/L	1

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

Description: MW-1

Matrix: Aqueous

Date Sampled: 01/31/2017 1530

Date Received: 02/01/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/02/2017 1641	DMA		33384
1		(Chloride) 9056A	1	02/01/2017 2141	TAF		33278
1		(Nitrate - N) 9056A	1	02/01/2017 2141	TAF		33283
1		(Sulfate) 9056A	1	02/01/2017 2141	TAF		33280
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/02/2017 0230	DMA		33227

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	3.3	J	10	2.0	mg/L	1
Chloride		9056A	19		1.0	0.20	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	7.3		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	1.8		1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/02/2017 1518	ECB		33348

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4		76	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	02/03/2017 0429	ECP		33405

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		400	40	ug/L	1
Benzene	71-43-2	8260B	ND		20	8.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		20	8.0	ug/L	1
Bromoform	75-25-2	8260B	ND		20	8.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		40	8.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		200	40	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		20	8.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		20	8.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		20	8.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		40	8.0	ug/L	1
Chloroform	67-66-3	8260B	ND		20	8.0	ug/L	1

TOC Range: 1.751 - 1.795

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

Description: MW-1

Matrix: Aqueous

Date Sampled: 01/31/2017 1530

Date Received: 02/01/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	20	02/03/2017 0429	ECP		33405		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		20	8.0	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		20	8.0	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		20	8.0	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		20	8.0	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		20	8.0	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		20	8.0	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		20	8.0	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		20	8.0	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		40	8.0	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		20	8.0	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		20	8.0	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		20	8.0	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	1800		20	8.0	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		20	8.0	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		20	8.0	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		20	8.0	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		20	8.0	ug/L	1	
Ethylbenzene	100-41-4	8260B	81		20	8.0	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		200	40	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		20	8.0	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		20	8.0	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		20	8.0	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		200	40	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		100	8.0	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		20	8.0	ug/L	1	
Styrene	100-42-5	8260B	8.7	J	20	8.0	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		20	8.0	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		20	8.0	ug/L	1	
Toluene	108-88-3	8260B	15	J	20	8.0	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		20	8.0	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		20	8.0	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		20	8.0	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		20	8.0	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		20	8.0	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		20	8.0	ug/L	1	
Vinyl chloride	75-01-4	8260B	67		20	8.0	ug/L	1	
Xylenes (total)	1330-20-7	8260B	380		20	8.0	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-1

Matrix: Aqueous

Date Sampled: 01/31/2017 1530

Date Received: 02/01/2017

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		106	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/01/2017 2246	JJG		33294

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	9.7	J	10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	520	B	10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

TAL Metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	02/03/2017 2350	SLS	02/02/2017 2316	33398
1	3005A	6010C	1	02/07/2017 1511	CJZ	02/02/2017 0900	33301

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Aluminum	7429-90-5	6010C	0.12	J	0.40	0.095	mg/L	1
Antimony	7440-36-0	6010C	ND		0.020	0.0066	mg/L	1
Arsenic	7440-38-2	6010C	ND		0.015	0.0022	mg/L	1
Barium	7440-39-3	6010C	0.054		0.025	0.0019	mg/L	1
Beryllium	7440-41-7	6010C	ND		0.0050	0.00022	mg/L	1
Cadmium	7440-43-9	6010C	ND		0.0050	0.00054	mg/L	1
Calcium	7440-70-2	6010C	0.57	J	5.0	0.13	mg/L	1
Chromium	7440-47-3	6010C	ND		0.010	0.00072	mg/L	1
Cobalt	7440-48-4	6010C	ND		0.025	0.0013	mg/L	1
Copper	7440-50-8	6010C	ND		0.010	0.0018	mg/L	1
Iron	7439-89-6	6010C	0.66		0.10	0.033	mg/L	1
Lead	7439-92-1	6010C	ND		0.010	0.0047	mg/L	1
Magnesium	7439-95-4	6010C	1.1	J	5.0	0.26	mg/L	1
Manganese	7439-96-5	6010C	0.015		0.015	0.00081	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000028	mg/L	1
Nickel	7440-02-0	6010C	ND		0.040	0.0028	mg/L	1
Potassium	7440-09-7	6010C	1.5	J	5.0	0.30	mg/L	1
Selenium	7782-49-2	6010C	ND		0.020	0.0085	mg/L	1
Silver	7440-22-4	6010C	ND		0.010	0.0021	mg/L	1
Sodium	7440-23-5	6010C	11		5.0	0.33	mg/L	1
Thallium	7440-28-0	6010C	ND		0.050	0.0049	mg/L	1
Vanadium	7440-62-2	6010C	ND		0.050	0.0026	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-1

Matrix: Aqueous

Date Sampled: 01/31/2017 1530

Date Received: 02/01/2017

TAL Metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	02/03/2017 2350	SLS	02/02/2017 2316	33398
1	3005A	6010C	1	02/07/2017 1511	CJZ	02/02/2017 0900	33301

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Zinc	7440-66-6	6010C	0.0022	J	0.020	0.0022	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-3

Matrix: Aqueous

Date Sampled: 01/31/2017 1550

Date Received: 02/01/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/02/2017 1645	DMA		33384
1		(Chloride) 9056A	1	02/01/2017 2205	TAF		33278
1		(Nitrate - N) 9056A	1	02/01/2017 2205	TAF		33283
1		(Sulfate) 9056A	1	02/01/2017 2205	TAF		33280
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/02/2017 0303	DMA		33227

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	5.8	J	10	2.0	mg/L	1
Chloride		9056A	26		1.0	0.20	mg/L	1
Nitrate - N		9056A	0.015	J	0.020	0.0050	mg/L	1
Sulfate		9056A	ND		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	4.4		1.0	0.62	mg/L	1
TOC		9060A	14		1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B (SIM iso.)	5	02/06/2017 1727	ECB		33715

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	190		15	5.0	ug/L	2

Surrogate	Run 2 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4	79		70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	02/03/2017 0516	ECP		33405

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		4000	400	ug/L	1
Benzene	71-43-2	8260B	ND		200	80	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		200	80	ug/L	1
Bromoform	75-25-2	8260B	ND		200	80	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		400	80	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		2000	400	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		200	80	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		200	80	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		200	80	ug/L	1
Chloroethane	75-00-3	8260B	ND		400	80	ug/L	1
Chloroform	67-66-3	8260B	ND		200	80	ug/L	1

TOC Range: 13.432 - 13.869

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

Description: MW-3

Matrix: Aqueous

Date Sampled: 01/31/2017 1550

Date Received: 02/01/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	200	02/03/2017 0516	ECP		33405		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		200	80	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		200	80	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		200	80	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		200	80	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		200	80	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		200	80	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		200	80	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		200	80	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		400	80	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		200	80	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	890		200	80	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	85	J	200	80	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	11000		200	80	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	420		200	80	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		200	80	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		200	80	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		200	80	ug/L	1	
Ethylbenzene	100-41-4	8260B	130	J	200	80	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		2000	400	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		200	80	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		200	80	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		200	80	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		2000	400	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		1000	80	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		200	80	ug/L	1	
Styrene	100-42-5	8260B	ND		200	80	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		200	80	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		200	80	ug/L	1	
Toluene	108-88-3	8260B	ND		200	80	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		200	80	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		200	80	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		200	80	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		200	80	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		200	80	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		200	80	ug/L	1	
Vinyl chloride	75-01-4	8260B	700		200	80	ug/L	1	
Xylenes (total)	1330-20-7	8260B	530		200	80	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-3

Matrix: Aqueous

Date Sampled: 01/31/2017 1550

Date Received: 02/01/2017

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		108	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/01/2017 2259	JJG		33294
2		RSK - 175	10	02/06/2017 1634	JM1		33741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	4.3	J	10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	20		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	6100		100	23	ug/L	2
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

TAL Metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	02/03/2017 2352	SLS	02/02/2017 2316	33398
1	3005A	6010C	1	02/07/2017 1526	CJZ	02/02/2017 0900	33301
2	3005A	6010C	1	02/08/2017 1155	CJZ	02/02/2017 0900	33301

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Aluminum	7429-90-5	6010C	ND		0.40	0.095	mg/L	1
Antimony	7440-36-0	6010C	ND		0.020	0.0066	mg/L	1
Arsenic	7440-38-2	6010C	ND		0.015	0.0022	mg/L	1
Barium	7440-39-3	6010C	0.017	J	0.025	0.0019	mg/L	1
Beryllium	7440-41-7	6010C	ND		0.0050	0.00022	mg/L	1
Cadmium	7440-43-9	6010C	ND		0.0050	0.00054	mg/L	1
Calcium	7440-70-2	6010C	1.2	J	5.0	0.13	mg/L	1
Chromium	7440-47-3	6010C	0.00080	J	0.010	0.00072	mg/L	1
Cobalt	7440-48-4	6010C	ND		0.025	0.0013	mg/L	1
Copper	7440-50-8	6010C	ND		0.010	0.0018	mg/L	1
Iron	7439-89-6	6010C	6.6		0.10	0.033	mg/L	2
Lead	7439-92-1	6010C	ND		0.010	0.0047	mg/L	1
Magnesium	7439-95-4	6010C	0.85	J	5.0	0.26	mg/L	1
Manganese	7439-96-5	6010C	0.0091	J	0.015	0.00081	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	0.000028	mg/L	1
Nickel	7440-02-0	6010C	ND		0.040	0.0028	mg/L	1
Potassium	7440-09-7	6010C	0.31	J	5.0	0.30	mg/L	1
Selenium	7782-49-2	6010C	ND		0.020	0.0085	mg/L	1
Silver	7440-22-4	6010C	ND		0.010	0.0021	mg/L	1
Sodium	7440-23-5	6010C	15		5.0	0.33	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

TAL Metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	02/03/2017 2352	SLS	02/02/2017 2316	33398
1	3005A	6010C	1	02/07/2017 1526	CJZ	02/02/2017 0900	33301
2	3005A	6010C	1	02/08/2017 1155	CJZ	02/02/2017 0900	33301

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Thallium	7440-28-0	6010C	ND		0.050	0.0049	mg/L	1
Vanadium	7440-62-2	6010C	ND		0.050	0.0026	mg/L	1
Zinc	7440-66-6	6010C	0.025		0.020	0.0022	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: TRIP BLANK

Matrix: Aqueous

Date Sampled: 01/31/2017

Date Received: 02/01/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/02/2017 1104	TML		33336		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1	
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1	
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1	
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1	
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1	
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1	
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1	
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1	
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1	
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: TRIP BLANK

Matrix: Aqueous

Date Sampled: 01/31/2017

Date Received: 02/01/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/02/2017 1104	TML		33336		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		1.0	0.40	ug/L	1
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		1.0	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		1.0	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)		1330-20-7	8260B	ND		1.0	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		104	70-130						
Bromofluorobenzene		103	70-130						
Toluene-d8		104	70-130						

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

QC Summary

Inorganic non-metals - MB

Sample ID: SQ33227-001

Matrix: Aqueous

Batch: 33227

Analytical Method: 9060A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
TOC	ND		1	1.0	0.20	mg/L	02/01/2017 1903

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33227-002

Matrix: Aqueous

Batch: 33227

Analytical Method: 9060A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
TOC	20	20		1	99	90-110	02/01/2017 1934

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB01014-001MS

Matrix: Aqueous

Batch: 33227

Analytical Method: 9060A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
TOC	0.73	20	21		1	99	70-130	02/01/2017 2245

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB01014-001MD

Matrix: Aqueous

Batch: 33227

Analytical Method: 9060A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
TOC	0.73	20	21		1	99	0.26	70-130	20	02/01/2017 2317

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33278-001

Matrix: Aqueous

Batch: 33278

Analytical Method: 9056A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Chloride	ND		1	1.0	0.20	mg/L	02/01/2017 1916

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33278-002

Matrix: Aqueous

Batch: 33278

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Chloride	20	20		1	99	80-120	02/01/2017 1940

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB01014-006MS

Matrix: Aqueous

Batch: 33278

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Chloride	26	20	44		1	93	80-120	02/01/2017 2229

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB01014-006MD

Matrix: Aqueous

Batch: 33278

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Chloride	26	20	45		1	95	0.95	80-120	20	02/01/2017 2253

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33280-001

Matrix: Aqueous

Batch: 33280

Analytical Method: 9056A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Sulfate	ND		1	1.0	0.20	mg/L	02/01/2017 1916

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33280-002

Matrix: Aqueous

Batch: 33280

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfate	20	20		1	102	80-120	02/01/2017 1940

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB01014-006MS

Matrix: Aqueous

Batch: 33280

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfate	ND	20	21		1	104	80-120	02/01/2017 2229

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB01014-006MD

Matrix: Aqueous

Batch: 33280

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Sulfate	ND	20	22		1	108	4.0	80-120	20	02/01/2017 2253

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33283-001

Matrix: Aqueous

Batch: 33283

Analytical Method: 9056A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Nitrate - N	ND		1	0.020	0.0050	mg/L	02/01/2017 1916

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

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Inorganic non-metals - LCS

Sample ID: SQ33283-002

Matrix: Aqueous

Batch: 33283

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Nitrate - N	0.80	0.80		1	101	80-120	02/01/2017 1940

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB01014-006MS

Matrix: Aqueous

Batch: 33283

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Nitrate - N	0.015	0.80	0.77		1	95	80-120	02/01/2017 2229

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB01014-006MD

Matrix: Aqueous

Batch: 33283

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Nitrate - N	0.015	0.80	0.77		1	95	0.078	80-120	20	02/01/2017 2253

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33384-001

Matrix: Aqueous

Batch: 33384

Analytical Method: SM 2320B-2011

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Alkalinity	ND		1	10	2.0	mg/L	02/02/2017 1541

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33384-002

Matrix: Aqueous

Batch: 33384

Analytical Method: SM 2320B-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Alkalinity	100	100		1	104	90-110	02/02/2017 1558

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - Duplicate

Sample ID: SB01014-003DU

Matrix: Aqueous

Batch: 33384

Analytical Method: SM 2320B-2011

Parameter	Sample Amount (mg/L)	Result (mg/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Alkalinity	3.7	3.4	J	1	6.2	20	02/02/2017 1629

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33489-001

Matrix: Aqueous

Batch: 33489

Analytical Method: SM 4500-S2 F-2011

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Sulfide	ND		1	1.0	0.62	mg/L	02/03/2017 1334

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33489-002

Matrix: Aqueous

Batch: 33489

Analytical Method: SM 4500-S2 F-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfide	10	9.3		1	93	80-120	02/03/2017 1334

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ33336-001

Matrix: Aqueous

Batch: 33336

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	2.0	ug/L	02/02/2017 0945
Benzene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Bromodichloromethane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Bromoform	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	02/02/2017 0945
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/02/2017 0945
Carbon disulfide	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Chlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Chloroethane	ND		1	2.0	0.40	ug/L	02/02/2017 0945
Chloroform	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Chloromethane (Methyl chloride)	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Cyclohexane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Dibromochloromethane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Dichlorodifluoromethane	ND		1	2.0	0.40	ug/L	02/02/2017 0945
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Ethylbenzene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
2-Hexanone	ND		1	10	2.0	ug/L	02/02/2017 0945
Isopropylbenzene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Methyl acetate	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	02/02/2017 0945
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	02/02/2017 0945
Methylcyclohexane	ND		1	5.0	0.40	ug/L	02/02/2017 0945
Methylene chloride	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Styrene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Tetrachloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Toluene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 0945

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ33336-001

Matrix: Aqueous

Batch: 33336

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Vinyl chloride	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Xylenes (total)	ND		1	1.0	0.40	ug/L	02/02/2017 0945
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		99	70-130				
1,2-Dichloroethane-d4		101	70-130				
Toluene-d8		100	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ33336-002

Matrix: Aqueous

Batch: 33336

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	120		1	116	60-140	02/02/2017 0852
Benzene	50	57		1	113	70-130	02/02/2017 0852
Bromodichloromethane	50	61		1	122	70-130	02/02/2017 0852
Bromoform	50	52		1	103	70-130	02/02/2017 0852
Bromomethane (Methyl bromide)	50	54		1	108	60-140	02/02/2017 0852
2-Butanone (MEK)	100	130		1	127	60-140	02/02/2017 0852
Carbon disulfide	50	65		1	130	60-140	02/02/2017 0852
Carbon tetrachloride	50	62		1	125	70-130	02/02/2017 0852
Chlorobenzene	50	58		1	117	70-130	02/02/2017 0852
Chloroethane	50	52		1	105	60-140	02/02/2017 0852
Chloroform	50	59		1	119	70-130	02/02/2017 0852
Chloromethane (Methyl chloride)	50	52		1	103	60-140	02/02/2017 0852
Cyclohexane	50	61		1	122	70-130	02/02/2017 0852
1,2-Dibromo-3-chloropropane (DBCP)	50	55		1	111	70-130	02/02/2017 0852
Dibromochloromethane	50	52		1	104	70-130	02/02/2017 0852
1,2-Dibromoethane (EDB)	50	56		1	111	70-130	02/02/2017 0852
1,4-Dichlorobenzene	50	57		1	114	70-130	02/02/2017 0852
1,2-Dichlorobenzene	50	57		1	113	70-130	02/02/2017 0852
1,3-Dichlorobenzene	50	57		1	115	70-130	02/02/2017 0852
Dichlorodifluoromethane	50	54		1	107	60-140	02/02/2017 0852
1,2-Dichloroethane	50	57		1	115	70-130	02/02/2017 0852
1,1-Dichloroethane	50	63		1	126	70-130	02/02/2017 0852
cis-1,2-Dichloroethene	50	59		1	118	70-130	02/02/2017 0852
trans-1,2-Dichloroethene	50	61		1	122	70-130	02/02/2017 0852
1,1-Dichloroethene	50	62		1	124	70-130	02/02/2017 0852
1,2-Dichloropropane	50	59		1	118	70-130	02/02/2017 0852
trans-1,3-Dichloropropene	50	53		1	107	70-130	02/02/2017 0852
cis-1,3-Dichloropropene	50	62		1	124	70-130	02/02/2017 0852
Ethylbenzene	50	57		1	115	70-130	02/02/2017 0852
2-Hexanone	100	110		1	111	60-140	02/02/2017 0852
Isopropylbenzene	50	59		1	118	70-130	02/02/2017 0852
Methyl acetate	50	63		1	126	15-128	02/02/2017 0852
Methyl tertiary butyl ether (MTBE)	50	54		1	108	70-130	02/02/2017 0852
4-Methyl-2-pentanone	100	120		1	118	60-140	02/02/2017 0852
Methylcyclohexane	50	59		1	118	70-130	02/02/2017 0852
Methylene chloride	50	61		1	122	70-130	02/02/2017 0852
Styrene	50	59		1	118	70-130	02/02/2017 0852
1,1,2,2-Tetrachloroethane	50	58		1	116	60-140	02/02/2017 0852
Tetrachloroethene	50	58		1	117	70-130	02/02/2017 0852
Toluene	50	57		1	114	70-130	02/02/2017 0852
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	63		1	126	70-130	02/02/2017 0852
1,2,4-Trichlorobenzene	50	43		1	85	70-130	02/02/2017 0852
1,1,2-Trichloroethane	50	58		1	116	70-130	02/02/2017 0852
1,1,1-Trichloroethane	50	61		1	123	70-130	02/02/2017 0852

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ33336-002

Matrix: Aqueous

Batch: 33336

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	58		1	117	70-130	02/02/2017 0852
Trichlorofluoromethane	50	46		1	92	70-130	02/02/2017 0852
Vinyl chloride	50	50		1	100	70-130	02/02/2017 0852
Xylenes (total)	100	120		1	121	70-130	02/02/2017 0852
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		102	70-130				
1,2-Dichloroethane-d4		95	70-130				
Toluene-d8		101	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - MB

Sample ID: SQ33348-001

Matrix: Aqueous

Batch: 33348

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	02/02/2017 1254
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		75	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - LCS

Sample ID: SQ33348-002

Matrix: Aqueous

Batch: 33348

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,4-Dioxane	50	46		1	92	70-130	02/02/2017 1215
Surrogate	Q	% Rec				Acceptance Limit	
1,2-Dichloroethane-d4		76				70-130	

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - Duplicate

Sample ID: SB01014-002DU

Matrix: Aqueous

Batch: 33348

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Sample Amount (ug/L)		Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
1,4-Dioxane	ND		ND		1	0.00	20	02/02/2017 2150
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		75	70-130					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - MS

Sample ID: SB01014-003MS

Matrix: Aqueous

Batch: 33348

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,4-Dioxane	ND	50	45		1	89	43-173	02/02/2017 2214
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		77	70-130					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ33405-001

Matrix: Aqueous

Batch: 33405

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	2.0	ug/L	02/02/2017 2156
Benzene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Bromodichloromethane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Bromoform	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	02/02/2017 2156
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/02/2017 2156
Carbon disulfide	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Chlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Chloroethane	ND		1	2.0	0.40	ug/L	02/02/2017 2156
Chloroform	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Chloromethane (Methyl chloride)	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Cyclohexane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Dibromochloromethane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Dichlorodifluoromethane	ND		1	2.0	0.40	ug/L	02/02/2017 2156
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Ethylbenzene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
2-Hexanone	ND		1	10	2.0	ug/L	02/02/2017 2156
Isopropylbenzene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Methyl acetate	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	02/02/2017 2156
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	02/02/2017 2156
Methylcyclohexane	ND		1	5.0	0.40	ug/L	02/02/2017 2156
Methylene chloride	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Styrene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Tetrachloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Toluene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	02/02/2017 2156

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ33405-001

Matrix: Aqueous

Batch: 33405

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Vinyl chloride	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Xylenes (total)	ND		1	1.0	0.40	ug/L	02/02/2017 2156
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		88	70-130				
1,2-Dichloroethane-d4		101	70-130				
Toluene-d8		106	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ33405-002

Matrix: Aqueous

Batch: 33405

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	96		1	96	60-140	02/02/2017 2056
Benzene	50	52		1	105	70-130	02/02/2017 2056
Bromodichloromethane	50	55		1	110	70-130	02/02/2017 2056
Bromoform	50	41		1	82	70-130	02/02/2017 2056
Bromomethane (Methyl bromide)	50	47		1	94	60-140	02/02/2017 2056
2-Butanone (MEK)	100	110		1	110	60-140	02/02/2017 2056
Carbon disulfide	50	60		1	121	60-140	02/02/2017 2056
Carbon tetrachloride	50	61		1	122	70-130	02/02/2017 2056
Chlorobenzene	50	52		1	104	70-130	02/02/2017 2056
Chloroethane	50	47		1	95	60-140	02/02/2017 2056
Chloroform	50	53		1	107	70-130	02/02/2017 2056
Chloromethane (Methyl chloride)	50	48		1	96	60-140	02/02/2017 2056
Cyclohexane	50	66	N	1	132	70-130	02/02/2017 2056
1,2-Dibromo-3-chloropropane (DBCP)	50	43		1	87	70-130	02/02/2017 2056
Dibromochloromethane	50	51		1	103	70-130	02/02/2017 2056
1,2-Dibromoethane (EDB)	50	51		1	102	70-130	02/02/2017 2056
1,3-Dichlorobenzene	50	53		1	105	70-130	02/02/2017 2056
1,4-Dichlorobenzene	50	52		1	104	70-130	02/02/2017 2056
1,2-Dichlorobenzene	50	52		1	103	70-130	02/02/2017 2056
Dichlorodifluoromethane	50	54		1	108	60-140	02/02/2017 2056
1,1-Dichloroethane	50	56		1	112	70-130	02/02/2017 2056
1,2-Dichloroethane	50	53		1	105	70-130	02/02/2017 2056
1,1-Dichloroethene	50	58		1	116	70-130	02/02/2017 2056
trans-1,2-Dichloroethene	50	57		1	114	70-130	02/02/2017 2056
cis-1,2-Dichloroethene	50	54		1	107	70-130	02/02/2017 2056
1,2-Dichloropropane	50	54		1	108	70-130	02/02/2017 2056
cis-1,3-Dichloropropene	50	50		1	99	70-130	02/02/2017 2056
trans-1,3-Dichloropropene	50	54		1	108	70-130	02/02/2017 2056
Ethylbenzene	50	55		1	109	70-130	02/02/2017 2056
2-Hexanone	100	110		1	112	60-140	02/02/2017 2056
Isopropylbenzene	50	58		1	117	70-130	02/02/2017 2056
Methyl acetate	50	51		1	103	15-128	02/02/2017 2056
Methyl tertiary butyl ether (MTBE)	50	52		1	103	70-130	02/02/2017 2056
4-Methyl-2-pentanone	100	110		1	110	60-140	02/02/2017 2056
Methylcyclohexane	50	65		1	129	70-130	02/02/2017 2056
Methylene chloride	50	53		1	105	70-130	02/02/2017 2056
Styrene	50	49		1	99	70-130	02/02/2017 2056
1,1,2,2-Tetrachloroethane	50	53		1	107	60-140	02/02/2017 2056
Tetrachloroethene	50	57		1	114	70-130	02/02/2017 2056
Toluene	50	54		1	109	70-130	02/02/2017 2056
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	68	N	1	135	70-130	02/02/2017 2056
1,2,4-Trichlorobenzene	50	44		1	87	70-130	02/02/2017 2056
1,1,2-Trichloroethane	50	52		1	104	70-130	02/02/2017 2056
1,1,1-Trichloroethane	50	53		1	106	70-130	02/02/2017 2056

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ33405-002

Matrix: Aqueous

Batch: 33405

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	53		1	105	70-130	02/02/2017 2056
Trichlorofluoromethane	50	51		1	102	70-130	02/02/2017 2056
Vinyl chloride	50	51		1	101	70-130	02/02/2017 2056
Xylenes (total)	100	120		1	115	70-130	02/02/2017 2056
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		94	70-130				
1,2-Dichloroethane-d4		93	70-130				
Toluene-d8		106	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MS

Sample ID: SB01014-006MS

Matrix: Aqueous

Batch: 33405

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	ND	20000	22000		200	110	60-140	02/03/2017 0626
Benzene	ND	10000	11000		200	109	72-127	02/03/2017 0626
Bromodichloromethane	ND	10000	11000		200	112	71-143	02/03/2017 0626
Bromoform	ND	10000	8700		200	87	65-131	02/03/2017 0626
Bromomethane (Methyl bromide)	ND	10000	9700		200	97	36-168	02/03/2017 0626
2-Butanone (MEK)	ND	20000	23000		200	115	60-140	02/03/2017 0626
Carbon disulfide	ND	10000	13000		200	131	60-140	02/03/2017 0626
Carbon tetrachloride	ND	10000	12000		200	123	37-166	02/03/2017 0626
Chlorobenzene	ND	10000	11000		200	105	78-129	02/03/2017 0626
Chloroethane	ND	10000	10000		200	103	60-140	02/03/2017 0626
Chloroform	ND	10000	11000		200	114	63-123	02/03/2017 0626
Chloromethane (Methyl chloride)	ND	10000	8700		200	87	20-158	02/03/2017 0626
Cyclohexane	ND	10000	13000		200	130	70-130	02/03/2017 0626
1,2-Dibromo-3-chloropropane (DBCP)	ND	10000	8800		200	88	70-130	02/03/2017 0626
Dibromochloromethane	ND	10000	11000		200	105	74-134	02/03/2017 0626
1,2-Dibromoethane (EDB)	ND	10000	10000		200	103	70-130	02/03/2017 0626
1,4-Dichlorobenzene	ND	10000	10000		200	102	70-130	02/03/2017 0626
1,3-Dichlorobenzene	ND	10000	11000		200	106	70-130	02/03/2017 0626
1,2-Dichlorobenzene	ND	10000	10000		200	105	70-130	02/03/2017 0626
Dichlorodifluoromethane	ND	10000	10000		200	105	10-158	02/03/2017 0626
1,2-Dichloroethane	ND	10000	11000		200	109	59-143	02/03/2017 0626
1,1-Dichloroethane	890	10000	13000		200	121	69-132	02/03/2017 0626
trans-1,2-Dichloroethene	85	10000	12000		200	122	67-141	02/03/2017 0626
cis-1,2-Dichloroethene	11000	10000	22000		200	116	70-130	02/03/2017 0626
1,1-Dichloroethene	420	10000	13000		200	124	50-132	02/03/2017 0626
1,2-Dichloropropane	ND	10000	11000		200	110	71-126	02/03/2017 0626
trans-1,3-Dichloropropene	ND	10000	10000		200	105	73-131	02/03/2017 0626
cis-1,3-Dichloropropene	ND	10000	9900		200	99	69-130	02/03/2017 0626
Ethylbenzene	130	10000	11000		200	110	79-132	02/03/2017 0626
2-Hexanone	ND	20000	22000		200	110	60-140	02/03/2017 0626
Isopropylbenzene	ND	10000	12000		200	120	70-130	02/03/2017 0626
Methyl acetate	ND	10000	9900		200	99	15-128	02/03/2017 0626
Methyl tertiary butyl ether (MTBE)	ND	10000	11000		200	107	60-140	02/03/2017 0626
4-Methyl-2-pentanone	ND	20000	22000		200	109	60-140	02/03/2017 0626
Methylcyclohexane	ND	10000	13000	N	200	133	70-130	02/03/2017 0626
Methylene chloride	ND	10000	11000		200	109	69-129	02/03/2017 0626
Styrene	ND	10000	9800		200	98	70-130	02/03/2017 0626
1,1,2,2-Tetrachloroethane	ND	10000	10000		200	105	60-155	02/03/2017 0626
Tetrachloroethene	ND	10000	12000		200	116	70-130	02/03/2017 0626
Toluene	ND	10000	11000		200	111	75-125	02/03/2017 0626
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10000	14000	N	200	144	70-130	02/03/2017 0626
1,2,4-Trichlorobenzene	ND	10000	8500		200	85	70-130	02/03/2017 0626
1,1,2-Trichloroethane	ND	10000	10000		200	104	77-132	02/03/2017 0626
1,1,1-Trichloroethane	ND	10000	12000		200	119	77-132	02/03/2017 0626

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MS

Sample ID: SB01014-006MS

Matrix: Aqueous

Batch: 33405

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	ND	10000	11000		200	108	73-124	02/03/2017 0626
Trichlorofluoromethane	ND	10000	10000		200	102	41-173	02/03/2017 0626
Vinyl chloride	700	10000	11000		200	104	29-159	02/03/2017 0626
Xylenes (total)	530	20000	24000		200	118	70-130	02/03/2017 0626
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		96	70-130					
Bromofluorobenzene		95	70-130					
Toluene-d8		106	70-130					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MSD

Sample ID: SB01014-006MD

Matrix: Aqueous

Batch: 33405

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	ND	20000	20000		200	102	7.5	60-140	20	02/03/2017 0650
Benzene	ND	10000	11000		200	111	2.3	72-127	20	02/03/2017 0650
Bromodichloromethane	ND	10000	11000		200	115	2.7	71-143	20	02/03/2017 0650
Bromoform	ND	10000	9000		200	90	2.4	65-131	20	02/03/2017 0650
Bromomethane (Methyl bromide)	ND	10000	9300		200	93	4.9	36-168	20	02/03/2017 0650
2-Butanone (MEK)	ND	20000	22000		200	110	4.7	60-140	20	02/03/2017 0650
Carbon disulfide	ND	10000	13000		200	130	0.24	60-140	20	02/03/2017 0650
Carbon tetrachloride	ND	10000	12000		200	123	0.068	37-166	20	02/03/2017 0650
Chlorobenzene	ND	10000	11000		200	109	3.0	78-129	20	02/03/2017 0650
Chloroethane	ND	10000	10000		200	102	1.7	60-140	20	02/03/2017 0650
Chloroform	ND	10000	11000		200	113	0.49	63-123	20	02/03/2017 0650
Chloromethane (Methyl chloride)	ND	10000	8600		200	86	0.65	20-158	20	02/03/2017 0650
Cyclohexane	ND	10000	14000	N	200	136	4.4	70-130	20	02/03/2017 0650
1,2-Dibromo-3-chloropropane (DBCP)	ND	10000	8900		200	89	1.3	70-130	20	02/03/2017 0650
Dibromochloromethane	ND	10000	11000		200	109	3.3	74-134	20	02/03/2017 0650
1,2-Dibromoethane (EDB)	ND	10000	11000		200	106	2.7	70-130	20	02/03/2017 0650
1,4-Dichlorobenzene	ND	10000	10000		200	105	2.3	70-130	20	02/03/2017 0650
1,3-Dichlorobenzene	ND	10000	11000		200	109	2.8	70-130	20	02/03/2017 0650
1,2-Dichlorobenzene	ND	10000	11000		200	106	0.91	70-130	20	02/03/2017 0650
Dichlorodifluoromethane	ND	10000	11000		200	107	1.6	10-158	20	02/03/2017 0650
1,2-Dichloroethane	ND	10000	11000		200	110	0.87	59-143	20	02/03/2017 0650
1,1-Dichloroethane	890	10000	13000		200	121	0.19	69-132	20	02/03/2017 0650
trans-1,2-Dichloroethene	85	10000	12000		200	121	0.12	67-141	20	02/03/2017 0650
cis-1,2-Dichloroethene	11000	10000	23000		200	119	1.1	70-130	20	02/03/2017 0650
1,1-Dichloroethene	420	10000	13000		200	127	1.9	50-132	20	02/03/2017 0650
1,2-Dichloropropane	ND	10000	11000		200	113	3.0	71-126	20	02/03/2017 0650
trans-1,3-Dichloropropene	ND	10000	11000		200	108	2.5	73-131	20	02/03/2017 0650
cis-1,3-Dichloropropene	ND	10000	10000		200	100	1.0	69-130	20	02/03/2017 0650
Ethylbenzene	130	10000	12000		200	115	4.7	79-132	20	02/03/2017 0650
2-Hexanone	ND	20000	22000		200	112	1.5	60-140	20	02/03/2017 0650
Isopropylbenzene	ND	10000	12000		200	122	1.5	70-130	20	02/03/2017 0650
Methyl acetate	ND	10000	9900		200	99	0.031	15-128	20	02/03/2017 0650
Methyl tertiary butyl ether (MTBE)	ND	10000	11000		200	107	0.062	60-140	20	02/03/2017 0650
4-Methyl-2-pentanone	ND	20000	22000		200	109	0.036	60-140	20	02/03/2017 0650
Methylcyclohexane	ND	10000	14000	N	200	139	4.0	70-130	20	02/03/2017 0650
Methylene chloride	ND	10000	11000		200	110	0.96	69-129	20	02/03/2017 0650
Styrene	ND	10000	10000		200	102	3.7	70-130	20	02/03/2017 0650
1,1,2,2-Tetrachloroethane	ND	10000	11000		200	110	5.1	60-155	20	02/03/2017 0650
Tetrachloroethene	ND	10000	12000		200	122	5.6	70-130	20	02/03/2017 0650
Toluene	ND	10000	12000		200	115	4.0	75-125	20	02/03/2017 0650
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10000	14000	N	200	144	0.16	70-130	20	02/03/2017 0650
1,2,4-Trichlorobenzene	ND	10000	8500		200	85	0.097	70-130	20	02/03/2017 0650
1,1,2-Trichloroethane	ND	10000	11000		200	108	3.7	77-132	20	02/03/2017 0650
1,1,1-Trichloroethane	ND	10000	12000		200	118	0.69	77-132	20	02/03/2017 0650

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MSD

Sample ID: SB01014-006MD

Matrix: Aqueous

Batch: 33405

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	ND	10000	11000		200	113	3.9	73-124	20	02/03/2017 0650
Trichlorofluoromethane	ND	10000	10000		200	101	0.65	41-173	20	02/03/2017 0650
Vinyl chloride	700	10000	11000		200	104	0.45	29-159	20	02/03/2017 0650
Xylenes (total)	530	20000	25000		200	121	2.8	70-130	20	02/03/2017 0650
Surrogate	Q	% Rec	Acceptance Limit							
1,2-Dichloroethane-d4		97	70-130							
Bromofluorobenzene		95	70-130							
Toluene-d8		108	70-130							

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - MB

Sample ID: SQ33715-001

Matrix: Aqueous

Batch: 33715

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	02/06/2017 1638
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		80	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - LCS

Sample ID: SQ33715-002

Matrix: Aqueous

Batch: 33715

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,4-Dioxane	50	44		1	88	70-130	02/06/2017 1601
Surrogate	Q	% Rec				Acceptance Limit	
1,2-Dichloroethane-d4		82				70-130	

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - MB

Sample ID: SQ33294-001

Matrix: Aqueous

Batch: 33294

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Ethane	ND		1	10	1.5	ug/L	02/01/2017 1809
Ethene	ND		1	10	1.2	ug/L	02/01/2017 1809
Methane	2.4	J	1	10	2.3	ug/L	02/01/2017 1809
Propane	ND		1	10	2.6	ug/L	02/01/2017 1809

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCS

Sample ID: SQ33294-002

Matrix: Aqueous

Batch: 33294

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Ethane	550	580		1	105	70-130	02/01/2017 1717
Ethene	520	540		1	104	70-130	02/01/2017 1717
Methane	300	290		1	97	70-130	02/01/2017 1717
Propane	810	870		1	107	70-130	02/01/2017 1717

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCSD

Sample ID: SQ33294-003

Matrix: Aqueous

Batch: 33294

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Ethane	550	620		1	112	5.6	70-130	30	02/01/2017 1728
Ethene	520	570		1	110	5.3	70-130	30	02/01/2017 1728
Methane	300	300		1	103	6.0	70-130	30	02/01/2017 1728
Propane	810	920		1	114	5.9	70-130	30	02/01/2017 1728

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - MB

Sample ID: SQ33741-001

Matrix: Aqueous

Batch: 33741

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Methane	ND		1	10	2.3	ug/L	02/06/2017 1601

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCS

Sample ID: SQ33741-002

Matrix: Aqueous

Batch: 33741

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Methane	300	320		1	110	70-130	02/06/2017 1529

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCSD

Sample ID: SQ33741-003

Matrix: Aqueous

Batch: 33741

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Methane	300	320		1	109	0.93	70-130	30	02/06/2017 1540

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

TAL Metals - MB

Sample ID: SQ33301-001

Matrix: Aqueous

Batch: 33301

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 02/02/2017 900

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Aluminum	ND		1	0.40	0.095	mg/L	02/07/2017 1348
Antimony	ND		1	0.020	0.0066	mg/L	02/07/2017 1348
Arsenic	ND		1	0.015	0.0022	mg/L	02/07/2017 1348
Barium	ND		1	0.025	0.0019	mg/L	02/07/2017 1348
Beryllium	ND		1	0.0050	0.00022	mg/L	02/07/2017 1348
Cadmium	ND		1	0.0050	0.00054	mg/L	02/07/2017 1348
Calcium	ND		1	5.0	0.13	mg/L	02/07/2017 1348
Chromium	ND		1	0.010	0.00072	mg/L	02/07/2017 1348
Cobalt	ND		1	0.025	0.0013	mg/L	02/07/2017 1348
Copper	ND		1	0.010	0.0018	mg/L	02/07/2017 1348
Iron	ND		1	0.10	0.033	mg/L	02/07/2017 1348
Lead	ND		1	0.010	0.0047	mg/L	02/07/2017 1348
Magnesium	ND		1	5.0	0.26	mg/L	02/07/2017 1348
Manganese	ND		1	0.015	0.00081	mg/L	02/07/2017 1348
Nickel	ND		1	0.040	0.0028	mg/L	02/07/2017 1348
Potassium	ND		1	5.0	0.30	mg/L	02/07/2017 1348
Selenium	ND		1	0.020	0.0085	mg/L	02/07/2017 1348
Silver	ND		1	0.010	0.0021	mg/L	02/07/2017 1348
Sodium	ND		1	5.0	0.33	mg/L	02/07/2017 1348
Thallium	ND		1	0.050	0.0049	mg/L	02/07/2017 1348
Vanadium	ND		1	0.050	0.0026	mg/L	02/07/2017 1348
Zinc	ND		1	0.020	0.0022	mg/L	02/07/2017 1348

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

TAL Metals - LCS

Sample ID: SQ33301-002

Matrix: Aqueous

Batch: 33301

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 02/02/2017 900

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Aluminum	20	20		1	99	80-120	02/07/2017 1352
Antimony	0.40	0.39		1	97	80-120	02/07/2017 1352
Arsenic	0.40	0.40		1	101	80-120	02/07/2017 1352
Barium	2.0	2.0		1	99	80-120	02/07/2017 1352
Beryllium	2.0	2.0		1	100	80-120	02/07/2017 1352
Cadmium	0.40	0.40		1	99	80-120	02/07/2017 1352
Calcium	40	39		1	97	80-120	02/07/2017 1352
Chromium	2.0	2.0		1	99	80-120	02/07/2017 1352
Cobalt	2.0	2.0		1	100	80-120	02/07/2017 1352
Copper	2.0	2.0		1	101	80-120	02/07/2017 1352
Iron	20	22		1	111	80-120	02/07/2017 1352
Lead	0.40	0.40		1	101	80-120	02/07/2017 1352
Magnesium	40	40		1	101	80-120	02/07/2017 1352
Manganese	2.0	1.9		1	97	80-120	02/07/2017 1352
Nickel	2.0	2.0		1	99	80-120	02/07/2017 1352
Potassium	40	38		1	96	80-120	02/07/2017 1352
Selenium	0.40	0.41		1	102	80-120	02/07/2017 1352
Silver	0.40	0.40		1	100	80-120	02/07/2017 1352
Sodium	40	40		1	100	80-120	02/07/2017 1352
Thallium	0.80	0.81		1	101	80-120	02/07/2017 1352
Vanadium	2.0	2.0		1	99	80-120	02/07/2017 1352
Zinc	2.0	2.0		1	100	80-120	02/07/2017 1352

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

TAL Metals - MB

Sample ID: SQ33398-001

Batch: 33398

Analytical Method: 7470A

Matrix: Aqueous

Prep Method: 7470A

Prep Date: 02/02/2017 2316

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Mercury	ND		1	0.00010	0.000028	mg/L	02/03/2017 0126

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

TAL Metals - LCS

Sample ID: SQ33398-002

Matrix: Aqueous

Batch: 33398

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 02/02/2017 2316

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	0.0020	0.0020		1	101	80-120	02/03/2017 0128

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

TAL Metals - MS

Sample ID: SB01014-001MS

Matrix: Aqueous

Batch: 33398

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 02/02/2017 2316

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	ND	0.0020	0.0021		1	104	85-115	02/03/2017 2343

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

TAL Metals - MSD

Sample ID: SB01014-001MD

Matrix: Aqueous

Batch: 33398

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 02/02/2017 2316

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Mercury	ND	0.0020	0.0020		1	102	1.6	85-115	20	02/03/2017 2345

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Chain of Custody
and
Miscellaneous Documents



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

Number 68873

Client EarthCon Consultants, Inc		Report to Contact Carol Ashworth		Telephone No. / E-mail 770-973-2100 / carol@earthcon.com		Quote No.	
Address 1800 WEST OAK RIDGE BLVD STE 106		Sampler's Signature <i>[Signature]</i>		Analysis (Attach list if more space is needed)		Page 1 of 1	
City, State, Zip Code Marietta GA 30007		Printed Name Roger M Davis		Barcode SB01014		Remarks / Cooler I.D.	
Project Name Lawnes, Blakelyville, SC		F.O. No.		Matrix		No. of Containers by Preservative Type	
Project No. 02-20160376.00		Date		Approx		NONE	
Sample ID / Description (Comments for each sample may be combined on one line.)		Time		SW		NONE	
MW-6R		1010		GX		1 1 1 8 3	
MW-7		1140		GX		1 1 1 8 3	
MW-1B		1345		GX		1 1 1 8 3	
DUP-1		-		GX		1 1 1 8 3	
MW-1		1530		GX		1 1 1 8 3	
MW-3		1550		GX		1 1 1 8 3	
TRIP BLANK		-		GX		2	

Turn Around Time Required (Prior lab approval required for expedited TAT.)		Sample Disposal		Possible / Hazardous Identification	
<input checked="" type="checkbox"/> Standard L. Rush (Specimen)		<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab		<input checked="" type="checkbox"/> Non-Hazardous <input type="checkbox"/> Flammable <input type="checkbox"/> Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown	
1. Reinspected by <i>Roger M Davis</i>		Date 1/31/17 Time 1800		1. Received by	
2. Reinspected by		Date		2. Received by	
3. Reinspected by		Date		3. Received by	
4. Reinspected by FEDEX		Date 2/1/17 Time 0930		4. Laboratory received by <i>[Signature]</i>	

QC Requirements (Specify)		Date		Time	
VEG 1-4-Dioxin		2/1/17		0930	
VEG		2/1/17		0930	
Diox. Gases		2/1/17		0930	
MOS/SO4/Cl/AK		2/1/17		0930	
TRX Metals		2/1/17		0930	

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

Received on ice (Circle) No Yes Receipt Temp. **50** °C

SHEALY ENVIRONMENTAL SERVICES, INC.

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

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

Sample Receipt Checklist (SRC)

Client: Earthcon Cooler Inspected by/date: man/02/17 Lot #: SR01014

Means of receipt: <input type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	1. Were custody seals present on the cooler?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/> 2. If custody seals were present, were they intact and unbroken?
pH strip ID: <u>15-148, 17-34</u> CI strip ID: _____		
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>150/50 °C</u> / / °C / / °C / / °C		
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: <u>6</u> IR Gun Correction Factor: <u>0</u> °C		
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/> 3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/> 4. Is the commercial courier's packing slip attached to this form?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	5. Were proper custody procedures (relinquished/received) followed?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	6. Were sample IDs listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	7. Were sample IDs listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	8. Was collection date & time listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	9. Was collection date & time listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	10. Did all container label information (ID, date, time) agree with the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	11. Were tests to be performed listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	13. Was adequate sample volume available?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/> 16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/> 17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/> 18. Were all cyanide and/or sulfide samples received at a pH > 12?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/> 19. Were all applicable NH3/TKN/cyanide/phenol/BNA (<0.5mg/L) samples free of residual chlorine?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/> 20. Were collection temperatures documented on the COC for NC samples?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/> 21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/> 22. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)		
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____		
Sample(s) _____ were received with bubbles >6 mm in diameter.		
Sample(s) _____ were received with TRC >0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: _____		
SC Drinking Water Project Sample(s) pH verified to be < 2 by _____ Date: _____		
Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR# _____		
Sample labels applied by: <u>man</u> Verified by: _____ Date: <u>2/17</u>		

Comments: -001-006 received three 250 mL NaOH/ZnAc but no test listed on COC

Report of Analysis

EarthCon Consultants, Inc.
1880 West Oak Parkway
Building 100, Suite 106
Marietta, GA 30062
Attention: Carol Northern

Project Name: Lennox, Blackville, SC

Project Number:02.20160378.00

Lot Number:SB02014

Date Completed:02/10/2017



Lucas Odom
Project Manager



This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

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

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative EarthCon Consultants, Inc. Lot Number: SB02014

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

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

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

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

Dissolved Gases

The LCS associated with batch 33741 recovered Propane marginally above method criteria. No corrective action is required as all associated samples are non-detect for this compound.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
EarthCon Consultants, Inc.
Lot Number: SB02014

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-3D	Aqueous	02/01/2017 0745	02/02/2017
002	MW-15	Aqueous	02/01/2017 0840	02/02/2017
003	MW-11	Aqueous	02/01/2017 1055	02/02/2017
004	MW-2	Aqueous	02/01/2017 1120	02/02/2017
005	MW-2D	Aqueous	02/01/2017 1005	02/02/2017
006	MW-10	Aqueous	02/01/2017 1350	02/02/2017
007	MW-5	Aqueous	02/01/2017 1425	02/02/2017
008	MW-14	Aqueous	02/01/2017 1515	02/02/2017
009	TRIP BLANK	Aqueous	02/01/2017	02/02/2017

(9 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary EarthCon Consultants, Inc. Lot Number: SB02014

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-3D	Aqueous	Chloride	9056A	12		mg/L	6
001	MW-3D	Aqueous	Nitrate - N	9056A	4.7		mg/L	6
001	MW-3D	Aqueous	Sulfate	9056A	0.52	J	mg/L	6
001	MW-3D	Aqueous	TOC	9060A	0.50	J	mg/L	6
001	MW-3D	Aqueous	Chloroform	8260B	0.63	J	ug/L	6
001	MW-3D	Aqueous	cis-1,2-Dichloroethene	8260B	0.55	J	ug/L	7
002	MW-15	Aqueous	Alkalinity	SM 2320B-	26		mg/L	9
002	MW-15	Aqueous	Chloride	9056A	6.8		mg/L	9
002	MW-15	Aqueous	Nitrate - N	9056A	0.075		mg/L	9
002	MW-15	Aqueous	Sulfate	9056A	11		mg/L	9
002	MW-15	Aqueous	TOC	9060A	0.87	J	mg/L	9
002	MW-15	Aqueous	Methane	RSK - 175	270		ug/L	11
003	MW-11	Aqueous	Alkalinity	SM 2320B-	100		mg/L	12
003	MW-11	Aqueous	Chloride	9056A	3.1		mg/L	12
003	MW-11	Aqueous	Sulfate	9056A	5.3		mg/L	12
003	MW-11	Aqueous	TOC	9060A	2.9		mg/L	12
003	MW-11	Aqueous	Methane	RSK - 175	180		ug/L	14
004	MW-2	Aqueous	Chloride	9056A	6.7		mg/L	15
004	MW-2	Aqueous	Nitrate - N	9056A	1.0		mg/L	15
004	MW-2	Aqueous	Sulfate	9056A	0.33	J	mg/L	15
004	MW-2	Aqueous	TOC	9060A	0.57	J	mg/L	15
004	MW-2	Aqueous	Tetrachloroethene	8260B	4.8		ug/L	16
005	MW-2D	Aqueous	Alkalinity	SM 2320B-	7.6	J	mg/L	18
005	MW-2D	Aqueous	Chloride	9056A	2.4		mg/L	18
005	MW-2D	Aqueous	Sulfate	9056A	4.6		mg/L	18
005	MW-2D	Aqueous	TOC	9060A	0.74	J	mg/L	18
005	MW-2D	Aqueous	Tetrachloroethene	8260B	1.4		ug/L	19
005	MW-2D	Aqueous	Xylenes (total)	8260B	0.50	J	ug/L	19
006	MW-10	Aqueous	Alkalinity	SM 2320B-	2.0	J	mg/L	21
006	MW-10	Aqueous	Chloride	9056A	5.5		mg/L	21
006	MW-10	Aqueous	Sulfate	9056A	4.8		mg/L	21
006	MW-10	Aqueous	TOC	9060A	1.4		mg/L	21
006	MW-10	Aqueous	Methane	RSK - 175	13		ug/L	23
007	MW-5	Aqueous	Chloride	9056A	20		mg/L	24
007	MW-5	Aqueous	Nitrate - N	9056A	0.013	J	mg/L	24
007	MW-5	Aqueous	Sulfate	9056A	3.9		mg/L	24
007	MW-5	Aqueous	TOC	9060A	0.85	J	mg/L	24
007	MW-5	Aqueous	1,4-Dioxane	8260B (SIM)	14		ug/L	24
007	MW-5	Aqueous	1,1-Dichloroethane	8260B	3.7	J	ug/L	25
007	MW-5	Aqueous	trans-1,2-Dichloroethene	8260B	9.2		ug/L	25
007	MW-5	Aqueous	cis-1,2-Dichloroethene	8260B	800		ug/L	25
007	MW-5	Aqueous	Tetrachloroethene	8260B	120		ug/L	25
007	MW-5	Aqueous	Trichloroethene	8260B	170		ug/L	25
007	MW-5	Aqueous	Vinyl chloride	8260B	6.6		ug/L	25
007	MW-5	Aqueous	Methane	RSK - 175	2000		ug/L	26

Executive Summary (Continued)

Lot Number: SB02014

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
008	MW-14	Aqueous	Alkalinity	SM 2320B-	10		mg/L	27
008	MW-14	Aqueous	Chloride	9056A	1.7		mg/L	27
008	MW-14	Aqueous	Sulfate	9056A	5.0		mg/L	27
008	MW-14	Aqueous	TOC	9060A	1.7		mg/L	27
008	MW-14	Aqueous	Methane	RSK - 175	50		ug/L	29

(50 detections)

Description: MW-3D

Matrix: Aqueous

Date Sampled: 02/01/2017 0745

Date Received: 02/02/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1741	DMA		33774
1		(Chloride) 9056A	1	02/02/2017 1431	TAF		33536
1		(Nitrate - N) 9056A	1	02/02/2017 1431	TAF		33540
1		(Sulfate) 9056A	1	02/02/2017 1431	TAF		33539
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/03/2017 1844	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	ND		10	2.0	mg/L	1
Chloride		9056A	12		1.0	0.20	mg/L	1
Nitrate - N		9056A	4.7		0.020	0.0050	mg/L	1
Sulfate		9056A	0.52	J	1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	0.50	J	1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/03/2017 1206	ECB		33474

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4	81		70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/04/2017 1333	TML		33577

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	0.63	J	1.0	0.40	ug/L	1

TOC Range: 0.464 - 0.536

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

Description: MW-3D

Matrix: Aqueous

Date Sampled: 02/01/2017 0745

Date Received: 02/02/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/04/2017 1333	TML		33577		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	0.55	J	1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

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

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/06/2017 1647	JM1		33741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-15

Matrix: Aqueous

Date Sampled: 02/01/2017 0840

Date Received: 02/02/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1750	DMA		33774
1		(Chloride) 9056A	1	02/02/2017 1455	TAF		33536
1		(Nitrate - N) 9056A	1	02/02/2017 1455	TAF		33540
1		(Sulfate) 9056A	1	02/02/2017 1455	TAF		33539
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/03/2017 1916	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	26		10	2.0	mg/L	1
Chloride		9056A	6.8		1.0	0.20	mg/L	1
Nitrate - N		9056A	0.075		0.020	0.0050	mg/L	1
Sulfate		9056A	11		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	0.87	J	1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/03/2017 1231	ECB		33474

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1
Surrogate		Run 1 Q % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		80	70-130					

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/04/2017 1356	TML		33577

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1

TOC Range: 0.844 - 0.9

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

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/04/2017 1356	TML		33577		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		100	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/06/2017 1700	JM1		33741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	270		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-11

Matrix: Aqueous

Date Sampled: 02/01/2017 1055

Date Received: 02/02/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1755	DMA		33774
1		(Chloride) 9056A	1	02/02/2017 1519	TAF		33536
1		(Nitrate - N) 9056A	1	02/02/2017 1519	TAF		33540
1		(Sulfate) 9056A	1	02/02/2017 1519	TAF		33539
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/03/2017 1949	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	100		10	2.0	mg/L	1
Chloride		9056A	3.1		1.0	0.20	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	5.3		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	2.9		1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/03/2017 1255	ECB		33474

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4	82		70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/04/2017 1420	TML		33577

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1

TOC Range: 2.852 - 2.986

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

Description: MW-11

Matrix: Aqueous

Date Sampled: 02/01/2017 1055

Date Received: 02/02/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/04/2017 1420	TML		33577		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		99	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/06/2017 1713	JM1		33741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	180		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-2

Matrix: Aqueous

Date Sampled: 02/01/2017 1120

Date Received: 02/02/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1759	DMA		33774
1		(Chloride) 9056A	1	02/02/2017 1543	TAF		33536
1		(Nitrate - N) 9056A	1	02/02/2017 1543	TAF		33540
1		(Sulfate) 9056A	1	02/02/2017 1543	TAF		33539
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/03/2017 2022	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	ND		10	2.0	mg/L	1
Chloride		9056A	6.7		1.0	0.20	mg/L	1
Nitrate - N		9056A	1.0		0.020	0.0050	mg/L	1
Sulfate		9056A	0.33	J	1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	0.57	J	1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/03/2017 1320	ECB		33474

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4	81		70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/04/2017 1443	TML		33577

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1

TOC Range: 0.556 - 0.602

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

Description: MW-2

Matrix: Aqueous

Date Sampled: 02/01/2017 1120

Date Received: 02/02/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/04/2017 1443	TML		33577		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	4.8		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-2

Matrix: Aqueous

Date Sampled: 02/01/2017 1120

Date Received: 02/02/2017

Surrogate	Run 1		Acceptance Limits
	Q	% Recovery	
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		99	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/06/2017 1725	JM1		33741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-2D

Matrix: Aqueous

Date Sampled: 02/01/2017 1005

Date Received: 02/02/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1804	DMA		33774
1		(Chloride) 9056A	1	02/02/2017 1607	TAF		33536
1		(Nitrate - N) 9056A	1	02/02/2017 1607	TAF		33540
1		(Sulfate) 9056A	1	02/02/2017 1607	TAF		33539
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/03/2017 2055	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	7.6	J	10	2.0	mg/L	1
Chloride		9056A	2.4		1.0	0.20	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	4.6		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	0.74	J	1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B (SIM iso.)	1	02/06/2017 1702	ECB		33715

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	2
Surrogate		Run 2 % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		80	70-130					

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/04/2017 1506	TML		33577

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1

TOC Range: 0.719 - 0.776

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

Description: MW-2D

Matrix: Aqueous

Date Sampled: 02/01/2017 1005

Date Received: 02/02/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/04/2017 1506	TML		33577		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	1.4		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	0.50	J	1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-2D

Matrix: Aqueous

Date Sampled: 02/01/2017 1005

Date Received: 02/02/2017

Surrogate	Run 1		Acceptance Limits
	Q	% Recovery	
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		99	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/06/2017 1738	JM1		33741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-10

Matrix: Aqueous

Date Sampled: 02/01/2017 1350

Date Received: 02/02/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1808	DMA		33774
1		(Chloride) 9056A	1	02/02/2017 1631	TAF		33536
1		(Nitrate - N) 9056A	1	02/02/2017 1631	TAF		33540
1		(Sulfate) 9056A	1	02/02/2017 1631	TAF		33539
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/03/2017 2127	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	2.0	J	10	2.0	mg/L	1
Chloride		9056A	5.5		1.0	0.20	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	4.8		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	1.4		1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/03/2017 1409	ECB		33474

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4	84		70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/04/2017 1530	TML		33577

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1

TOC Range: 1.393 - 1.406

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

Description: MW-10

Matrix: Aqueous

Date Sampled: 02/01/2017 1350

Date Received: 02/02/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/04/2017 1530	TML		33577		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		101	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/06/2017 1751	JM1		33741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	13		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-5

Matrix: Aqueous

Date Sampled: 02/01/2017 1425

Date Received: 02/02/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1813	DMA		33774
1		(Chloride) 9056A	1	02/02/2017 1655	TAF		33536
1		(Nitrate - N) 9056A	1	02/02/2017 1655	TAF		33540
1		(Sulfate) 9056A	1	02/02/2017 1655	TAF		33539
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/03/2017 2200	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	ND		10	2.0	mg/L	1
Chloride		9056A	20		1.0	0.20	mg/L	1
Nitrate - N		9056A	0.013	J	0.020	0.0050	mg/L	1
Sulfate		9056A	3.9		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	0.85	J	1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/03/2017 1433	ECB		33474

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	14		3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4	83		70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	02/04/2017 1617	TML		33577

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		100	10	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	2.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	2.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	2.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		10	2.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		50	10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	2.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	2.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	2.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		10	2.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	2.0	ug/L	1

TOC Range: 0.833 - 0.855

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

Description: MW-5

Matrix: Aqueous

Date Sampled: 02/01/2017 1425

Date Received: 02/02/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	5	02/04/2017 1617	TML		33577		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	2.0	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		5.0	2.0	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	2.0	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		5.0	2.0	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	2.0	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	2.0	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	2.0	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	2.0	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		10	2.0	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	2.0	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	3.7	J	5.0	2.0	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	9.2		5.0	2.0	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	800		5.0	2.0	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	2.0	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	2.0	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	2.0	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	2.0	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		5.0	2.0	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		50	10	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		5.0	2.0	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		5.0	2.0	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	2.0	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		50	10	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		25	2.0	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		5.0	2.0	ug/L	1	
Styrene	100-42-5	8260B	ND		5.0	2.0	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	2.0	ug/L	1	
Tetrachloroethene	127-18-4	8260B	120		5.0	2.0	ug/L	1	
Toluene	108-88-3	8260B	ND		5.0	2.0	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.0	2.0	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	2.0	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	2.0	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	2.0	ug/L	1	
Trichloroethene	79-01-6	8260B	170		5.0	2.0	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		5.0	2.0	ug/L	1	
Vinyl chloride	75-01-4	8260B	6.6		5.0	2.0	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		5.0	2.0	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-5

Matrix: Aqueous

Date Sampled: 02/01/2017 1425

Date Received: 02/02/2017

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

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/08/2017 1851	JM1		34057
2		RSK - 175	5	02/09/2017 1441	JM1		34104

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	2000		50	11	ug/L	2
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-14

Matrix: Aqueous

Date Sampled: 02/01/2017 1515

Date Received: 02/02/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1817	DMA		33774
1		(Chloride) 9056A	1	02/02/2017 1719	TAF		33536
1		(Nitrate - N) 9056A	1	02/02/2017 1719	TAF		33540
1		(Sulfate) 9056A	1	02/02/2017 1719	TAF		33539
1		(Sulfide) SM 4500-S2 F-2011	1	02/03/2017 1334	AMM1		33489
1		(TOC) 9060A	1	02/04/2017 0041	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	10		10	2.0	mg/L	1
Chloride		9056A	1.7		1.0	0.20	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	5.0		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	1.7		1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/03/2017 1457	ECB		33474

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1
Surrogate		Run 1 Q % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		81	70-130					

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/04/2017 1553	TML		33577

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1

TOC Range: 1.641 - 1.711

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

Description: MW-14

Matrix: Aqueous

Date Sampled: 02/01/2017 1515

Date Received: 02/02/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/04/2017 1553	TML		33577		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		99	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/08/2017 1904	JM1		34057

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	50		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: TRIP BLANK

Matrix: Aqueous

Date Sampled: 02/01/2017

Date Received: 02/02/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/04/2017 1223	TML		33577		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1	
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1	
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1	
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1	
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1	
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1	
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1	
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1	
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1	
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: TRIP BLANK

Matrix: Aqueous

Date Sampled: 02/01/2017

Date Received: 02/02/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/04/2017 1223	TML		33577		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		1.0	0.40	ug/L	1
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		1.0	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		1.0	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)		1330-20-7	8260B	ND		1.0	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		100	70-130						
Bromofluorobenzene		95	70-130						
Toluene-d8		101	70-130						

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

QC Summary

Inorganic non-metals - MB

Sample ID: SQ33486-001

Matrix: Aqueous

Batch: 33486

Analytical Method: 9060A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
TOC	ND		1	1.0	0.20	mg/L	02/03/2017 1742

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33486-002

Matrix: Aqueous

Batch: 33486

Analytical Method: 9060A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
TOC	20	19		1	97	90-110	02/03/2017 1813

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB02014-007MS

Matrix: Aqueous

Batch: 33486

Analytical Method: 9060A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
TOC	0.85	20	20		1	98	70-130	02/03/2017 2233

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB02014-007MD

Matrix: Aqueous

Batch: 33486

Analytical Method: 9060A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
TOC	0.85	20	20		1	98	0.077	70-130	20	02/03/2017 2306

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33489-001

Matrix: Aqueous

Batch: 33489

Analytical Method: SM 4500-S2 F-2011

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Sulfide	ND		1	1.0	0.62	mg/L	02/03/2017 1334

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33489-002

Matrix: Aqueous

Batch: 33489

Analytical Method: SM 4500-S2 F-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfide	10	9.3		1	93	80-120	02/03/2017 1334

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB02014-001MS

Matrix: Aqueous

Batch: 33489

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfide	ND	10	7.0		1	70	70-130	02/03/2017 1334

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB02014-001MD

Matrix: Aqueous

Batch: 33489

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Sulfide	ND	10	7.3		1	73	3.2	70-130	20	02/03/2017 1334

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33536-001

Matrix: Aqueous

Batch: 33536

Analytical Method: 9056A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Chloride	ND		1	1.0	0.20	mg/L	02/02/2017 1343

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33536-002

Matrix: Aqueous

Batch: 33536

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Chloride	20	20		1	98	80-120	02/02/2017 1407

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB02014-008MS

Matrix: Aqueous

Batch: 33536

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Chloride	1.7	20	22		1	100	80-120	02/02/2017 1743

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB02014-008MD

Matrix: Aqueous

Batch: 33536

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Chloride	1.7	20	22		1	100	0.64	80-120	20	02/02/2017 1856

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33539-001

Matrix: Aqueous

Batch: 33539

Analytical Method: 9056A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Sulfate	ND		1	1.0	0.20	mg/L	02/02/2017 1343

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33539-002

Matrix: Aqueous

Batch: 33539

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfate	20	20		1	100	80-120	02/02/2017 1407

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB02014-008MS

Matrix: Aqueous

Batch: 33539

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfate	5.0	20	26		1	105	80-120	02/02/2017 1743

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB02014-008MD

Matrix: Aqueous

Batch: 33539

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Sulfate	5.0	20	26		1	104	0.63	80-120	20	02/02/2017 1856

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33540-001

Matrix: Aqueous

Batch: 33540

Analytical Method: 9056A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Nitrate - N	ND		1	0.020	0.0050	mg/L	02/02/2017 1343

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33540-002

Matrix: Aqueous

Batch: 33540

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Nitrate - N	0.80	0.77		1	96	80-120	02/02/2017 1407

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB02014-008MS

Matrix: Aqueous

Batch: 33540

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Nitrate - N	ND	0.80	0.77		1	97	80-120	02/02/2017 1743

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB02014-008MD

Matrix: Aqueous

Batch: 33540

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Nitrate - N	ND	0.80	0.78		1	98	0.66	80-120	20	02/02/2017 1856

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33774-001

Matrix: Aqueous

Batch: 33774

Analytical Method: SM 2320B-2011

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Alkalinity	ND		1	10	2.0	mg/L	02/06/2017 1731

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33774-002

Matrix: Aqueous

Batch: 33774

Analytical Method: SM 2320B-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Alkalinity	100	99		1	99	90-110	02/06/2017 1737

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - Duplicate

Sample ID: SB02014-001DU

Matrix: Aqueous

Batch: 33774

Analytical Method: SM 2320B-2011

Parameter	Sample Amount (mg/L)	Result (mg/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Alkalinity	ND	ND		1	0.00	20	02/06/2017 1745

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - MB

Sample ID: SQ33474-001

Matrix: Aqueous

Batch: 33474

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	02/03/2017 1142
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		79	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - LCS

Sample ID: SQ33474-002

Matrix: Aqueous

Batch: 33474

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,4-Dioxane	50	45		1	89	70-130	02/03/2017 1105
Surrogate	Q	% Rec				Acceptance Limit	
1,2-Dichloroethane-d4		80				70-130	

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - Duplicate

Sample ID: SB02014-001DU

Matrix: Aqueous

Batch: 33474

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Sample Amount (ug/L)		Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
1,4-Dioxane	ND		ND		1	0.00	20	02/03/2017 2016
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		88	70-130					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - MS

Sample ID: SB02014-002MS

Matrix: Aqueous

Batch: 33474

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,4-Dioxane	ND	50	46		1	91	43-173	02/03/2017 2040
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		89	70-130					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ33577-001

Matrix: Aqueous

Batch: 33577

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	2.0	ug/L	02/04/2017 1155
Benzene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Bromodichloromethane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Bromoform	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	02/04/2017 1155
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/04/2017 1155
Carbon disulfide	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Chlorobenzene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Chloroethane	ND		1	2.0	0.40	ug/L	02/04/2017 1155
Chloroform	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Chloromethane (Methyl chloride)	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Cyclohexane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Dibromochloromethane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Dichlorodifluoromethane	ND		1	2.0	0.40	ug/L	02/04/2017 1155
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Ethylbenzene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
2-Hexanone	ND		1	10	2.0	ug/L	02/04/2017 1155
Isopropylbenzene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Methyl acetate	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	02/04/2017 1155
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	02/04/2017 1155
Methylcyclohexane	ND		1	5.0	0.40	ug/L	02/04/2017 1155
Methylene chloride	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Styrene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Tetrachloroethene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Toluene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	02/04/2017 1155

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ33577-001

Matrix: Aqueous

Batch: 33577

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Vinyl chloride	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Xylenes (total)	ND		1	1.0	0.40	ug/L	02/04/2017 1155
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		91	70-130				
1,2-Dichloroethane-d4		97	70-130				
Toluene-d8		95	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ33577-002

Matrix: Aqueous

Batch: 33577

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	110		1	110	60-140	02/04/2017 1103
Benzene	50	52		1	105	70-130	02/04/2017 1103
Bromodichloromethane	50	55		1	111	70-130	02/04/2017 1103
Bromoform	50	46		1	92	70-130	02/04/2017 1103
Bromomethane (Methyl bromide)	50	58		1	117	60-140	02/04/2017 1103
2-Butanone (MEK)	100	120		1	118	60-140	02/04/2017 1103
Carbon disulfide	50	62		1	125	60-140	02/04/2017 1103
Carbon tetrachloride	50	60		1	119	70-130	02/04/2017 1103
Chlorobenzene	50	53		1	106	70-130	02/04/2017 1103
Chloroethane	50	56		1	112	60-140	02/04/2017 1103
Chloroform	50	55		1	110	70-130	02/04/2017 1103
Chloromethane (Methyl chloride)	50	53		1	105	60-140	02/04/2017 1103
Cyclohexane	50	61		1	121	70-130	02/04/2017 1103
1,2-Dibromo-3-chloropropane (DBCP)	50	46		1	92	70-130	02/04/2017 1103
Dibromochloromethane	50	48		1	96	70-130	02/04/2017 1103
1,2-Dibromoethane (EDB)	50	51		1	101	70-130	02/04/2017 1103
1,2-Dichlorobenzene	50	52		1	103	70-130	02/04/2017 1103
1,3-Dichlorobenzene	50	52		1	103	70-130	02/04/2017 1103
1,4-Dichlorobenzene	50	52		1	103	70-130	02/04/2017 1103
Dichlorodifluoromethane	50	57		1	114	60-140	02/04/2017 1103
1,1-Dichloroethane	50	57		1	115	70-130	02/04/2017 1103
1,2-Dichloroethane	50	54		1	107	70-130	02/04/2017 1103
trans-1,2-Dichloroethene	50	56		1	113	70-130	02/04/2017 1103
1,1-Dichloroethene	50	58		1	116	70-130	02/04/2017 1103
cis-1,2-Dichloroethene	50	54		1	109	70-130	02/04/2017 1103
1,2-Dichloropropane	50	54		1	108	70-130	02/04/2017 1103
cis-1,3-Dichloropropene	50	57		1	114	70-130	02/04/2017 1103
trans-1,3-Dichloropropene	50	48		1	96	70-130	02/04/2017 1103
Ethylbenzene	50	53		1	106	70-130	02/04/2017 1103
2-Hexanone	100	100		1	103	60-140	02/04/2017 1103
Isopropylbenzene	50	53		1	107	70-130	02/04/2017 1103
Methyl acetate	50	56		1	112	15-128	02/04/2017 1103
Methyl tertiary butyl ether (MTBE)	50	50		1	101	70-130	02/04/2017 1103
4-Methyl-2-pentanone	100	110		1	111	60-140	02/04/2017 1103
Methylcyclohexane	50	59		1	117	70-130	02/04/2017 1103
Methylene chloride	50	58		1	115	70-130	02/04/2017 1103
Styrene	50	53		1	107	70-130	02/04/2017 1103
1,1,2,2-Tetrachloroethane	50	53		1	106	60-140	02/04/2017 1103
Tetrachloroethene	50	55		1	109	70-130	02/04/2017 1103
Toluene	50	52		1	105	70-130	02/04/2017 1103
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	63		1	125	70-130	02/04/2017 1103
1,2,4-Trichlorobenzene	50	41		1	83	70-130	02/04/2017 1103
1,1,2-Trichloroethane	50	53		1	106	70-130	02/04/2017 1103
1,1,1-Trichloroethane	50	59		1	118	70-130	02/04/2017 1103

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ33577-002

Matrix: Aqueous

Batch: 33577

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	54		1	108	70-130	02/04/2017 1103
Trichlorofluoromethane	50	52		1	103	70-130	02/04/2017 1103
Vinyl chloride	50	54		1	107	70-130	02/04/2017 1103
Xylenes (total)	100	110		1	110	70-130	02/04/2017 1103
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		98	70-130				
1,2-Dichloroethane-d4		98	70-130				
Toluene-d8		101	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - MB

Sample ID: SQ33715-001

Matrix: Aqueous

Batch: 33715

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	02/06/2017 1638
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		80	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - LCS

Sample ID: SQ33715-002

Matrix: Aqueous

Batch: 33715

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,4-Dioxane	50	44		1	88	70-130	02/06/2017 1601
Surrogate	Q	% Rec				Acceptance Limit	
1,2-Dichloroethane-d4		82				70-130	

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - MB

Sample ID: SQ33741-001

Matrix: Aqueous

Batch: 33741

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Ethane	ND		1	10	1.5	ug/L	02/06/2017 1601
Ethene	ND		1	10	1.2	ug/L	02/06/2017 1601
Methane	ND		1	10	2.3	ug/L	02/06/2017 1601
Propane	ND		1	10	2.6	ug/L	02/06/2017 1601

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCS

Sample ID: SQ33741-002

Matrix: Aqueous

Batch: 33741

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Ethane	550	700		1	126	70-130	02/06/2017 1529
Ethene	520	640		1	123	70-130	02/06/2017 1529
Methane	300	320		1	110	70-130	02/06/2017 1529
Propane	810	1100	N	1	131	70-130	02/06/2017 1529

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCSD

Sample ID: SQ33741-003

Matrix: Aqueous

Batch: 33741

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Ethane	550	690		1	125	1.0	70-130	30	02/06/2017 1540
Ethene	520	630		1	122	1.0	70-130	30	02/06/2017 1540
Methane	300	320		1	109	0.93	70-130	30	02/06/2017 1540
Propane	810	1100		1	130	0.83	70-130	30	02/06/2017 1540

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - MB

Sample ID: SQ34057-001

Matrix: Aqueous

Batch: 34057

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Ethane	ND		1	10	1.5	ug/L	02/08/2017 1656
Ethene	ND		1	10	1.2	ug/L	02/08/2017 1656
Methane	ND		1	10	2.3	ug/L	02/08/2017 1656
Propane	ND		1	10	2.6	ug/L	02/08/2017 1656

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCS

Sample ID: SQ34057-002

Matrix: Aqueous

Batch: 34057

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Ethane	550	570		1	104	70-130	02/08/2017 1625
Ethene	520	530		1	103	70-130	02/08/2017 1625
Methane	300	290		1	97	70-130	02/08/2017 1625
Propane	810	850		1	105	70-130	02/08/2017 1625

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCSD

Sample ID: SQ34057-003

Matrix: Aqueous

Batch: 34057

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Ethane	550	570		1	103	0.69	70-130	30	02/08/2017 1635
Ethene	520	530		1	102	0.93	70-130	30	02/08/2017 1635
Methane	300	280		1	96	0.72	70-130	30	02/08/2017 1635
Propane	810	850		1	105	0.17	70-130	30	02/08/2017 1635

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - MB

Sample ID: SQ34104-001

Matrix: Aqueous

Batch: 34104

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Methane	ND		1	10	2.3	ug/L	02/09/2017 1416

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCS

Sample ID: SQ34104-002

Matrix: Aqueous

Batch: 34104

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Methane	300	290		1	97	70-130	02/09/2017 1238

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCSD

Sample ID: SQ34104-003

Matrix: Aqueous

Batch: 34104

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Methane	300	290		1	98	0.61	70-130	30	02/09/2017 1249

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Chain of Custody
and
Miscellaneous Documents



Chain of Custody Record

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

Number 68874

Client EarthCon Consultants, Inc		Report to Contact Carol Anderson		Telephone No. / E-mail 770-973-2100 / CarolAnderson@EarthCon.com		Quote No.	
Address 1880 West Oak Army Blvd STE 100		Sampler's Signature <i>[Signature]</i>		Analysis (Attach list if more space is needed)		Page 1 of 1	
City Waverly		Printed Name Ken M Davis		Barcode 		Remarks / Cooler I.D. SB02014	
State GA		Project Name LEWIS, Blackville, SC		Matrix		No of Containers by Preservative Type	
Zip Code 30307		P.O. No.		Agencies		PCRB	
Project No. 02-2016-0378-00		Date		Schools		HCHO	
Sample ID / Description (Containers for each sample may be contained on one line.)		Time		Agencies		HCHO	
MW-3D		2/1/17		0745		GX	
MW-1S				0840		GX	
MW-11				1055		GX	
MW-2				1125		GX	
MW-2D				1005		GX	
MW-10				1350		GX	
MW-5				1425		GX	
MW-14				1515		GX	
TRIP/Blank				-		GX	

Turn Around Time Required (Prior lab approval required for expedited TAT.)	Sample Disposal	Passive Hazard Identification	
<input checked="" type="checkbox"/> Standard	<input checked="" type="checkbox"/> Return to Client	<input checked="" type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable
<input type="checkbox"/> Rush (Specify)	<input checked="" type="checkbox"/> Disposed by Lab	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison
1. Relinquished by <i>[Signature]</i>	Date 2/1/17	Time 1800	QC Requirements (Specify)
2. Relinquished by	Date	Time	Date
3. Relinquished by	Date	Time	Date
4. Relinquished by FEDEX	Date 2/21/17	Time 0914	Date 2/21/17
Note: All samples are retained for four weeks from receipt unless other arrangements are made.		Receipt Temp. 49 °C 2175 °C	Time 0914

SHEALY ENVIRONMENTAL SERVICES, INC.

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

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

Sample Receipt Checklist (SRC)

Client: Earthcon Cooler Inspected by/date: MAM/02/2017 Lot #: SBO2014

Means of receipt: <input type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other _____		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	1. Were custody seals present on the cooler?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	2. If custody seals were present, were they intact and unbroken?
pH strip ID: <u>15-148, 15-1526</u> Cl strip ID: _____		
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>2125/4.9/4.9 °C 3437/3.8/3.8 °C</u> / / °C / / °C		
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: <u>6</u> IR Gun Correction Factor: <u>0</u> °C		
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	4. Is the commercial courier's packing slip attached to this form?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	5. Were proper custody procedures (relinquished/received) followed?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	6. Were sample IDs listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	7. Were sample IDs listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	8. Was collection date & time listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	9. Was collection date & time listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	10. Did all container label information (ID, date, time) agree with the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	11. Were tests to be performed listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	13. Was adequate sample volume available?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	16. Were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any VOA vials?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	18. Were all cyanide and/or sulfide samples received at a pH > 12?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (<0.5mg/L) samples free of residual chlorine?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	20. Were collection temperatures documented on the COC for NC samples?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	22. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)		
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____.		
Sample(s) _____ were received with bubbles >6 mm in diameter.		
Sample(s) _____ were received with TRC >0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: _____.		
SC Drinking Water Project Sample(s) pH verified to be < 2 by _____ Date: _____		
Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR# _____		
Sample labels applied by: <u>MAM</u> Verified by: _____ Date: <u>2/2/17</u>		

Comments: _____

Report of Analysis

EarthCon Consultants, Inc.
1880 West Oak Parkway
Building 100, Suite 106
Marietta, GA 30062
Attention: Carol Northern

Project Name: Lennox, Blackville, SC

Project Number:02.20160378.00

Lot Number:SB03001

Date Completed:02/10/2017



Lucas Odom
Project Manager



This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

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

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative EarthCon Consultants, Inc. Lot Number: SB03001

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

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

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

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

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
EarthCon Consultants, Inc.
Lot Number: SB03001

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-4	Aqueous	02/02/2017 0815	02/03/2017
002	MW-4D	Aqueous	02/02/2017 0930	02/03/2017
003	TRIP BLANK	Aqueous	02/02/2017	02/03/2017

(3 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary EarthCon Consultants, Inc. Lot Number: SB03001

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-4	Aqueous	Chloride	9056A	9.2		mg/L	5
001	MW-4	Aqueous	Sulfate	9056A	4.2		mg/L	5
001	MW-4	Aqueous	TOC	9060A	1.4		mg/L	5
001	MW-4	Aqueous	cis-1,2-Dichloroethene	8260B	1.1		ug/L	6
001	MW-4	Aqueous	Tetrachloroethene	8260B	0.67	J	ug/L	6
001	MW-4	Aqueous	Trichloroethene	8260B	1.3		ug/L	6
002	MW-4D	Aqueous	Alkalinity	SM 2320B-	2.0	J	mg/L	8
002	MW-4D	Aqueous	Chloride	9056A	2.0		mg/L	8
002	MW-4D	Aqueous	Nitrate - N	9056A	0.078		mg/L	8
002	MW-4D	Aqueous	Sulfate	9056A	1.9		mg/L	8
002	MW-4D	Aqueous	TOC	9060A	0.47	J	mg/L	8
002	MW-4D	Aqueous	Acetone	8260B	3.5	J	ug/L	8
002	MW-4D	Aqueous	Tetrachloroethene	8260B	5.3		ug/L	9
002	MW-4D	Aqueous	Trichloroethene	8260B	0.42	J	ug/L	9

(14 detections)

Description: MW-4

Matrix: Aqueous

Date Sampled: 02/02/2017 0815

Date Received: 02/03/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1835	DMA		33774
1		(Chloride) 9056A	1	02/03/2017 1750	TAF		33584
1		(Nitrate - N) 9056A	1	02/03/2017 1750	TAF		33587
1		(Sulfate) 9056A	1	02/03/2017 1750	TAF		33586
1		(Sulfide) SM 4500-S2 F-2011	1	02/07/2017 1820	BWS		33923
1		(TOC) 9060A	1	02/04/2017 0114	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	ND		10	2.0	mg/L	1
Chloride		9056A	9.2		1.0	0.20	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	4.2		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	1.4		1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/06/2017 1751	ECB		33715

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1
Surrogate		Run 1 Q % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		80	70-130					

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/06/2017 1454	JM1		33672

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1

TOC Range: 1.419 - 1.447

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

Description: MW-4

Matrix: Aqueous

Date Sampled: 02/02/2017 0815

Date Received: 02/03/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/06/2017 1454	JM1		33672		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	1.1		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	0.67	J	1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	1.3		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-4

Matrix: Aqueous

Date Sampled: 02/02/2017 0815

Date Received: 02/03/2017

Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		87	70-130
Toluene-d8		106	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/09/2017 1453	JM1		34104

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: MW-4D

Matrix: Aqueous

Date Sampled: 02/02/2017 0930

Date Received: 02/03/2017

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity) SM 2320B-2011	1	02/06/2017 1839	DMA		33774
1		(Chloride) 9056A	1	02/03/2017 1814	TAF		33584
1		(Nitrate - N) 9056A	1	02/03/2017 1814	TAF		33587
1		(Sulfate) 9056A	1	02/03/2017 1814	TAF		33586
1		(Sulfide) SM 4500-S2 F-2011	1	02/07/2017 1820	BWS		33923
1		(TOC) 9060A	1	02/04/2017 0147	DMA		33486

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Alkalinity		SM 2320B-20	2.0	J	10	2.0	mg/L	1
Chloride		9056A	2.0		1.0	0.20	mg/L	1
Nitrate - N		9056A	0.078		0.020	0.0050	mg/L	1
Sulfate		9056A	1.9		1.0	0.20	mg/L	1
Sulfide	18496-25-8	SM 4500-S2	ND		1.0	0.62	mg/L	1
TOC		9060A	0.47	J	1.0	0.20	mg/L	1

Volatile Organic Compounds by GC/MS (SIM with isotope dilution)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B (SIM iso.)	1	02/06/2017 1816	ECB		33715

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,4-Dioxane	123-91-1	8260B (SIM)	ND		3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4		80	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/06/2017 1517	JM1		33672

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	3.5	J	20	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1

TOC Range: 0.453 - 0.476

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

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/06/2017 1517	JM1		33672		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	5.3		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.40	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260B	0.42	J	1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260B	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		106	70-130

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	02/09/2017 1506	JM1		34104

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	1.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	1.2	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.3	ug/L	1
Propane	74-98-6	RSK - 175	ND		10	2.6	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: TRIP BLANK

Matrix: Aqueous

Date Sampled: 02/02/2017

Date Received: 02/03/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/06/2017 1146	JM1		33672		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Acetone	67-64-1	8260B	ND		20	2.0	ug/L	1	
Benzene	71-43-2	8260B	ND		1.0	0.40	ug/L	1	
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.40	ug/L	1	
Bromoform	75-25-2	8260B	ND		1.0	0.40	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.40	ug/L	1	
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1	
Carbon disulfide	75-15-0	8260B	ND		1.0	0.40	ug/L	1	
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.40	ug/L	1	
Chlorobenzene	108-90-7	8260B	ND		1.0	0.40	ug/L	1	
Chloroethane	75-00-3	8260B	ND		2.0	0.40	ug/L	1	
Chloroform	67-66-3	8260B	ND		1.0	0.40	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.40	ug/L	1	
Cyclohexane	110-82-7	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260B	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260B	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260B	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260B	ND		1.0	0.40	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260B	ND		1.0	0.40	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

Description: TRIP BLANK

Matrix: Aqueous

Date Sampled: 02/02/2017

Date Received: 02/03/2017

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	02/06/2017 1146	JM1		33672		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		1.0	0.40	ug/L	1
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		1.0	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		1.0	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		1.0	0.40	ug/L	1
Xylenes (total)		1330-20-7	8260B	ND		1.0	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		103	70-130						
Bromofluorobenzene		87	70-130						
Toluene-d8		105	70-130						

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

QC Summary

Inorganic non-metals - MB

Sample ID: SQ33486-001

Matrix: Aqueous

Batch: 33486

Analytical Method: 9060A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
TOC	ND		1	1.0	0.20	mg/L	02/03/2017 1742

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33486-002

Matrix: Aqueous

Batch: 33486

Analytical Method: 9060A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
TOC	20	19		1	97	90-110	02/03/2017 1813

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33584-001

Matrix: Aqueous

Batch: 33584

Analytical Method: 9056A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Chloride	ND		1	1.0	0.20	mg/L	02/03/2017 1702

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33584-002

Matrix: Aqueous

Batch: 33584

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Chloride	20	20		1	100	80-120	02/03/2017 1726

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB03001-002MS

Matrix: Aqueous

Batch: 33584

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Chloride	2.0	20	21		1	95	80-120	02/03/2017 1838

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB03001-002MD

Matrix: Aqueous

Batch: 33584

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Chloride	2.0	20	22		1	100	4.3	80-120	20	02/03/2017 1902

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33586-001

Matrix: Aqueous

Batch: 33586

Analytical Method: 9056A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Sulfate	ND		1	1.0	0.20	mg/L	02/03/2017 1702

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33586-002

Matrix: Aqueous

Batch: 33586

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfate	20	21		1	103	80-120	02/03/2017 1726

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB03001-002MS

Matrix: Aqueous

Batch: 33586

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfate	1.9	20	21		1	97	80-120	02/03/2017 1838

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB03001-002MD

Matrix: Aqueous

Batch: 33586

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Sulfate	1.9	20	22		1	101	4.0	80-120	20	02/03/2017 1902

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33587-001

Matrix: Aqueous

Batch: 33587

Analytical Method: 9056A

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Nitrate - N	ND		1	0.020	0.0050	mg/L	02/03/2017 1702

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33587-002

Matrix: Aqueous

Batch: 33587

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Nitrate - N	0.80	0.76		1	95	80-120	02/03/2017 1726

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB03001-002MS

Matrix: Aqueous

Batch: 33587

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Nitrate - N	0.078	0.80	0.83		1	94	80-120	02/03/2017 1838

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB03001-002MD

Matrix: Aqueous

Batch: 33587

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Nitrate - N	0.078	0.80	0.86		1	98	3.7	80-120	20	02/03/2017 1902

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33774-001

Matrix: Aqueous

Batch: 33774

Analytical Method: SM 2320B-2011

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Alkalinity	ND		1	10	2.0	mg/L	02/06/2017 1731

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33774-002

Matrix: Aqueous

Batch: 33774

Analytical Method: SM 2320B-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Alkalinity	100	99		1	99	90-110	02/06/2017 1737

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MB

Sample ID: SQ33923-001

Matrix: Aqueous

Batch: 33923

Analytical Method: SM 4500-S2 F-2011

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Sulfide	ND		1	1.0	0.62	mg/L	02/07/2017 1820

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - LCS

Sample ID: SQ33923-002

Matrix: Aqueous

Batch: 33923

Analytical Method: SM 4500-S2 F-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfide	10	9.8		1	98	80-120	02/07/2017 0000

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MS

Sample ID: SB03001-002MS

Matrix: Aqueous

Batch: 33923

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Sulfide	ND	10	6.1	N	1	61	70-130	02/07/2017 1820

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Inorganic non-metals - MSD

Sample ID: SB03001-002MD

Matrix: Aqueous

Batch: 33923

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Sulfide	ND	10	5.8	N	1	58	5.2	70-130	20	02/07/2017 1820

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ33672-001

Matrix: Aqueous

Batch: 33672

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	2.0	ug/L	02/06/2017 1024
Benzene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Bromodichloromethane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Bromoform	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	02/06/2017 1024
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/06/2017 1024
Carbon disulfide	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Chlorobenzene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Chloroethane	ND		1	2.0	0.40	ug/L	02/06/2017 1024
Chloroform	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Chloromethane (Methyl chloride)	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Cyclohexane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Dibromochloromethane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Dichlorodifluoromethane	ND		1	2.0	0.40	ug/L	02/06/2017 1024
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Ethylbenzene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
2-Hexanone	ND		1	10	2.0	ug/L	02/06/2017 1024
Isopropylbenzene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Methyl acetate	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	02/06/2017 1024
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	02/06/2017 1024
Methylcyclohexane	ND		1	5.0	0.40	ug/L	02/06/2017 1024
Methylene chloride	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Styrene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Tetrachloroethene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Toluene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	02/06/2017 1024

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: SQ33672-001

Matrix: Aqueous

Batch: 33672

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Vinyl chloride	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Xylenes (total)	ND		1	1.0	0.40	ug/L	02/06/2017 1024
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		87	70-130				
1,2-Dichloroethane-d4		103	70-130				
Toluene-d8		105	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ33672-002

Matrix: Aqueous

Batch: 33672

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	97		1	97	60-140	02/06/2017 0922
Benzene	50	49		1	98	70-130	02/06/2017 0922
Bromodichloromethane	50	53		1	106	70-130	02/06/2017 0922
Bromoform	50	39		1	79	70-130	02/06/2017 0922
Bromomethane (Methyl bromide)	50	52		1	103	60-140	02/06/2017 0922
2-Butanone (MEK)	100	110		1	106	60-140	02/06/2017 0922
Carbon disulfide	50	55		1	109	60-140	02/06/2017 0922
Carbon tetrachloride	50	58		1	115	70-130	02/06/2017 0922
Chlorobenzene	50	49		1	98	70-130	02/06/2017 0922
Chloroethane	50	56		1	111	60-140	02/06/2017 0922
Chloroform	50	53		1	105	70-130	02/06/2017 0922
Chloromethane (Methyl chloride)	50	61		1	122	60-140	02/06/2017 0922
Cyclohexane	50	56		1	111	70-130	02/06/2017 0922
1,2-Dibromo-3-chloropropane (DBCP)	50	40		1	81	70-130	02/06/2017 0922
Dibromochloromethane	50	49		1	98	70-130	02/06/2017 0922
1,2-Dibromoethane (EDB)	50	48		1	97	70-130	02/06/2017 0922
1,4-Dichlorobenzene	50	47		1	94	70-130	02/06/2017 0922
1,3-Dichlorobenzene	50	48		1	97	70-130	02/06/2017 0922
1,2-Dichlorobenzene	50	48		1	96	70-130	02/06/2017 0922
Dichlorodifluoromethane	50	66		1	133	60-140	02/06/2017 0922
1,2-Dichloroethane	50	51		1	102	70-130	02/06/2017 0922
1,1-Dichloroethane	50	55		1	109	70-130	02/06/2017 0922
cis-1,2-Dichloroethene	50	51		1	102	70-130	02/06/2017 0922
trans-1,2-Dichloroethene	50	53		1	106	70-130	02/06/2017 0922
1,1-Dichloroethene	50	53		1	106	70-130	02/06/2017 0922
1,2-Dichloropropane	50	52		1	104	70-130	02/06/2017 0922
cis-1,3-Dichloropropene	50	48		1	95	70-130	02/06/2017 0922
trans-1,3-Dichloropropene	50	50		1	100	70-130	02/06/2017 0922
Ethylbenzene	50	51		1	102	70-130	02/06/2017 0922
2-Hexanone	100	110		1	108	60-140	02/06/2017 0922
Isopropylbenzene	50	54		1	108	70-130	02/06/2017 0922
Methyl acetate	50	47		1	94	15-128	02/06/2017 0922
Methyl tertiary butyl ether (MTBE)	50	49		1	97	70-130	02/06/2017 0922
4-Methyl-2-pentanone	100	110		1	110	60-140	02/06/2017 0922
Methylcyclohexane	50	58		1	117	70-130	02/06/2017 0922
Methylene chloride	50	50		1	101	70-130	02/06/2017 0922
Styrene	50	46		1	93	70-130	02/06/2017 0922
1,1,2,2-Tetrachloroethane	50	50		1	100	60-140	02/06/2017 0922
Tetrachloroethene	50	52		1	104	70-130	02/06/2017 0922
Toluene	50	50		1	101	70-130	02/06/2017 0922
1,1,2-Trichloro-1,1,2-Trifluoroethane	50	60		1	120	70-130	02/06/2017 0922
1,2,4-Trichlorobenzene	50	41		1	81	70-130	02/06/2017 0922
1,1,1-Trichloroethane	50	51		1	102	70-130	02/06/2017 0922
1,1,2-Trichloroethane	50	50		1	100	70-130	02/06/2017 0922

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: SQ33672-002

Matrix: Aqueous

Batch: 33672

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	48		1	96	70-130	02/06/2017 0922
Trichlorofluoromethane	50	59		1	118	70-130	02/06/2017 0922
Vinyl chloride	50	60		1	121	70-130	02/06/2017 0922
Xylenes (total)	100	110		1	107	70-130	02/06/2017 0922
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		94	70-130				
1,2-Dichloroethane-d4		100	70-130				
Toluene-d8		107	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - MB

Sample ID: SQ33715-001

Matrix: Aqueous

Batch: 33715

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	02/06/2017 1638
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		80	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - LCS

Sample ID: SQ33715-002

Matrix: Aqueous

Batch: 33715

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,4-Dioxane	50	44		1	88	70-130	02/06/2017 1601
Surrogate	Q	% Rec				Acceptance Limit	
1,2-Dichloroethane-d4		82				70-130	

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - Duplicate

Sample ID: SB03001-001DU

Matrix: Aqueous

Batch: 33715

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Sample Amount (ug/L)		Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
1,4-Dioxane	ND		ND		1	0.00	20	02/07/2017 0112
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		84	70-130					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Volatile Organic Compounds by GC/MS (SIM with isotope dilution) - MS

Sample ID: SB03001-002MS

Matrix: Aqueous

Batch: 33715

Prep Method: 5030B

Analytical Method: 8260B (SIM iso.)

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,4-Dioxane	ND	50	44		1	88	43-173	02/07/2017 0137
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		83	70-130					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - MB

Sample ID: SQ34104-001

Matrix: Aqueous

Batch: 34104

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Ethane	ND		1	10	1.5	ug/L	02/09/2017 1416
Ethene	ND		1	10	1.2	ug/L	02/09/2017 1416
Methane	ND		1	10	2.3	ug/L	02/09/2017 1416
Propane	ND		1	10	2.6	ug/L	02/09/2017 1416

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCS

Sample ID: SQ34104-002

Matrix: Aqueous

Batch: 34104

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Ethane	550	590		1	106	70-130	02/09/2017 1238
Ethene	520	540		1	105	70-130	02/09/2017 1238
Methane	300	290		1	97	70-130	02/09/2017 1238
Propane	810	880		1	109	70-130	02/09/2017 1238

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Dissolved Gases - LCSD

Sample ID: SQ34104-003

Matrix: Aqueous

Batch: 34104

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Ethane	550	590		1	107	0.51	70-130	30	02/09/2017 1249
Ethene	520	540		1	105	0.48	70-130	30	02/09/2017 1249
Methane	300	290		1	98	0.61	70-130	30	02/09/2017 1249
Propane	810	880		1	109	0.44	70-130	30	02/09/2017 1249

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

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

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

Chain of Custody
and
Miscellaneous Documents

SHEALY ENVIRONMENTAL SERVICES, INC.

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

Page 1 of 1
Effective Date: 11/29/2015
Expiry Date: 11/29/2021

Sample Receipt Checklist (SRC)

Client: Earth Care Cooler Inspected by/date: ECL 12/3/17 Lot #: SB03001

Means of receipt: <input type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other <u>EO 2/3/17</u> <u>FedEx</u>		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	1. Were custody seals present on the cooler?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	2. If custody seals were present, were they intact and unbroken?
pH strip ID: <u>17-34</u> , <u>15-1448</u> CI strip ID: _____		
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>13013</u> °C / / °C / / °C / / °C		
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: <u>6</u> IR Gun Correction Factor: <u>0</u> °C		
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	4. Is the commercial courier's packing slip attached to this form?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	5. Were proper custody procedures (relinquished/received) followed?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	6. Were sample IDs listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	7. Were sample IDs listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	8. Was collection date & time listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	9. Was collection date & time listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	10. Did all container label information (ID, date, time) agree with the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	11. Were tests to be performed listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	13. Was adequate sample volume available?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	16. Were bubbles present > "pea-size" (1/4" or 6mm in diameter) in any VOA vials?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	18. Were all cyanide and/or sulfide samples received at a pH > 12?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (<0.5mg/L) samples free of residual chlorine?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	20. Were collection temperatures documented on the COC for NC samples?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	22. Was the quote number used taken from the container label? <u>TR651</u>
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)		
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____		
Sample(s) _____ were received with bubbles > 6 mm in diameter.		
Sample(s) _____ were received with TRC > 0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: _____		
SC Drinking Water Project Sample(s) pH verified to be < 2 by _____ Date: _____		
Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR# _____		
Sample labels applied by: <u>ECL</u> Verified by: _____ Date: <u>12/3/17</u>		

Comments:

APPENDIX D
GROUNDWATER HISTORICAL DATA SUMMARY

APPENDIX D: GROUNDWATER HISTORICAL DATA SUMMARY

Well	Sample Date	Acetone	Benzene	2-Butanone (MEK)	Carbon disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichloroethane	1,1-Dichloroethane	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	Ethylbenzene	Isopropylbenzene	MTBE	4-Methyl-2-pentanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,1,2-Trichloroethane	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	Xylenes	1,1,1,2-Tetrachloroethane	n-Butylbenzene	sec-Butylbenzene	p-Isopropyltoluene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	1,4-Dioxane		
Monitoring Wells																																								
MW-1	09/01/99	<10	<2	<10	10.6	<2	<2	<2	<2	<2	<2	3.1	<2	40.6	12,000	22.5	1,380	14.1	--	17.3	<10	--	78.5	685	<2	<2	60.2	49.1	5,820	<2	<2	<2	<2	21.7	178	31.2	11.9	--		
MW-1	09/24/99	ND	2.2	ND	9.2	ND	ND	ND	ND	ND	ND	4.2	ND	60.1	18,000	25.7	1,950	18	ND	23.8	ND	--	15.8	1,050	ND	ND	24.6	43.1	8,260	ND	ND	3.8	ND	38.3	215	54.9	22.6	--		
MW-1	05/16/00	ND	15.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	361	17,600	68.4	1,890	ND	27.1	ND	ND	--	ND	979	ND	ND	29.4	ND	7,820	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
MW-1	04/10/01	ND	1.28	ND	ND	ND	ND	ND	ND	ND	ND	2.31	ND	46.4	10,600	27.4	1,050	13.3	ND	ND	ND	--	16.4	436	ND	ND	24.1	105	4,260	ND	ND	ND	ND	24.9	54.3	34.3	14.5	--		
MW-1	06/27/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	78	3,310	10.1	412	3.6	ND	ND	ND	--	2.6	372	ND	ND	19.7	45	3,360	ND	ND	ND	ND	12.6	41.8	14.2	32.8	--		
MW-1	08/09/01	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	54	8,580	ND	854	10.8	ND	ND	ND	--	5.6	396	ND	ND	8.9	76	2,720	ND	ND	ND	ND	ND	118.0	25.4	10.3	--		
MW-1	03/18/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.5	ND	22	6,900	12.4	635	5.4	ND	ND	ND	--	4.6	317	ND	ND	8.0	ND	2,680	ND	ND	ND	ND	10.7	72.7	74.3	7.3	--		
MW-1	06/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24	5,090	11.5	ND	6.0	ND	ND	ND	--	4.5	ND	ND	ND	4.6	29	ND	ND	ND	ND	10.1	71.5	13.4	ND	--			
MW-1	07/15/02	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	63	6,550	13.1	813	8.6	ND	ND	ND	--	4.8	344	ND	ND	7.3	65	3,349	ND	ND	1.6	ND	14.8	87.8	18.9	9.4	--		
MW-1	10/16/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	647	1.0	1,900	13.8	ND	ND	ND	--	11.8	89	11.8	ND	14.1	7	9,870	ND	ND	ND	ND	2.8	6.4	2.7	1.8	--		
MW-1	11/01/02	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	2,010	6.6	1,380	7.6	ND	ND	ND	--	17.5	106	ND	ND	13.4	15	7,230	ND	ND	ND	ND	4.5	2.5	ND	--			
MW-1	12/12/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	80	3,630	19.1	613	3.4	ND	ND	ND	--	4.1	201	ND	ND	5.4	18	2,454	ND	ND	1.4	ND	5.3	35.2	8.0	2.1	--		
MW-1	03/11/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	48	8,820	20.1	875	8.3	ND	ND	ND	--	4.4	265	ND	ND	5.0	99	3,130	ND	ND	ND	ND	90.5	19.4	8.7	--			
MW-1	06/17/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	47	6,810	16.3	938	8.3	ND	ND	ND	--	2.2	239	ND	ND	3.6	110	4,040	ND	ND	1.4	ND	13.8	91.8	18.4	5.8	--		
MW-1	08/14/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	14.5	6,130	1.3	441	ND	ND	ND	--	ND	19	ND	ND	ND	5.77	2,193	ND	ND	ND	ND	ND	ND	ND	ND	--			
MW-1	02/13/04	ND	1.21	ND	ND	ND	ND	ND	ND	ND	ND	1.93	ND	153	10,200	21.3	1040	13.0	ND	ND	9.44	--	5.96	355	ND	ND	4.23	92.8	4,970	ND	1.98	3.30	1.96	136	29.6	11.9	--			
MW-1	06/02/04	ND	1.3	ND	ND	ND	ND	ND	ND	ND	2.20	ND	ND	127	12,300	25.1	1,910	15.0	ND	ND	ND	--	1.10	766	ND	ND	1.80	120	9,220	ND	3.20	ND	1.10	24.8	176	34.6	13.9	--		
MW-1	10/07/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	49.3	5,200	17.5	680	ND	ND	ND	--	ND	422	ND	ND	1.50	76.8	3,220	ND	ND	ND	ND	ND	ND	ND	ND	14.2	--		
MW-1	02/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50.5	2,580	16.0	764	8.10	ND	ND	ND	--	18.1	238	ND	ND	9.10	85.6	3,530	ND	2.30	1.20	ND	13.8	92.2	19.8	9.00	--		
MW-1	06/02/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	57.5	8,200	15.0	820	ND	ND	ND	--	<5	264	ND	ND	<5	75	3,940	ND	ND	ND	ND	ND	ND	ND	ND	<25	--		
MW-1	09/28/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	133	12,400	17.8	1,380	ND	ND	ND	--	ND	524	ND	ND	ND	112	6,580	ND	ND	ND	ND	ND	ND	ND	ND	11.90	--		
MW-1	12/20/05	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	28	11,900	15.6	1,300	ND	ND	ND	--	0.94	394	ND	ND	2.37	97.5	5,830	ND	ND	ND	ND	ND	ND	ND	ND	5.39	--		
MW-1	06/26/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,280	ND	520	ND	ND	ND	--	ND	110	ND	ND	ND	75	2,430	ND	ND	ND	ND	ND	ND	ND	ND	ND	--		
MW-1	09/27/06	<2	<1	<2	<1	<1	<1	<2	<1	<1	<1	<1	<1	31.8	7,530	17.8	922	9.29	<1	<1	<1	--	<1	209	<1	<1	1.49	104	3,910	<1	<1	1.90	2.54	13.9	91.6	19.4	6.95	--		
MW-1	03/29/07	14.3	<10	<20	<10	<10	<10	<20	<10	<10	<10	7.4	ND	14.1	3,120	13.5	159	<10	<10	<10	--	8.6	25.7	<10	<10	13.9	58.9	736	<10	<10	<10	<10	<10	12.8	<10	<10	--			
MW-1	09/07/07	<100	<5	<50	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	700	<5	13	<5	<5	<50	<5	--	<5	<5	<5	<5	<5	19	5.2	<5	<5	<5	<5	<5	<5	<5	<5	--		
MW-1	03/10/08	<400	<20	<200	<20	<20	<20	<40	<20	<20	<20	<20	<20	22	4,800	<20	460	<20	<20	<200	<20	--	<20	64	<20	<20	<20	86	1,900	<20	<20	<20	<20	<20	<20	<20	36	<20	<20	--
MW-1	09/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,200	ND	94	ND	ND	ND	--	ND	28	ND	ND	ND	32	460	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
MW-1*	04/20/09	<200	<10	120	<10	<10	<10	<20	<10	<10	<10	<10	<10	15	2,800	<10	270	<10	<10	<100	<10	--	<10	18	<10	<10	<10	98	1,000	<10	<10	<10	<10	<10	22	<10	<10	--		
MW-1	06/30/09	<40	<2	<20	<2	<2	<2	<4	<2	<2	<2	<2	<2	12	2,200	5.3	220	<2	<2	<20	<2	--	<2	11	<2	<2	<2	84	900	<2	<2	<2	<2	2.7	18	3.9	3.1	--		
MW-1	09/09/09	<400	<20	<200	<20	<20	<20	<40	<20	<20	<20	<20	<20	28	6,500	<20	550	<20	<20	<200	<20	--	<20	69	<20	<20	<20	150	2,300	<20	<20	<20	<20	40	<20	<20	--			
MW-1	03/02/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21	5,300	ND	450	ND	ND	ND	--	ND	20	ND	ND	ND	170	1,900	ND	ND	ND	ND	30	ND	ND	ND	--			
MW-1	10/07/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.6	1,200	2.0	45	ND	ND	ND	--	ND	2.5	ND	ND	ND	28	160	ND	ND	ND	ND	2.6	ND	ND	--				
MW-1	09/27/12	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	1,650	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	403	<100	<100	<100	<100	<100	<100	<100	<100	<100	--		
MW-1	10/01/14	<25	<1	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	4.33	734	1.77	32.8	<1	<1	<10	<5	--	<1	7.76	<1	<1	22	99.3	<1	<1	<									

APPENDIX D: GROUNDWATER HISTORICAL DATA SUMMARY

Well	Sample Date	Acetone	Benzene	2-Butanone (MEK)	Carbon disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichloroethane	1,1-Dichloroethane	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	Ethylbenzene	Isopropylbenzene	MTBE	4-Methyl-2-pentanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,1,2-Trichloroethane	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	Xylenes	1,1,1,2-Tetrachloroethane	n-Butylbenzene	sec-Butylbenzene	p-Isopropyltoluene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	1,4-Dioxane															
MW-1D*	04/20/09	<20	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	1.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1											
MW-1D	06/30/09	<20	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	9.1	<1	<1	<1	1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
MW-1D	09/09/09	<20	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	14.0	<1	<1	<1	2.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1									
MW-1D	03/02/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	31.0	ND	ND	ND	5.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND								
MW-1D	10/07/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.8	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND								
MW-1D	09/27/12	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	51.9	<5	<5	<5	7.21	<5	<15	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5								
MW-1D	10/01/14	<25	<1	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1									
MW-1D	01/31/17	<20	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	4.7	<1	<1	<1	0.77 J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1								
MW-2	09/01/99	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<10	<10	6.9	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2								
MW-2	09/24/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND				
MW-2	05/16/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.58	ND	ND	ND	ND	ND	ND	1.98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
MW-2	07/10/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
MW-2	03/18/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
MW-2	06/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
MW-2	12/16/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
MW-2	03/11/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.79	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
MW-2	06/17/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
MW-2	08/14/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.59	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
MW-2	02/13/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
MW-2	06/02/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
MW-2	10/07/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
MW-2	02/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
MW-2	06/02/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
MW-2	09/28/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
MW-2	12/20/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
MW-2	06/26/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
MW-2	03/02/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
MW-2	10/07/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
MW-2	09/27/12	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5				
MW-2	10/01/14	<25	<1	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
MW-2	02/01/17	<20	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	4.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
MW-2D	09/03/99	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<10	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2			
MW-2D	05/16/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-2D	03/11/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-2D	06/17/03	ND	ND	ND	ND	ND																																															

APPENDIX D: GROUNDWATER HISTORICAL DATA SUMMARY

Well	Sample Date	Acetone	Benzene	2-Butanone (MEK)	Carbon disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichloroethane	1,1-Dichloroethane	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	Ethylbenzene	Isopropylbenzene	MTBE	4-Methyl-2-pentanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,1,2-Trichloroethane	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	Xylenes	1,1,1,2-Tetrachloroethane	n-Butylbenzene	sec-Butylbenzene	p-Isopropyltoluene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	1,4-Dioxane						
MW-5	06/02/04	123	ND	ND	ND	ND	ND	ND	ND	2.60	ND	ND	14.0	1,120	4.40	ND	ND	--	ND	ND	--	1,160	ND	ND	ND	1,640	7.90	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--			
MW-5	08/18/04	354	ND	ND	36.8	ND	ND	ND	ND	ND	ND	4.40	21.4	1,510	5.10	ND	ND	--	ND	ND	--	2,710	ND	ND	ND	2,210	7.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18.2	--		
MW-5	10/07/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18.6	2,000	4.6	ND	ND	--	ND	ND	--	1,820	ND	ND	ND	2,540	7.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.5	--		
MW-5	02/18/05	261	ND	119	ND	ND	ND	ND	ND	ND	ND	ND	26.3	1,040	6.00	ND	ND	--	ND	ND	--	630	ND	ND	ND	855	5.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.3	--		
MW-5	06/02/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.9	1,860	6.00	1.5	ND	--	ND	ND	--	800	ND	ND	ND	1,870	7.00	6.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18.8	--		
MW-5	09/28/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.2	3,010	6.79	2.53	ND	--	ND	ND	--	253	ND	ND	ND	1,530	6.99	11.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24.2	--		
MW-5	12/20/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19.7	2,860	7.91	2.97	ND	--	ND	ND	--	184	0.25	ND	ND	764	5.08	12.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	28.6	--		
MW-5	06/28/06	607	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.1	2,850	ND	ND	ND	ND	ND	ND	--	336	ND	ND	ND	878	7.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--			
MW-5	09/27/06	241	<1	5.20	<1	<1	<1	<2	<1	2.34	<1	<1	4.16	20.0	2,620	8.24	<1	<1	<1	<1	<1	<1	<1	<1	<1	722	9.34	1.45	<1	<1	1.11	<1	<1	<1	<1	<1	<1	<1	<1	31.7	--			
MW-5	03/30/07	509	<10	<20	<10	<10	<10	<20	<10	<10	<10	<10	4.40	19.9	3,060	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	690	11.6	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	19.0	--		
MW-5	09/07/07	<400	<20	<200	<20	<20	<20	<40	<20	<20	<20	<20	24	3,500	<20	<20	<20	<20	<20	<200	<20	<20	<20	<20	<20	79	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	--		
MW-5	03/11/08	<200	<10	<100	<10	<10	<10	<20	<10	<10	<10	<10	16	2,200	<10	<10	<10	<10	<100	<10	<10	<10	<10	<10	560	43	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--		
MW-5	09/23/08	360	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18.0	2,800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	160	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
MW-5	04/20/09	<200	<10	<100	<10	<10	<10	<20	<10	<10	<10	<10	15	2,400	<10	<10	<10	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--		
MW-5	09/09/09	<200	<10	<100	<10	<10	<10	<20	<10	<10	<10	<10	14	2,000	<10	<10	<10	<10	<100	<10	<100	<10	<10	<10	<10	480	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--	
MW-5	03/02/10	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	6.3	10	2,100	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	29	--		
MW-5	10/07/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	1,600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--		
MW-5	09/27/12	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	750	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	70.0	<25	<25	<25	244	<25	<75	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	--		
MW-5	02/02/17	<100	<5	<50	<5	<5	<5	<10	<5	<5	<5	3.7 J	9.2	800	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	120	<5	<5	<5	170	6.6	<5	--	--	--	--	--	--	--	--	--	14			
MW-6R	09/27/12	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<15	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	--			
MW-6R	10/02/14	<25	<1	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<5	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	--		
MW-6R	01/31/17	<20	<1	<10	<1	<1	<1	<2	0.62 J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	--	--	--	--	--	--	--	--	<1			
MW-7	04/10/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.47	982	1.42	69.2	ND	ND	ND	ND	--	758	11.1	ND	ND	677	20.6	395.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
MW-7	06/27/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	68.7	5,880	2.86	1,020	2.86	ND	ND	ND	--	7,860	69.3	ND	ND	4,150	190	3,430	ND	ND	1.38	ND	ND	1.48	ND	ND	1.48	ND	ND	ND	ND	ND	ND	--
MW-7	08/09/01	ND	1.2	ND	ND	ND	ND	ND	ND	ND	2.01	ND	53.5	10,900	24	1,010	11.6	ND	ND	ND	--	5.1	446	ND	ND	9.62	69.1	3,016	ND	ND	ND	ND	ND	120	26.3	ND	ND	ND	ND	ND	ND	ND	--	
MW-7	02/21/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	25.1	3,460	9.1	618	ND	ND	ND	ND	--	6,250	35.3	ND	ND	3,690	136	3,219	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
MW-7	03/18/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	46.3	7,250	12	1,580	7.7	ND	ND	ND	--	16,400	70	7.7	ND	>6,920	240	8,000	ND	ND	ND	ND	ND	2.3	4.9	12.5	3.1	ND	ND	ND	ND	ND	--	
MW-7	04/19/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	2,240	3.6	263	1.1	ND	ND	ND	--	4,410	13.4	ND	ND	2,560	50.6	1,719	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	--		
MW-7	06/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39.1	4,140	8.06	332	2.65	ND	ND	ND	--	4,630	25.9	4.58	ND	2,950	149	2,230	ND	ND	ND	ND	ND	ND	1.31	ND	ND	ND	ND	ND	ND	--		
MW-7	07/15/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	52.6	4,150	8.89	809	4.08	ND	ND	ND	--	7,760	39.3	6.4	10.2	4,270	55.2	4,270	ND	ND	ND	ND	ND	ND	ND	ND	2.63	1.25	1.05	ND	ND	--		
MW-7	10/16/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	103	8,480	15.9	1900	13.8	ND	ND	ND	--	11,700	89.4	11.8	ND	7,700	294	9,870	ND	ND	ND	ND	ND	2.84	6.35	2.73	1.8	ND	ND	ND	ND	--		
MW-7	11/01/02	ND	1.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	74	4,880	21.7	1,380	7.59	ND	ND	ND	--	1,860	106	ND	ND	6,280	ND	7,230																

APPENDIX D: GROUNDWATER HISTORICAL DATA SUMMARY

Well	Sample Date	Acetone	Benzene	2-Butanone (MEK)	Carbon disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,2-Dichloroethane	1,1-Dichloroethane	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	Ethylbenzene	Isopropylbenzene	MTBE	4-Methyl-2-pentanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,1,2-Trichloroethane	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	Xylenes	1,1,1,2-Tetrachloroethane	n-Butylbenzene	sec-Butylbenzene	p-Isopropyltoluene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	1,4-Dioxane						
WS-1	12/20/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.92	ND	0.38	ND	ND	ND	ND	--	2.98	ND	ND	ND	ND	1.62	ND	0.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--		
WS-1	06/26/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
WS-1	09/28/06	<2	<1	<2	<1	<1	<1	<2	<1	1.55	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	
WS-1	03/30/07	<2	<1	<2	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	
WS-1	09/06/07	<20	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	
WS-1	03/10/08	<20	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	
WS-1	09/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
WS-1	04/21/09	<20	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	
WS-1	09/09/09	<20	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	
WS-1	03/02/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
WS-1	10/07/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
WS-3	12/12/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.03	ND	ND	ND	ND	ND	ND	--	2.17	ND	ND	ND	3.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
WS-3	03/11/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	1.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
WS-3	06/17/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
WS-3	08/14/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	37.4	ND	ND	ND	ND	ND	ND	--	ND	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
WS-3	02/13/04	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.9	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
WS-3	06/02/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	
WS-3	10/07/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	

Notes:
 Concentrations reported in micrograms per liter
 < - concentration less than the stated reporting limit (RL) or practical quantitation limit (PQL); detection limit for 1,4-dioxane is the method detection limit (MDL)
 ND - not detected above the RL or PQL (limits not provided)
 NA - not available
 J - estimated concentration
 -- constituent not analyzed

APPENDIX E

RICKER METHOD® PLUME STABILITY ANALYSIS

APPENDIX E

TABLE 1

1,1-DCE Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	26	<2.0	40	<2.0	NA	NA	NA	NA
Mar. 2000	68	<2.0	247	<2.0	2.9	NA	NA	NA
Mar. 2001	27	NS (<2.0)	NS (194)	NS (<2.0)	NS (3.3)	NA	2.9	NA
Sep. 2001	<2.0	<2.0	167	NS (<2.0)	3.5	NA	24	NA
Mar. 2002	12	<2.0	1,220	<2.0	5.0	NA	12	NA
Sep. 2002	19	<2.0	2,560	<2.0	5.5	NA	22	NA
Mar. 2003	20	<2.0	2,740	<2.0	<2.0	NA	5.1	NA
Sep. 2003	1.3	<2.0	176	<2.0	2.6	NA	NS (6.5)	NA
Mar. 2004	25	<2.0	480	<2.0	4.4	NA	7.9	<2.0
Sep. 2004	18	<2.0	270	<2.0	5.1	NA	12	<2.0
Mar. 2005	16	<5.0	189	<5.0	6.0	NA	7.5	<5.0
Sep. 2005	18	<5.0	186	<5.0	7.9	NA	13	<5.0
Mar. 2006	<1.0	<1.0	195	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2006	18	NS (<1.0)	164	<1.0	8.2	NA	8.6	<1.0
Mar. 2007	14	NS (<1.0)	954	<1.0	<10	NA	15	<1.0
Sep. 2007	<5.0	NS (<1.0)	2,300	<1.0	<20	NA	<100	<1.0
Mar. 2008	<20	NS (<1.0)	1,700	<1.0	<10	NA	<20	<1.0
Sep. 2008	<1.0	NS (<1.0)	3,000	<1.0	<1.0	NA	<1.0	<1.0
Mar. 2009	5.3	NS (<1.0)	3,800	<1.0	<10	NA	<10	<1.0
Sep. 2009	<20	NS (<1.0)	2,500	<1.0	<10	NA	<10	<1.0
Mar. 2010	<1.0	<1.0	2,400	<1.0	5.9	NA	<1.0	<1.0
Sep. 2010	2.0	<1.0	2,100	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2012	<100	<5.0	<2,500	<5.0	<25	<5.0	<100	<5.0
Sep. 2014	1.8	<1.0	616	<1.0	NS (<2.5)	<1.0	<1.0	<1.0
Feb. 2017	<20	<1.0	420	<1.0	<5.0	<1.0	<5.0	NS (<1.0)

Notes:


All concentrations in µg/l


NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

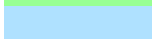
<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).

 Non-Sampled well assumed non-detect

 Interpolated between two sampling events.

 Extrapolated from a sampling event.

 Well not installed. Extrapolated from a sampling event.

1,1-DCE Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (<2.0)	NS (<2.0)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

1,1-DCA Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	<2.0	<2.0	127	<2.0	NA	NA	NA	NA
Mar. 2000	<2.0	<2.0	460	<2.0	6.9	NA	NA	NA
Mar. 2001	2.2	NS (<2.0)	NS (243)	NS (<2.0)	NS (5.5)	NA	<2.0	NA
Sep. 2001	<2.0	<2.0	133	NS (<2.0)	4.8	NA	<2.0	NA
Mar. 2002	<2.0	<2.0	1,900	<2.0	1.9	NA	<2.0	NA
Sep. 2002	<2.0	<2.0	3,040	<2.0	1.6	NA	<2.0	NA
Mar. 2003	1.5	<2.0	3,060	<2.0	<2.0	NA	<2.0	NA
Sep. 2003	1.3	<2.0	214	<2.0	<2.0	NA	NS (<2.0)	NA
Mar. 2004	153	<2.0	486	<2.0	2.3	NA	<2.0	<2.0
Sep. 2004	<2.0	<2.0	<2.0	<2.0	4.4	NA	<2.0	<2.0
Mar. 2005	<5.0	<5.0	208	<5.0	<5.0	NA	<5.0	<5.0
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0
Mar. 2006	<1.0	<1.0	339	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2006	<1.0	NS (<1.0)	235	<1.0	4.2	NA	<1.0	<1.0
Mar. 2007	7.4	NS (<1.0)	1,200	<1.0	4.4	NA	<1.0	<1.0
Sep. 2007	<5.0	NS (<1.0)	2,400	<1.0	<20	NA	<100	<1.0
Mar. 2008	<20	NS (<1.0)	1,800	<1.0	<10	NA	<20	<1.0
Sep. 2008	<1.0	NS (<1.0)	3,900	<1.0	<1.0	NA	<1.0	<1.0
Mar. 2009	<2.0	NS (<1.0)	4,100	<1.0	<10	NA	<10	<1.0
Sep. 2009	<20	NS (<1.0)	4,000	<1.0	<10	NA	<10	<1.0
Mar. 2010	<1.0	<1.0	3,800	<1.0	6.3	NA	<1.0	<1.0
Sep. 2010	<1.0	<1.0	3,900	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2012	<100	<5.0	4,140	<5.0	<25	<5.0	<100	<5.0
Sep. 2014	<1.0	<1.0	908	<1.0	NS (<1.0)	<1.0	<1.0	<1.0
Feb. 2017	<20	<1.0	890	<1.0	3.7	<1.0	<5.0	NS (<1.0)

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

1,1-DCA Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (<2.0)	NS (<2.0)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

1,2-DCA Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	4.2	<2.0	7.8	<2.0	NA	NA	NA	NA
Mar. 2000	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Mar. 2001	2.3	NS (<2.0)	NS (8.1)	NS (<2.0)	NS (<2.0)	NA	<2.0	NA
Sep. 2001	1.9	<2.0	11	NS (<2.0)	<2.0	NA	2.0	NA
Mar. 2002	4.5	<2.0	57	<2.0	1.2	NA	<2.0	NA
Sep. 2002	1.9	<2.0	26	<2.0	<2.0	NA	<2.0	NA
Mar. 2003	1.0	<2.0	69	<2.0	<2.0	NA	<2.0	NA
Sep. 2003	<2.0	<2.0	17	<2.0	<2.0	NA	NS (<2.0)	NA
Mar. 2004	2.2	<2.0	5.7	<2.0	<2.0	NA	<2.0	<2.0
Sep. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0	<2.0
Mar. 2005	<5.0	<5.0	7.3	<5.0	<5.0	NA	<5.0	<5.0
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0
Mar. 2006	<1.0	<1.0	12	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2006	<1.0	NS (<1.0)	12	<1.0	<1.0	NA	<1.0	<1.0
Mar. 2007	<10	NS (<1.0)	32	<1.0	<10	NA	<1.0	<1.0
Sep. 2007	<5.0	NS (<1.0)	<100 (30)	<1.0	<20	NA	<100	<1.0
Mar. 2008	<20	NS (<1.0)	34	<1.0	<10	NA	<20	<1.0
Sep. 2008	<1.0	NS (<1.0)	<1.0	<1.0	<1.0	NA	<1.0	<1.0
Mar. 2009	<2.0	NS (<1.0)	<200	<1.0	<10	NA	<10	<1.0
Sep. 2009	<20	NS (<1.0)	<200	<1.0	<10	NA	<10	<1.0
Mar. 2010	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2010	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2012	<100	<5.0	<2,500 (25)	<5.0	<25	<5.0	<100	<5.0
Sep. 2014	<1.0	<1.0	28	<1.0	NS (<1.0)	<1.0	<1.0	<1.0
Feb. 2017	<20	<1.0	<200	<1.0	<5.0	<2.0	<5.0	NS (<1.0)

Notes:


All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

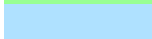
<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).

 Non-Sampled well assumed non-detect

 Interpolated between two sampling events.

 Extrapolated from a sampling event.

 Well not installed. Extrapolated from a sampling event.

1,2-DCA Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (<2.0)	NS (<2.0)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<2.0

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



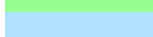
Non-Sampled well assumed non-detect



Interpolated between two sampling events.



Extrapolated from a sampling event.



Well not installed. Extrapolated from a sampling event.

1,1,1-TCA Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	<2.0	<2.0	20	<2.0	NA	NA	NA	NA
Mar. 2000	<2.0	<2.0	383	<2.0	<2.0	NA	NA	NA
Mar. 2001	<2.0	NS (<2.0)	NS (130)	NS (<2.0)	NS (<2.0)	NA	<2.0	NA
Sep. 2001	<2.0	<2.0	<2.0	NS (<2.0)	<2.0	NA	<2.0	NA
Mar. 2002	<2.0	<2.0	1,740	<2.0	<2.0	NA	<2.0	NA
Sep. 2002	<2.0	<2.0	451	<2.0	<2.0	NA	10	NA
Mar. 2003	<2.0	<2.0	4,600	<2.0	<2.0	NA	<2.0	NA
Sep. 2003	<2.0	<2.0	145	<2.0	<2.0	NA	NS (<2.0)	NA
Mar. 2004	<2.0	<2.0	316	<2.0	<2.0	NA	<2.0	<2.0
Sep. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0	<2.0
Mar. 2005	<5.0	<5.0	102	<5.0	<5.0	NA	<5.0	<5.0
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0
Mar. 2006	<1.0	<1.0	50	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2006	<1.0	NS (<1.0)	28	<1.0	<1.0	NA	<1.0	<1.0
Mar. 2007	<10	NS (<1.0)	734	<1.0	<10	NA	1.2	<1.0
Sep. 2007	<5.0	NS (<1.0)	2,600	<1.0	<20	NA	<100	<1.0
Mar. 2008	<20	NS (<1.0)	1,700	<1.0	<10	NA	<20	<1.0
Sep. 2008	<1.0	NS (<1.0)	2,900	<1.0	<1.0	NA	<1.0	<1.0
Mar. 2009	<2.0	NS (<1.0)	4,400	<1.0	<10	NA	<10	<1.0
Sep. 2009	<20	NS (<1.0)	2,400	<1.0	<10	NA	<10	<1.0
Mar. 2010	<1.0	<1.0	2,400	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2010	<1.0	<1.0	1,400	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2012	<100	<5.0	<2,500	<5.0	<25	<5.0	<100	<5.0
Sep. 2014	<1.0	<1.0	20	<1.0	NS (<1.0)	<1.0	<1.0	<1.0
Feb. 2017	<20	<1.0	<200	<1.0	<5.0	<1.0	<5.0	NS (<1.0)

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

1,1,1-TCA Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (<2.0)	NS (<2.0)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

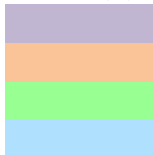
All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

1,1,2-TCA Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	<2.0	<2.0	20	<2.0	NA	NA	NA	NA
Mar. 2000	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Mar. 2001	<2.0	NS (<2.0)	NS (53)	NS (<2.0)	NS (2.4)	NA	<2.0	NA
Sep. 2001	<2.0	<2.0	78	NS (<2.0)	2.5	NA	<2.0	NA
Mar. 2002	<2.0	<2.0	727	<2.0	1.2	NA	7.7	NA
Sep. 2002	12	<2.0	231	<2.0	<2.0	NA	12	NA
Mar. 2003	<2.0	<2.0	1,670	<2.0	<2.0	NA	<2.0	NA
Sep. 2003	<2.0	<2.0	105	<2.0	1.6	NA	NS (<2.0)	NA
Mar. 2004	<2.0	<2.0	144	<2.0	<2.0	NA	<2.0	<2.0
Sep. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0	<2.0
Mar. 2005	<5.0	<5.0	90	<5.0	<5.0	NA	3.9	<5.0
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0
Mar. 2006	<1.0	<1.0	73	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2006	<1.0	NS (<1.0)	22	<1.0	<1.0	NA	3.2	<1.0
Mar. 2007	<10	NS (<1.0)	407	<1.0	<10	NA	4.9	<1.0
Sep. 2007	<5.0	NS (<1.0)	1,200	<1.0	<20	NA	<100	<1.0
Mar. 2008	<20	NS (<1.0)	690	<1.0	<10	NA	<20	<1.0
Sep. 2008	<1.0	NS (<1.0)	3,200	<1.0	<1.0	NA	<1.0	<1.0
Mar. 2009	<2.0	NS (<1.0)	4,200	<1.0	<10	NA	<10	<1.0
Sep. 2009	<20	NS (<1.0)	3,800	<1.0	<10	NA	<10	<1.0
Mar. 2010	<1.0	<1.0	3,100	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2010	<1.0	<1.0	2,700	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2012	<100	<5.0	2,860	<5.0	<25	<5.0	<100	<5.0
Sep. 2014	<1.0	<1.0	88	<1.0	NS (<1.0)	<1.0	<1.0	<1.0
Feb. 2017	<20	<1.0	<200	<1.0	<5.0	<1.0	<5.0	NS (<1.0)

Notes:


All concentrations in µg/l


NA: Well not installed, abandoned or otherwise not utilized.


<5.00: Analyte not detected. (Detection limit value used).

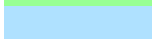
<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).

 Non-Sampled well assumed non-detect

 Interpolated between two sampling events.

 Extrapolated from a sampling event.

 Well not installed. Extrapolated from a sampling event.

1,1,2-TCA Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (<2.0)	NS (<2.0)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (1.0)	NS (<1.0)	NS (<1.0)	NS (1.0)	NA
Sep. 2010	<1.0	<1.0	NS (1.0)	NS (<1.0)	NS (<1.0)	NS (1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

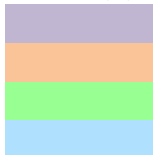
All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

PCE Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	79	6.9	4,700	2.4	NA	NA	NA	NA
Mar. 2000	<2.0	8.0	<2.0	<2.0	2,230	NA	NA	NA
Mar. 2001	16	NS (7.4)	NS (198)	NS (2.6)	NS (1,327)	NA	7,860	NA
Sep. 2001	5.6	7.1	297	NS (2.8)	872	NA	5.1	NA
Mar. 2002	4.6	7.2	125	3.1	2,470	NA	16,400	NA
Sep. 2002	18	8.8	147	1.2	1,850	NA	11,700	NA
Mar. 2003	4.4	4.0	709	<2.0	1,120	NA	1,280	NA
Sep. 2003	<2.0	3.6	41	<2.0	1,570	NA	NS (7,273)	NA
Mar. 2004	6.0	4.0	273	1.7	1,330	NA	13,200	<2.0
Sep. 2004	<2.0	4.4	251	1.8	2,710	NA	12,300	<2.0
Mar. 2005	18	4.2	455	<5.0	800	NA	6,440	51
Sep. 2005	0.94	2.7	763	5.3	253	NA	6,560	<5.0
Mar. 2006	<1.0	1.3	108	<1.0	336	NA	6,060	1.9
Sep. 2006	<1.0	NS (1.3)	187	<1.0	275	NA	2,900	<1.0
Mar. 2007	8.6	NS (1.3)	35	2.1	326	NA	3,530	<1.0
Sep. 2007	<5.0	NS (1.3)	<100	2.4	<20	NA	<100	<1.0
Mar. 2008	<20	NS (1.3)	290	<1.0	290	NA	41	<1.0
Sep. 2008	<1.0	NS (1.3)	760	11	<1.0	NA	<1.0	<1.0
Mar. 2009	<2.0	NS (1.3)	1,500	<1.0	<10	NA	<10	<1.0
Sep. 2009	<20	NS (1.3)	320	4.0	<10	NA	<10	<1.0
Mar. 2010	<1.0	1.3	290	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2010	<1.0	<1.0	380	3.1	<1.0	NA	<1.0	<1.0
Sep. 2012	<100	<5.0	<2,500	<5.0	70	<5.0	<100	<5.0
Sep. 2014	<1.0	<1.0	2.4	4.0	NS (93)	<1.0	<1.0	<1.0
Feb. 2017	<20	4.8	<200	0.67	120	<1.0	<5.0	NS (<1.0)

Notes:


All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

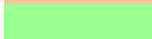
<5.00: Analyte not detected. (Detection limit value used).


<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).

 Non-Sampled well assumed non-detect

 Interpolated between two sampling events.

 Extrapolated from a sampling event.

 Well not installed. Extrapolated from a sampling event.

PCE Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	8.6	NA	NA	NA	NA	NA
Mar. 2002	<2.0	8.7	<2.0	<2.0	NA	NA	NA
Sep. 2002	3.3	NS (13)	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (2.7)	17	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	4.4	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	11	<2.0	<2.0	<2.0	<2.0	NA
Sep. 2004	<2.0	6.0	<2.0	<2.0	NS (<2.0)	NS (<2.0)	NA
Mar. 2005	<5.0	2.6	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	1.5	1.5	1.1	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	2.7	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	4.1	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	4.3	7.5	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

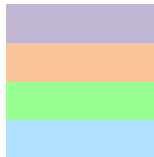
All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

TCE Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	60	<2.0	60	7.4	NA	NA	NA	NA
Mar. 2000	29	2.0	<2.0	<2.0	1,970	NA	NA	NA
Mar. 2001	24	NS (2.0)	NS (58)	NS (2.1)	NS (1,451)	NA	4,150	NA
Sep. 2001	8.9	<2.0	87	NS (2.2)	1,190	NA	9.6	NA
Mar. 2002	8.0	<2.0	2,180	2.2	3,380	NA	3,690	NA
Sep. 2002	14	<2.0	1,610	<2.0	2,360	NA	7,700	NA
Mar. 2003	5.0	<2.0	3,870	<2.0	1,560	NA	1,030	NA
Sep. 2003	<2.0	<2.0	51	<2.0	1,630	NA	NS (3,152)	NA
Mar. 2004	4.2	<2.0	185	1.6	1,640	NA	5,250	<2.0
Sep. 2004	1.5	<2.0	197	<2.0	2,540	NA	5,900	<2.0
Mar. 2005	9.1	<5.0	181	<5.0	1,870	NA	3,090	40
Sep. 2005	2.4	<5.0	521	3.0	1,530	NA	5,390	<5.0
Mar. 2006	<1.0	<1.0	185	<1.0	878	NA	4,640	<1.0
Sep. 2006	1.5	NS (<1.0)	77	<1.0	722	NA	3,220	<1.0
Mar. 2007	14	NS (<1.0)	484	4.4	690	NA	5,850	<1.0
Sep. 2007	<5.0	NS (<1.0)	2,400	2.2	<20	NA	1,300	<1.0
Mar. 2008	<20	NS (<1.0)	1,000	<1.0	560	NA	250	<1.0
Sep. 2008	<1.0	NS (<1.0)	2,900	19	<1.0	NA	38	<1.0
Mar. 2009	<2.0	NS (<1.0)	5,600	<1.0	<10	NA	<10	<1.0
Sep. 2009	<20	NS (<1.0)	1,400	5.0	<10	NA	<10	<1.0
Mar. 2010	<1.0	<1.0	1,000	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2010	<1.0	<1.0	1,600	3.3	<1.0	NA	<1.0	<1.0
Sep. 2012	<100	<5.0	<2,500	<5.0	244	<5.0	<100	<5.0
Sep. 2014	<1.0	<1.0	18	4.9	NS (244)	<1.0	<1.0	<1.0
Feb. 2017	<20	<1.0	<200	1.3	170	<1.0	<5.0	NS (<1.0)

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

TCE Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	3.6	NA	NA	NA	NA	NA
Mar. 2002	<2.0	3.5	<2.0	<2.0	NA	NA	NA
Sep. 2002	2.8	1.2	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (2.4)	3.3	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	2.4	<2.0	<2.0	<2.0	2.6	NA
Sep. 2004	<2.0	1.4	<2.0	<2.0	NS (<2.0)	NS (2.3)	NA
Mar. 2005	<5.0	1.0	<5.0	<5.0	<5.0	2.1	NA
Sep. 2005	<5.0	1.4	0.44	<5.0	<5.0	2.2	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	NA
Sep. 2006	<1.0	1.1	NS (<1.0)	<1.0	NS (<1.0)	NS (1.6)	NA
Mar. 2007	12	24	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (1.5)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (1.4)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (1.3)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (1.2)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (1.1)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

Cis-1,2-DCE Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	18,000	<2.0	660	4.5	NA	NA	NA	NA
Mar. 2000	17,600	<2.0	2,540	<2.0	<2.0	NA	NA	NA
Mar. 2001	10,600	NS (<2.0)	NS (1,895)	NS (3.2)	NS (424)	NA	5,880	NA
Sep. 2001	8,580	<2.0	1,570	NS (3.7)	636	NA	10,900	NA
Mar. 2002	5,090	<2.0	6,800	4.3	1,280	NA	4,140	NA
Sep. 2002	6,550	<2.0	20,600	<2.0	1,290	NA	8,480	NA
Mar. 2003	8,820	<2.0	17,700	<2.0	978	NA	2,480	NA
Sep. 2003	6,130	<2.0	2,760	1.2	1,110	NA	NS (4,581)	NA
Mar. 2004	12,300	<2.0	1,600	2.3	1,120	NA	6,660	<2.0
Sep. 2004	5,200	<2.0	1,920	<2.0	2,000	NA	6,500	<2.0
Mar. 2005	8,200	<5.0	2,060	<5.0	1,860	NA	2,690	21
Sep. 2005	12,400	<5.0	3,500	2.5	3,010	NA	5,290	<5.0
Mar. 2006	5,280	<1.0	2,840	<1.0	2,850	NA	2,930	<1.0
Sep. 2006	7,530	NS (<1.0)	2,450	1.2	2,620	NA	2,480	<1.0
Mar. 2007	3,120	NS (<1.0)	13,100	10	3,060	NA	5,810	12
Sep. 2007	700	NS (<1.0)	29,000	2.7	3,500	NA	21,000	<1.0
Mar. 2008	4,800	NS (<1.0)	21,000	<1.0	2,200	NA	3,900	<1.0
Sep. 2008	2,200	NS (<1.0)	46,000	11	2,800	NA	7,300	<1.0
Mar. 2009	2,800	NS (<1.0)	42,000	<1.0	2,400	NA	550	<1.0
Sep. 2009	6,500	NS (<1.0)	45,000	5.8	2,000	NA	340	<1.0
Mar. 2010	5,300	<1.0	45,000	<1.0	2,100	NA	870	<1.0
Sep. 2010	1,200	<1.0	41,000	2.6	1,600	NA	850	<1.0
Sep. 2012	1,650	<5.0	46,100	<5.0	750	<5.0	1,890	<5.0
Sep. 2014	734	<1.0	9,460	4.8	NS (750)	<1.0	200	<1.0
Feb. 2017	1,800	<1.0	11,000	1.1	800	<1.0	640	NS (<1.0)

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

Cis-1,2-DCE Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	2.3	NA	NA	NA	NA	NA
Mar. 2002	<2.0	5.5	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	4.3	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	1.7	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	3.4	<2.0	<2.0	37	<2.0	NA
Mar. 2004	<2.0	1.5	<2.0	<2.0	12	<2.0	NA
Sep. 2004	<2.0	2.0	<2.0	<2.0	NS (7.4)	NS (<2.0)	NA
Mar. 2005	<5.0	1.0	<5.0	<5.0	3.0	<5.0	NA
Sep. 2005	0.28	1.9	0.32	<5.0	2.7	0.54	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	NA
Sep. 2006	<1.0	1.3	NS (<1.0)	<1.0	NS (1.7)	NS (<1.0)	NA
Mar. 2007	7.7	20	NS (<1.0)	NS (<1.0)	NS (1.7)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (1.7)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (1.7)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (1.7)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (1.7)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (1.7)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (1.7)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (1.7)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (1.7)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (1.7)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (1.7)	<1.0	<1.0

Notes:

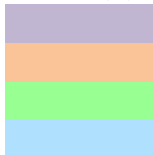
All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

Trans-1,2-DCE Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	60	<2.0	14	<2.0	NA	NA	NA	NA
Mar. 2000	361	<2.0	40	<2.0	6.0	NA	NA	NA
Mar. 2001	78	NS (<2.0)	NS (15)	NS (<2.0)	NS (7.1)	NA	69	NA
Sep. 2001	54	<2.0	<2.0	NS (<2.0)	7.6	NA	54	NA
Mar. 2002	24	<2.0	123	<2.0	22	NA	46	NA
Sep. 2002	80	<2.0	240	<2.0	21	NA	103	NA
Mar. 2003	48	<2.0	190	<2.0	24	NA	62	NA
Sep. 2003	15	<2.0	88	<2.0	16	NA	NS (80)	NA
Mar. 2004	153	<2.0	53	<2.0	14	NA	97	<2.0
Sep. 2004	49	<2.0	35	<2.0	21	NA	150	<2.0
Mar. 2005	58	<5.0	31	<5.0	26	NA	35	<5.0
Sep. 2005	133	<5.0	19	<5.0	26	NA	44	<5.0
Mar. 2006	<1.0	<1.0	35	<1.0	17	NA	<1.0	<1.0
Sep. 2006	32	NS (<1.0)	36	<1.0	20	NA	16	<1.0
Mar. 2007	14	NS (<1.0)	140	<1.0	20	NA	24	<1.0
Sep. 2007	<5.0	NS (<1.0)	220	<1.0	24	NA	<100	<1.0
Mar. 2008	22	NS (<1.0)	170	<1.0	16	NA	<20	<1.0
Sep. 2008	<1.0	NS (<1.0)	300	<1.0	18	NA	<1.0	<1.0
Mar. 2009	15	NS (<1.0)	370	<1.0	15	NA	<10	<1.0
Sep. 2009	28	NS (<1.0)	320	<1.0	14	NA	<10	<1.0
Mar. 2010	21	<1.0	270	<1.0	10	NA	<1.0	<1.0
Sep. 2010	5.6	<1.0	320	<1.0	9.2	NA	<1.0	<1.0
Sep. 2012	<100	<5.0	<2,500	<5.0	<25	<5.0	<100	<5.0
Sep. 2014	4.3	<1.0	179	<1.0	NS (11)	<1.0	1.6	<1.0
Feb. 2017	<20	<1.0	85	<1.0	9.2	<1.0	<5.0	NS (<1.0)

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

Trans-1,2-DCE Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (<2.0)	NS (<2.0)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

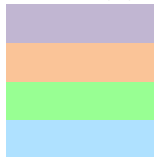
All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

Vinyl Chloride Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	49	<2.0	63	<2.0	NA	NA	NA	NA
Mar. 2000	<2.0	<2.0	325	<2.0	<2.0	NA	NA	NA
Mar. 2001	105	NS (<2.0)	NS (110)	NS (<2.0)	NS (6.7)	NA	190	NA
Sep. 2001	76	<2.0	<2.0	NS (<2.0)	9.1	NA	69	NA
Mar. 2002	29	<2.0	1,420	<2.0	8.0	NA	240	NA
Sep. 2002	65	<2.0	1,260	<2.0	7.5	NA	294	NA
Mar. 2003	110	<2.0	1,810	<2.0	1.2	NA	103	NA
Sep. 2003	5.8	<2.0	136	<2.0	2.6	NA	NS (373)	NA
Mar. 2004	120	<2.0	195	<2.0	7.9	NA	641	<2.0
Sep. 2004	77	<2.0	154	<2.0	7.3	NA	137	<2.0
Mar. 2005	86	<5.0	99	<5.0	7.0	NA	104	<5.0
Sep. 2005	112	<5.0	63	<5.0	7.0	NA	156	<5.0
Mar. 2006	75	<1.0	154	<1.0	7.3	NA	120	<1.0
Sep. 2006	104	NS (<1.0)	259	<1.0	9.3	NA	81	<1.0
Mar. 2007	59	NS (<1.0)	817	<1.0	12	NA	132	<1.0
Sep. 2007	19	NS (<1.0)	1,400	<1.0	79	NA	350	<1.0
Mar. 2008	86	NS (<1.0)	1,100	<1.0	43	NA	170	<1.0
Sep. 2008	32	NS (<1.0)	1,600	<1.0	160	NA	400	<1.0
Mar. 2009	98	NS (<1.0)	1,700	<1.0	<10	NA	340	<1.0
Sep. 2009	150	NS (<1.0)	710	<1.0	480	NA	450	<1.0
Mar. 2010	170	<1.0	1,700	<1.0	9.2	NA	730	<1.0
Sep. 2010	28	<1.0	2,200	<1.0	81	NA	140	<1.0
Sep. 2012	<100	<5.0	<2,500	<5.0	<25	<5.0	472	<5.0
Sep. 2014	22	<1.0	709	<1.0	NS (<25)	<1.0	319	<1.0
Feb. 2017	67	<1.0	700	<1.0	6.6	<1.0	200	NS (<1.0)

Notes:


All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).


<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).

 Non-Sampled well assumed non-detect

 Interpolated between two sampling events.

 Extrapolated from a sampling event.

 Well not installed. Extrapolated from a sampling event.

Vinyl Chloride Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (<2.0)	NS (<2.0)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

Ethylbenzene Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	1,950	<2.0	250	<2.0	NA	NA	NA	NA
Mar. 2000	1,890	<2.0	21	<2.0	<2.0	NA	NA	NA
Mar. 2001	1,050	NS (<2.0)	NS (14)	NS (<2.0)	NS (<2.0)	NA	1,020	NA
Sep. 2001	854	<2.0	10.0	NS (<2.0)	<2.0	NA	1,010	NA
Mar. 2002	635	<2.0	386	<2.0	25	NA	1,580	NA
Sep. 2002	1,900	<2.0	900	<2.0	1.6	NA	1,900	NA
Mar. 2003	938	<2.0	669	<2.0	<2.0	NA	356	NA
Sep. 2003	441	<2.0	13	<2.0	<2.0	NA	NS (1,278)	NA
Mar. 2004	1,910	<2.0	1.3	<2.0	<2.0	NA	2,190	<2.0
Sep. 2004	680	<2.0	<2.0	<2.0	<2.0	NA	2,140	<2.0
Mar. 2005	820	<5.0	4.0	<5.0	1.5	NA	1,110	9.1
Sep. 2005	1,380	<5.0	4.9	0.66	3.0	NA	1,350	<5.0
Mar. 2006	520	<1.0	<1.0	<1.0	<1.0	NA	1,020	<1.0
Sep. 2006	922	NS (<1.0)	13	<1.0	<1.0	NA	625	<1.0
Mar. 2007	159	NS (<1.0)	339	<1.0	<10	NA	1,240	<1.0
Sep. 2007	13	NS (<1.0)	820	<1.0	<20	NA	1,900	<1.0
Mar. 2008	460	NS (<1.0)	580	<1.0	<10	NA	340	<1.0
Sep. 2008	94	NS (<1.0)	1,200	<1.0	<1.0	NA	810	<1.0
Mar. 2009	270	NS (<1.0)	1,300	<1.0	<10	NA	200	<1.0
Sep. 2009	550	NS (<1.0)	920	<1.0	<10	NA	750	<1.0
Mar. 2010	450	<1.0	1,100	<1.0	<1.0	NA	1,300	<1.0
Sep. 2010	45	<1.0	920	<1.0	<1.0	NA	210	<1.0
Sep. 2012	<100	<5.0	<2,500	<5.0	<25	<5.0	431	<5.0
Sep. 2014	33	<1.0	196	<1.0	NS (<1.0)	<1.0	104	<1.0
Feb. 2017	81	<1.0	130	<1.0	<5.0	<1.0	84	NS (<1.0)

Notes:


All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.


<5.00: Analyte not detected. (Detection limit value used).

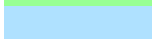
<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).

 Non-Sampled well assumed non-detect

 Interpolated between two sampling events.

 Extrapolated from a sampling event.

 Well not installed. Extrapolated from a sampling event.

Ethylbenzene Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	1.5	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	2.2	<2.0	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (2.4)	NS (<2.0)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	1.9	3.2	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

Toluene Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	1,050	<2.0	<2.0	<2.0	NA	NA	NA	NA
Mar. 2000	979	<2.0	7.9	<2.0	<2.0	NA	NA	NA
Mar. 2001	436	NS (<2.0)	NS (4.9)	NS (<2.0)	NS (<2.0)	NA	69	NA
Sep. 2001	396	<2.0	3.3	NS (<2.0)	<2.0	NA	446	NA
Mar. 2002	317	<2.0	121	<2.0	1.6	NA	70	NA
Sep. 2002	344	<2.0	228	<2.0	<2.0	NA	116	NA
Mar. 2003	265	<2.0	253	<2.0	<2.0	NA	19	NA
Sep. 2003	19	<2.0	4.5	<2.0	<2.0	NA	NS (67)	NA
Mar. 2004	766	<2.0	<2.0	<2.0	<2.0	NA	114	<2.0
Sep. 2004	422	<2.0	<2.0	<2.0	<2.0	NA	57	<2.0
Mar. 2005	264	<5.0	<5.0	<5.0	<5.0	NA	35	<5.0
Sep. 2005	524	<5.0	1.8	<5.0	0.25	NA	59	<5.0
Mar. 2006	110	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0
Sep. 2006	209	NS (<1.0)	3.9	<1.0	<1.0	NA	23	<1.0
Mar. 2007	26	NS (<1.0)	68	<1.0	<10	NA	39	<1.0
Sep. 2007	<5.0	NS (<1.0)	220	<1.0	<20	NA	<100	<1.0
Mar. 2008	64	NS (<1.0)	170	<1.0	<10	NA	<20	<1.0
Sep. 2008	28	NS (<1.0)	400	<1.0	<1.0	NA	27	<1.0
Mar. 2009	18	NS (<1.0)	520	<1.0	<10	NA	<10	<1.0
Sep. 2009	69	NS (<1.0)	380	<1.0	<10	NA	25	<1.0
Mar. 2010	20	<1.0	390	<1.0	<1.0	NA	33	<1.0
Sep. 2010	2.5	<1.0	350	<1.0	<1.0	NA	7.2	<1.0
Sep. 2012	<100	<5.0	<2,500	<5.0	<25	<5.0	<100	<5.0
Sep. 2014	7.8	<1.0	77	<1.0	NS (<1.0)	<1.0	2.8	<1.0
Feb. 2017	15	<1.0	<200	<1.0	<5.0	<1.0	<5.0	NS (<1.0)

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

Interpolated between two sampling events.

Extrapolated from a sampling event.

Well not installed. Extrapolated from a sampling event.

Toluene Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	2.5	2.5	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	11	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (2.0)	NS (8.2)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	2.0	<5.0	NA
Sep. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<5.0	<5.0	NS (<1.0)	NS (<1.0)	<5.0	<5.0
Sep. 2014	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).

- Non-Sampled well assumed non-detect
- Interpolated between two sampling events.
- Extrapolated from a sampling event.
- Well not installed. Extrapolated from a sampling event.

Xylenes Input Data

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6R	MW-7	MW-8
Sep. 1999	8,260	<2.0	1,480	<2.0	NA	NA	NA	NA
Mar. 2000	7,820	<2.0	69	<2.0	<2.0	NA	NA	NA
Mar. 2001	4,260	NS (<2.0)	NS (64)	NS (<2.0)	NS (<2.0)	NA	3,430	NA
Sep. 2001	2,720	<2.0	62	NS (<2.0)	<2.0	NA	3,016	NA
Mar. 2002	2,680	<2.0	1,530	<2.0	145	NA	8,000	NA
Sep. 2002	9,870	<2.0	3,828	<2.0	3.3	NA	10,950	NA
Mar. 2003	4,040	<2.0	2,912	<2.0	<2.0	NA	1,606	NA
Sep. 2003	2,193	<2.0	60	<2.0	<2.0	NA	NS (5,710)	NA
Mar. 2004	9,220	<2.0	8.4	<2.0	3.5	NA	9,770	<2.0
Sep. 2004	3,220	<2.0	2.0	<2.0	<2.0	NA	9,000	<2.0
Mar. 2005	3,940	<5.0	43	<5.0	6.4	NA	4,170	33
Sep. 2005	6,580	<5.0	43	2.5	13	NA	5,440	<5.0
Mar. 2006	2,430	<1.0	16	<1.0	<1.0	NA	4,040	<1.0
Sep. 2006	3,910	NS (<1.0)	72	<1.0	1.5	NA	2,350	<1.0
Mar. 2007	736	NS (<1.0)	1,400	3.3	<10	NA	4,650	<1.0
Sep. 2007	5.2	NS (<1.0)	3,300	<1.0	<20	NA	7,300	<1.0
Mar. 2008	1,900	NS (<1.0)	2,300	<1.0	<10	NA	1,500	<1.0
Sep. 2008	460	NS (<1.0)	4,500	<1.0	<1.0	NA	3,400	1.9
Mar. 2009	1,000	NS (<1.0)	4,800	<1.0	<10	NA	790	<1.0
Sep. 2009	2,300	NS (<1.0)	3,600	<1.0	<10	NA	3,300	<1.0
Mar. 2010	1,900	<1.0	4,600	<1.0	<1.0	NA	5,700	<1.0
Sep. 2010	160	<1.0	3,600	<1.0	<1.0	NA	870	<1.0
Sep. 2012	403	<15	<7,500	<15	<75	<15	1,720	<15
Sep. 2014	99	<2.0	817	<2.0	NS (<1.0)	<2.0	373	<2.0
Feb. 2017	380	<1.0	530	<1.0	<5.0	<1.0	320	NS (<2.0)

Notes:


All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

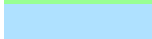
<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).

 Non-Sampled well assumed non-detect

 Interpolated between two sampling events.

 Extrapolated from a sampling event.

 Well not installed. Extrapolated from a sampling event.

Xylenes Input Data

	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Sep. 1999	NA	NA	NA	NA	NA	NA	NA
Mar. 2000	NA	NA	NA	NA	NA	NA	NA
Mar. 2001	NA	NA	NA	NA	NA	NA	NA
Sep. 2001	NA	<2.0	NA	NA	NA	NA	NA
Mar. 2002	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Sep. 2002	<2.0	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Mar. 2003	NS (<2.0)	<2.0	NS (<2.0)	<2.0	NA	NA	NA
Sep. 2003	<2.0	<2.0	<2.0	1.9	<2.0	<2.0	NA
Mar. 2004	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
Sep. 2004	<2.0	<2.0	<2.0	<2.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2005	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Sep. 2005	<5.0	0.39	0.36	<5.0	<5.0	<5.0	NA
Mar. 2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
Sep. 2006	<1.0	<1.0	NS (<1.0)	<1.0	NS (<1.0)	NS (<1.0)	NA
Mar. 2007	7.6	12	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2007	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2008	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Mar. 2009	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2009	<1.0	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	NA
Mar. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2010	<1.0	<1.0	NS (<1.0)	NS (<1.0)	NS (<1.0)	NS (<1.0)	NA
Sep. 2012	NS (<1.0)	<15	<15	NS (<1.0)	NS (<1.0)	<15	<15
Sep. 2014	NS (<1.0)	<2.0	<2.0	NS (<1.0)	NS (<1.0)	<2.0	<2.0
Feb. 2017	NS (<1.0)	<1.0	<1.0	NS (<1.0)	NS (<1.0)	<1.0	<1.0

Notes:

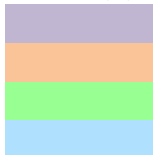
All concentrations in µg/l

NA: Well not installed, abandoned or otherwise not utilized.

<5.00: Analyte not detected. (Detection limit value used).

<100 (10): Analyte not detected. (Assigned value shown).

NS (5): Well not sampled. (Assigned value shown).



Non-Sampled well assumed non-detect

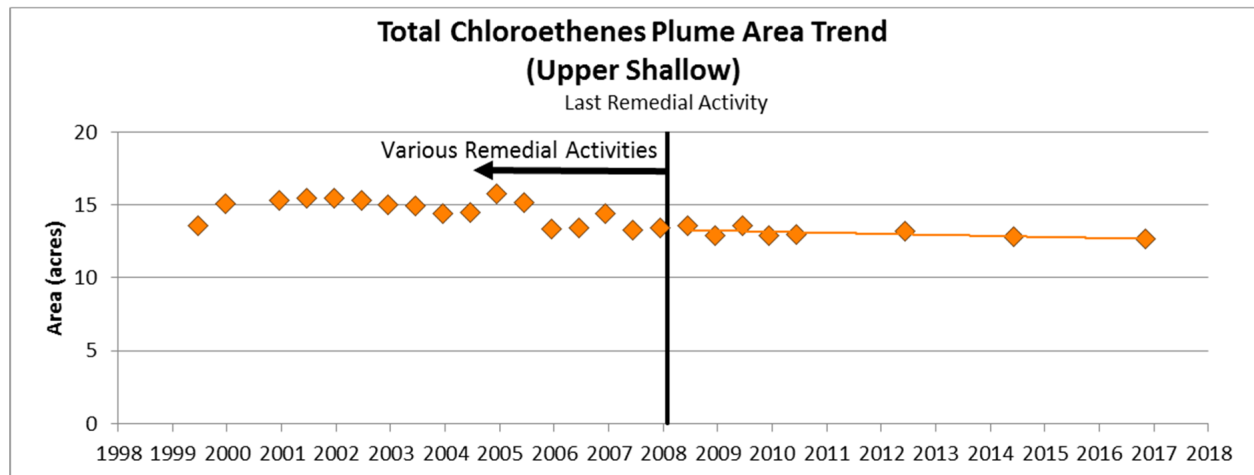
Interpolated between two sampling events.

Extrapolated from a sampling event.

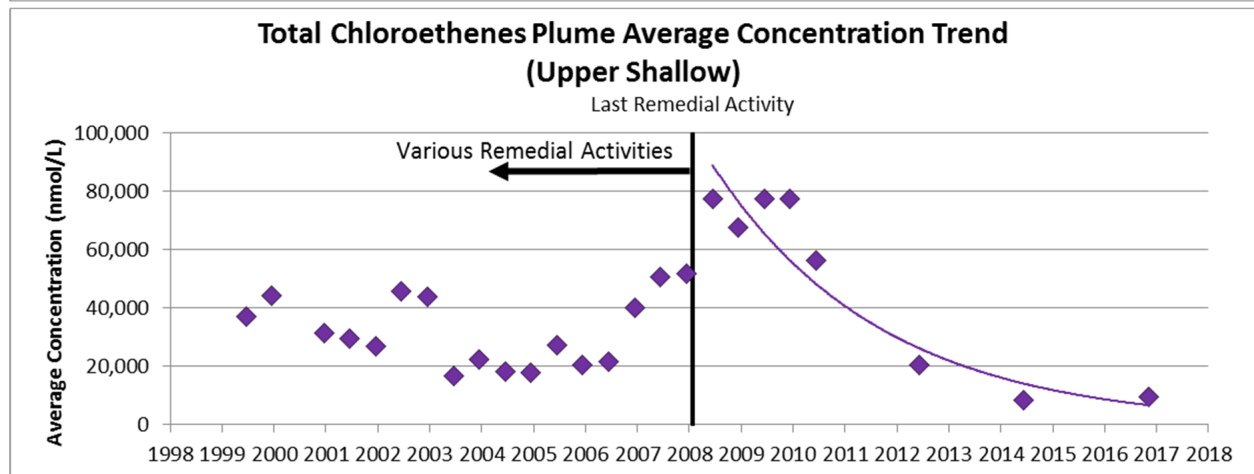
Well not installed. Extrapolated from a sampling event.

APPENDIX E

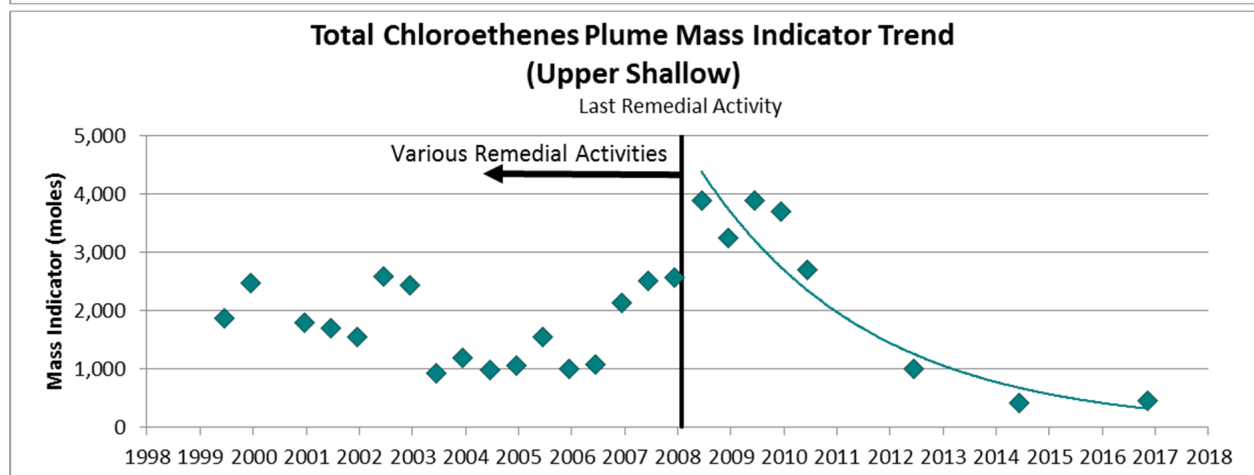
FIGURES



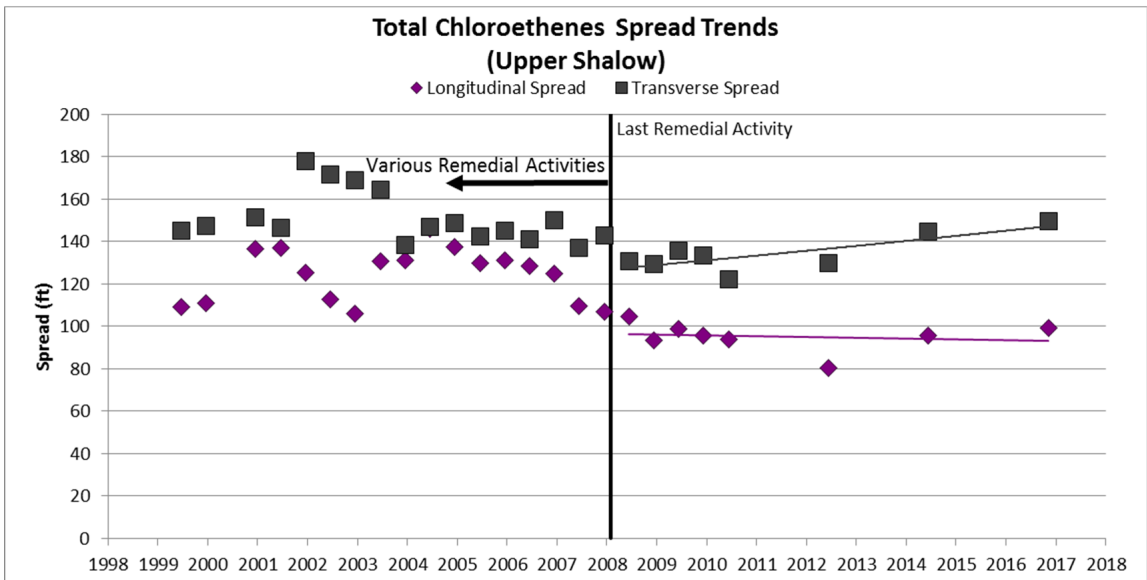
Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 91% Confidence
 Regression: 92% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 64% Confidence
 Regression: 29% Confidence

Sep-2008 to Feb-2017
 No Trend/Decreasing Trend
 Mann-Kendall: 86% Confidence
 Regression: >99% Confidence

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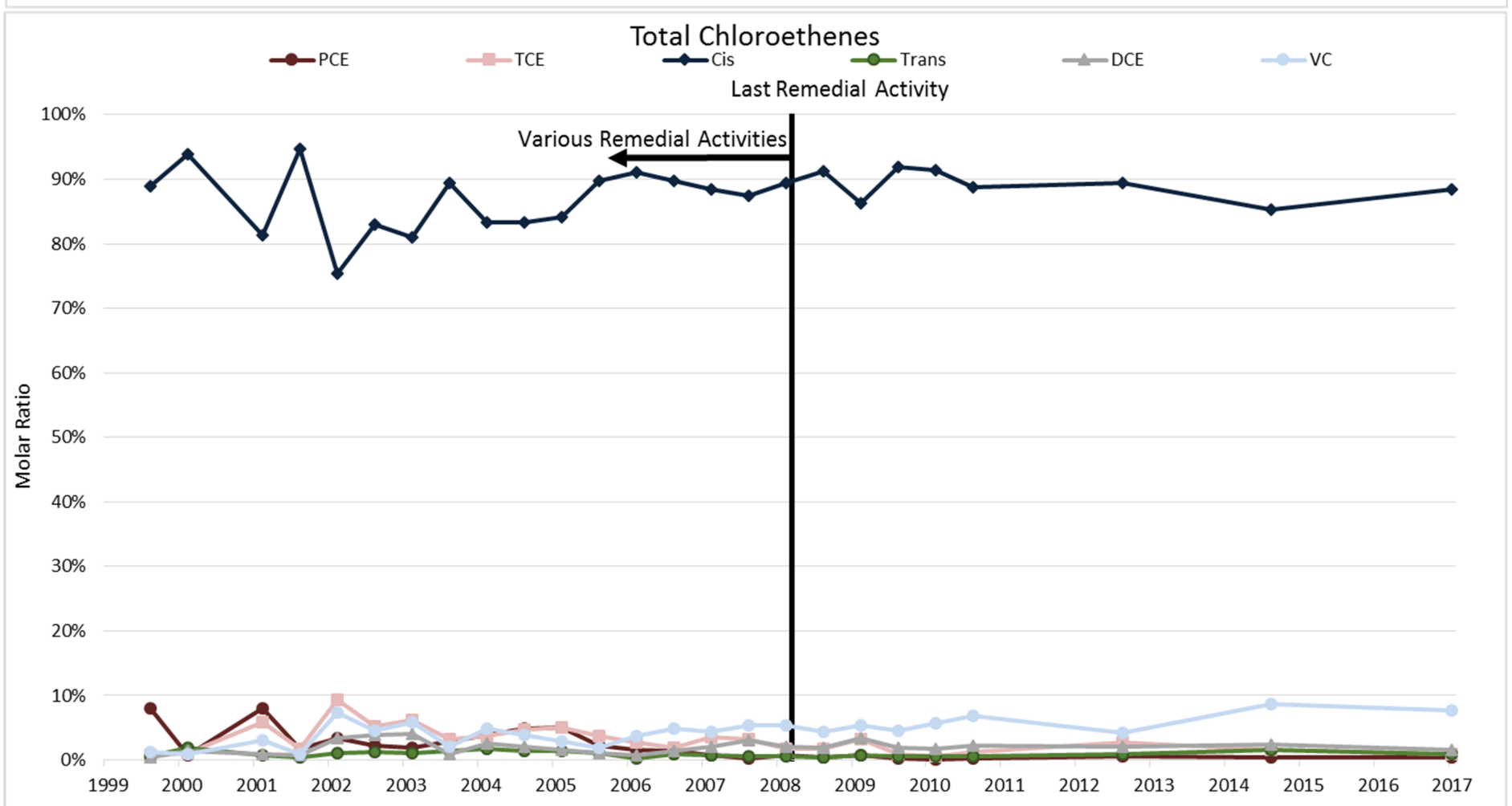
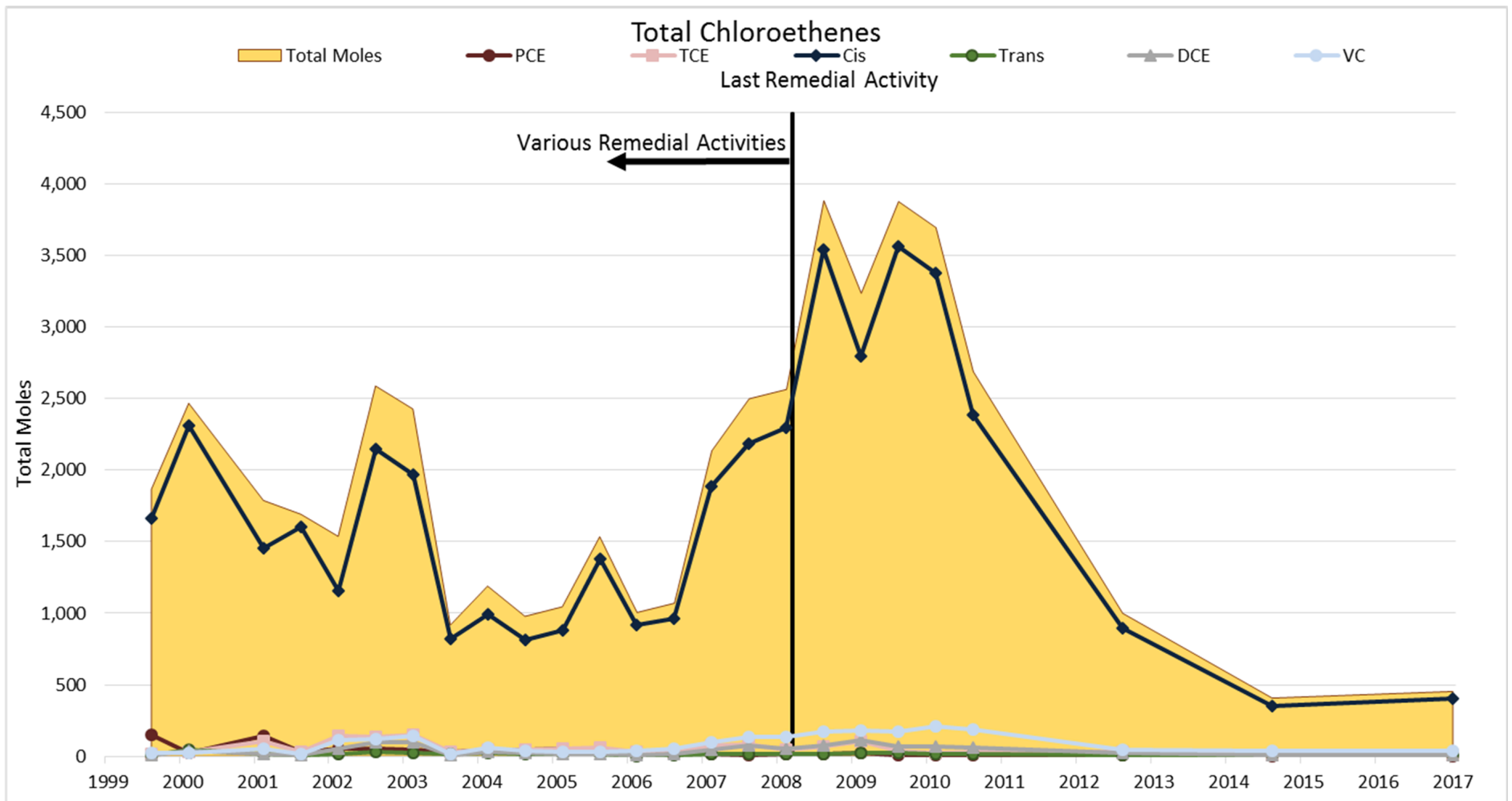


**Plume Stability Analysis Summary
 Total Chloroethenes**

Project Number: 02.20160378.00

1880 West Oak Parkway, Bldg. 100 Suite 106
 Marietta, Georgia 30062

Prepared by: KDC Checked by: DCW Figure: 1



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**Molar Ratios
 Total Chloroethenes**

Project Number: 02.20160378.00

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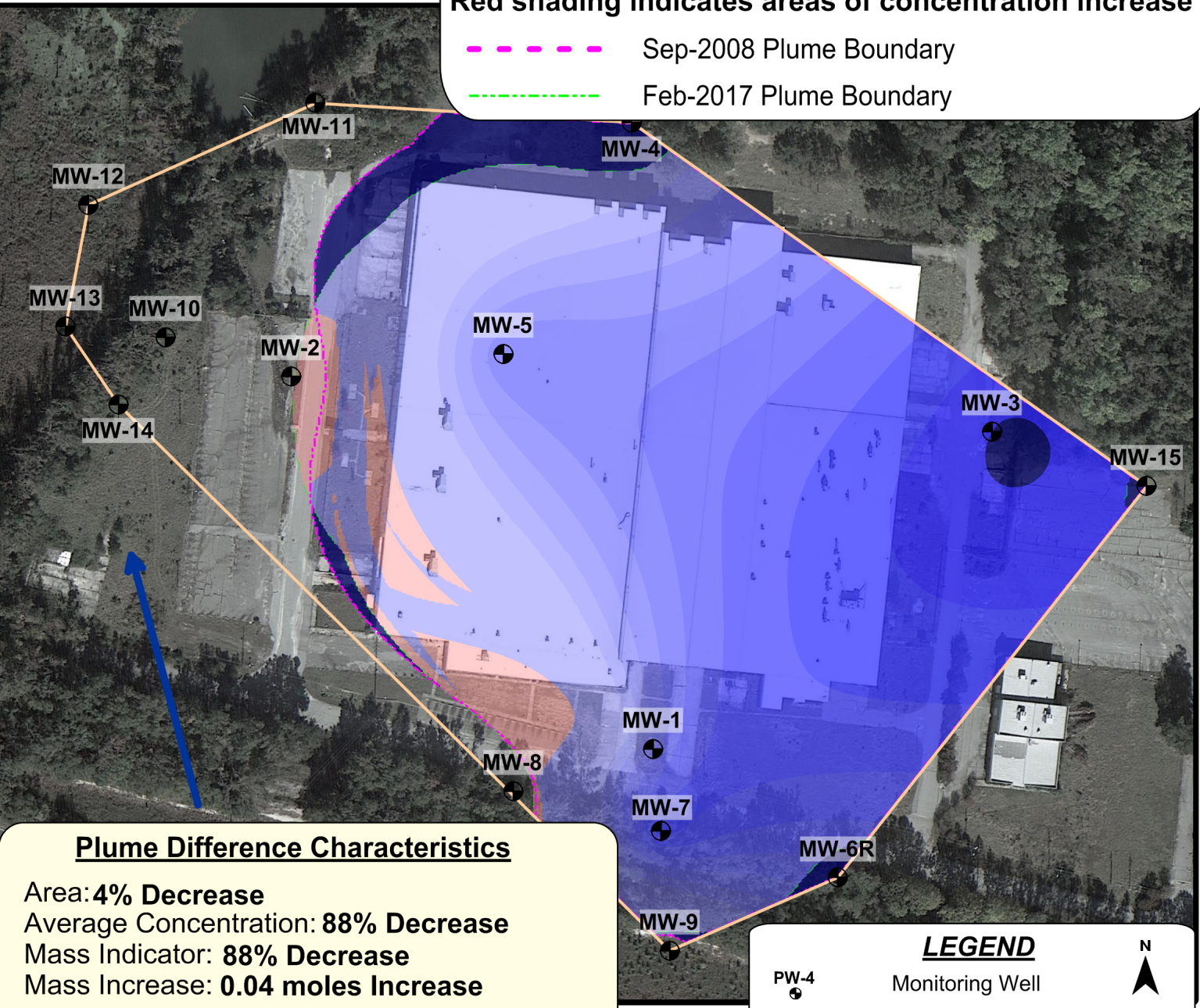
Prepared by: KDC Checked by: DCW Figure: 2

Plume Difference Map (Sep-2008 vs. Feb-2017)

EXPLANATION

Blue shading indicates areas of concentration decrease
Red shading indicates areas of concentration increase

--- Sep-2008 Plume Boundary
--- Feb-2017 Plume Boundary



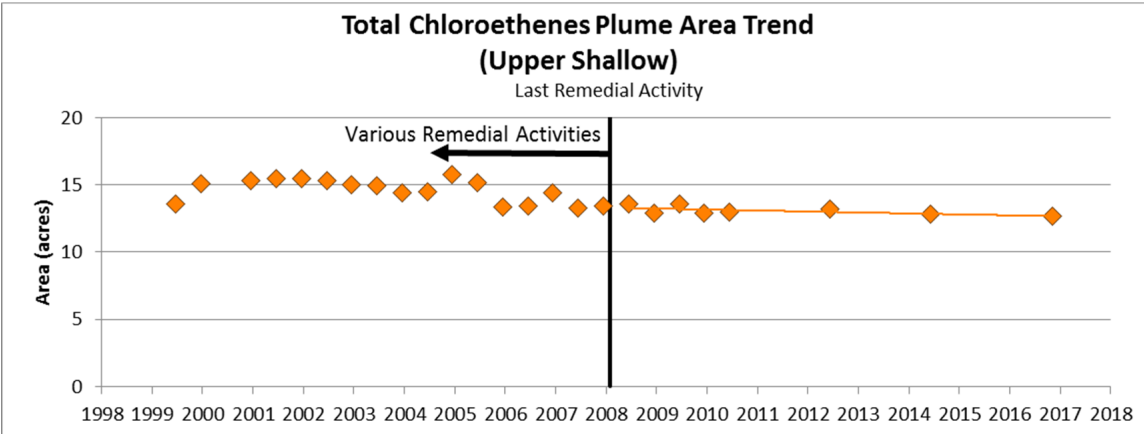
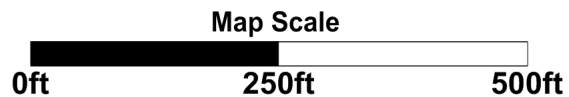
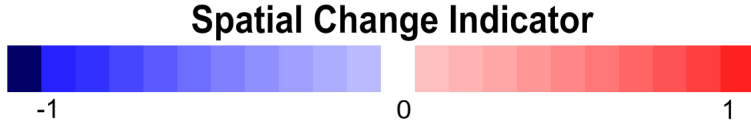
Plume Difference Characteristics
 Area: **4% Decrease**
 Average Concentration: **88% Decrease**
 Mass Indicator: **88% Decrease**
 Mass Increase: **0.04 moles Increase**
 Mass Decrease: **3,419 moles Decrease**

LEGEND

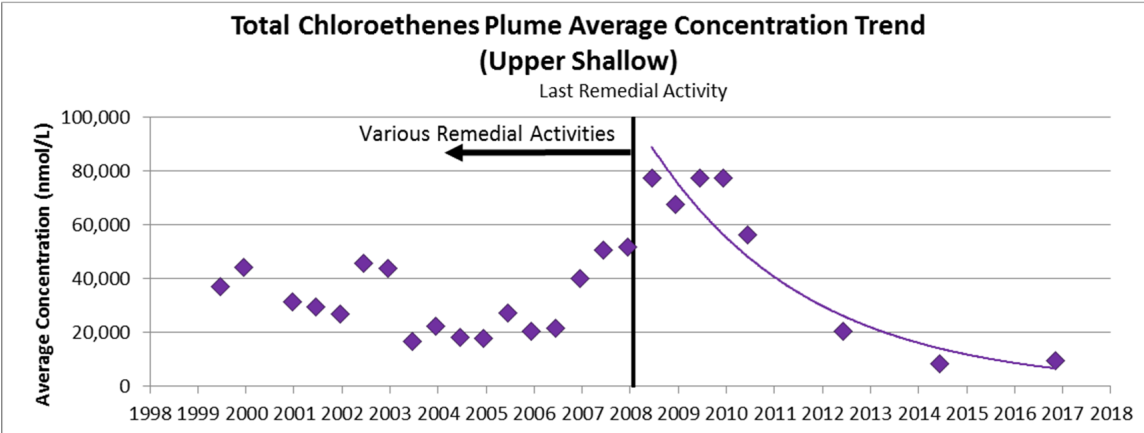
PW-4 Monitoring Well

→ General Groundwater Flow

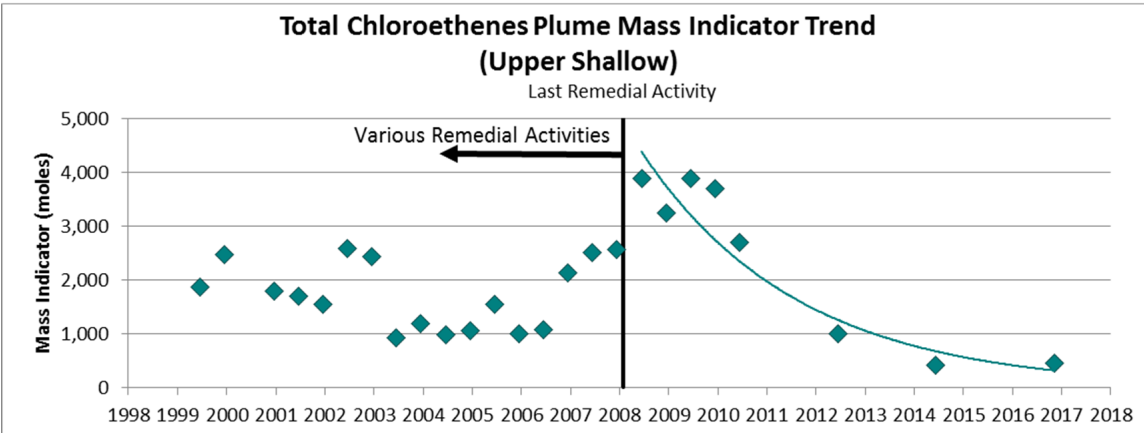
N



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 91% Confidence
 Regression: 92% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence

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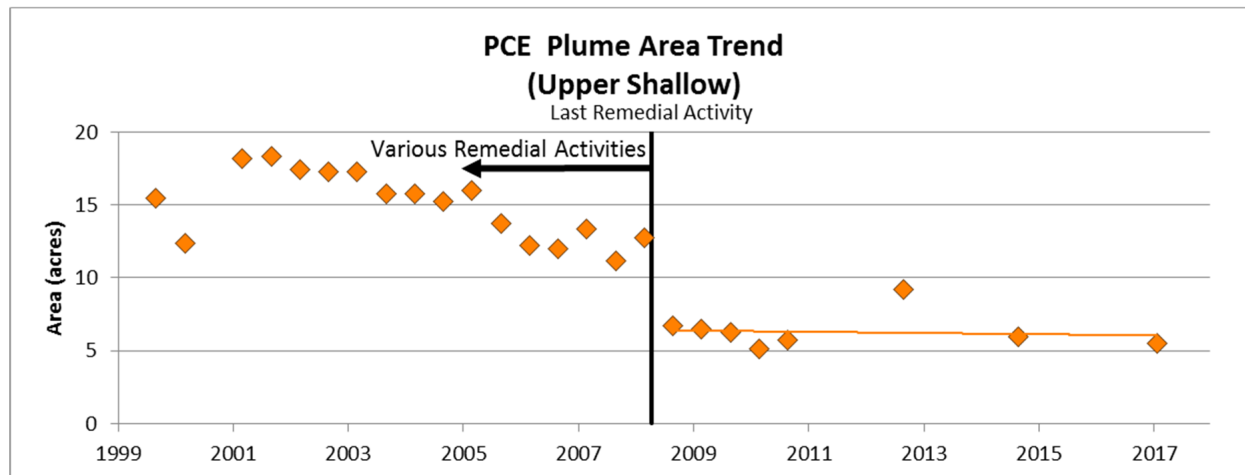
Total Chloroethenes Plume Stability Analysis Summary and Spatial Change Indicator Sep-2008 vs. Feb-2017

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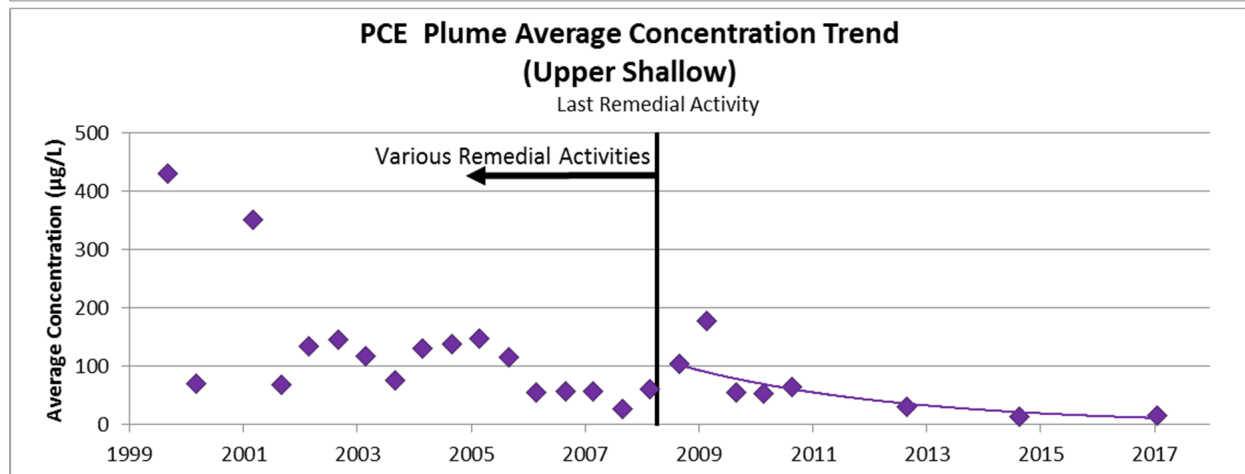
Project Number: 02.20160378.00

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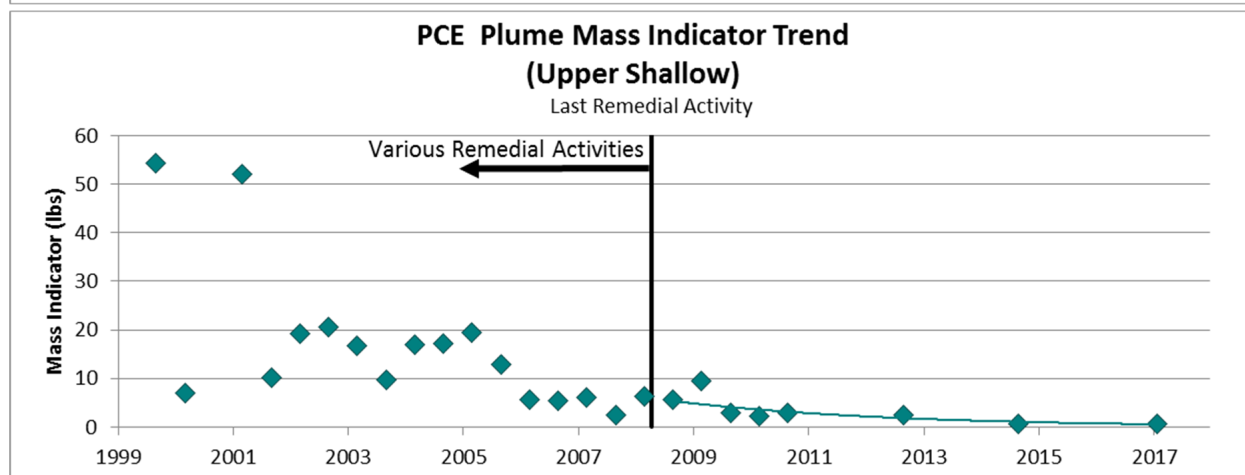
Prepared by: KDC Checked by: DCW Figure: 3



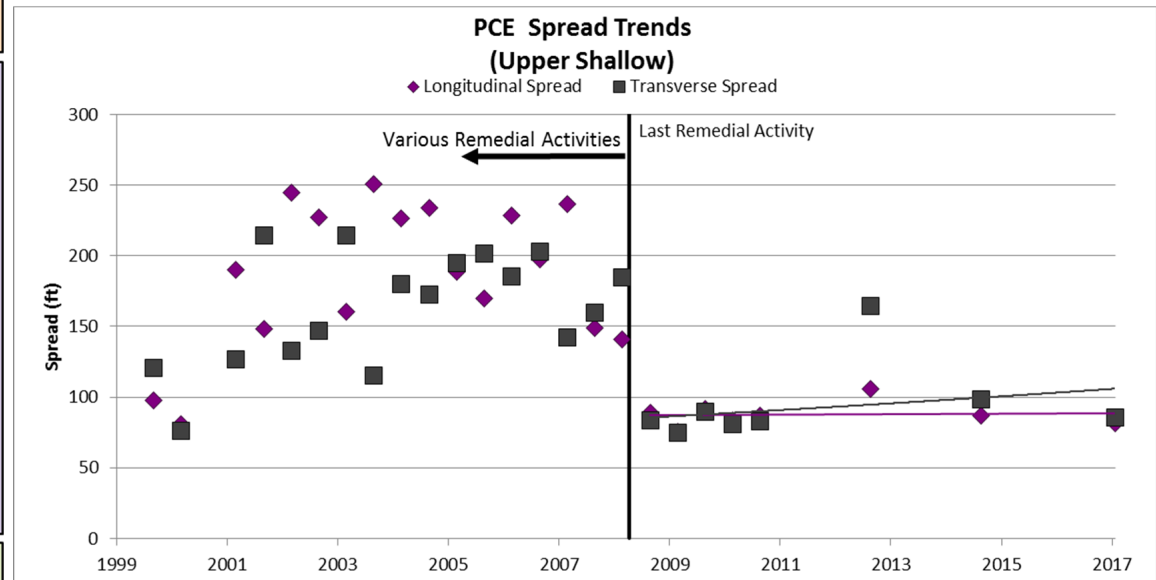
Sep-2008 to Feb-2017
No Trend
Mann-Kendall: 86% Confidence
Regression: 20% Confidence



Sep-2008 to Feb-2017
Decreasing Trend
Mann-Kendall: 99% Confidence
Regression: >99% Confidence



Sep-2008 to Feb-2017
Decreasing Trend
Mann-Kendall: 98% Confidence
Regression: >99% Confidence



Sep-2008 to Feb-2017
No Trend
Mann-Kendall: 45% Confidence
Regression: 10% Confidence

Sep-2008 to Feb-2017
No Trend
Mann-Kendall: 86% Confidence
Regression: 54% Confidence

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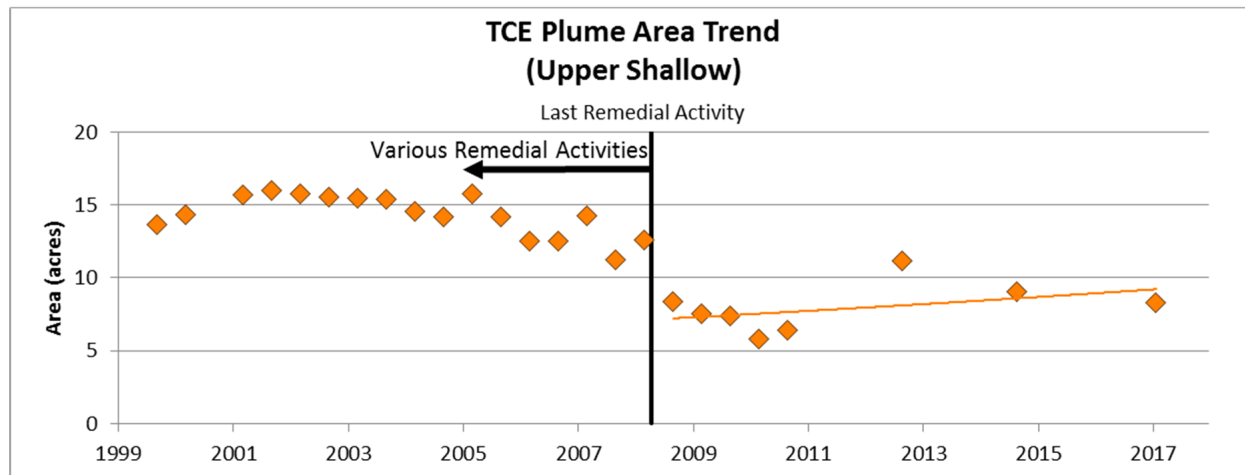
**Plume Stability Analysis Summary
Tetrachloroethene (PCE)**

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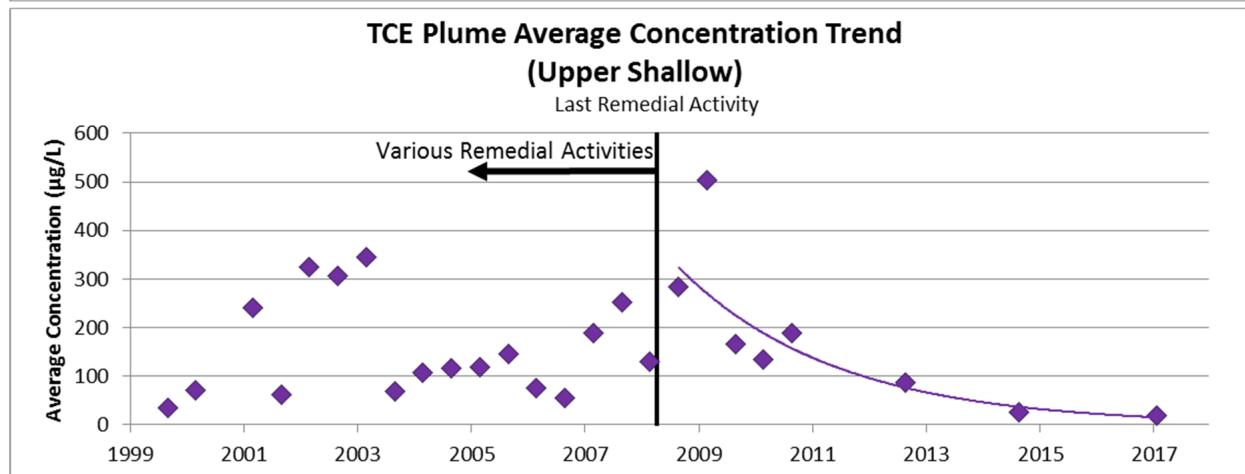
Project Number: 02.20160378.00

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Marietta, Georgia 30062

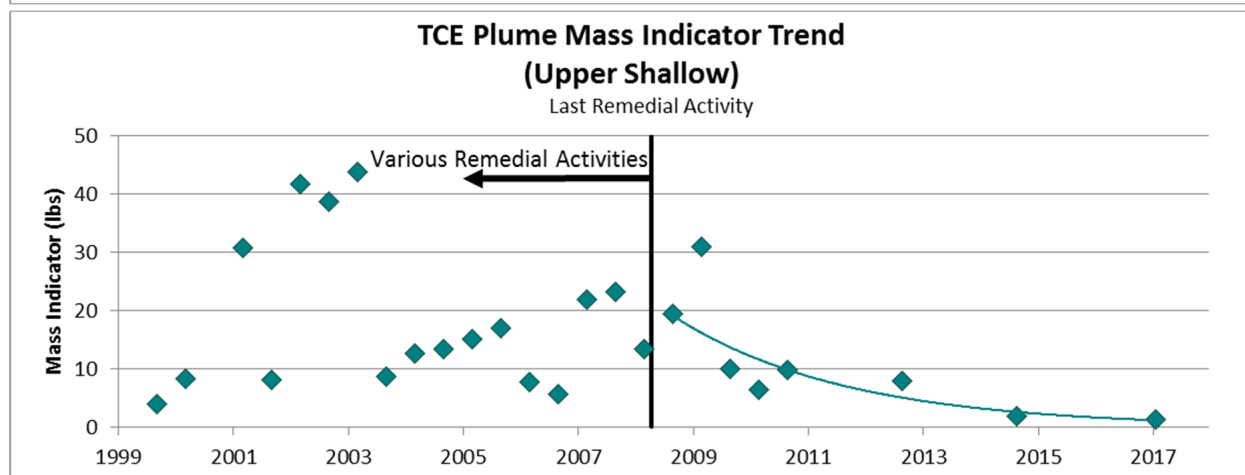
Prepared by: KDC Checked by: DCW Figure: 4



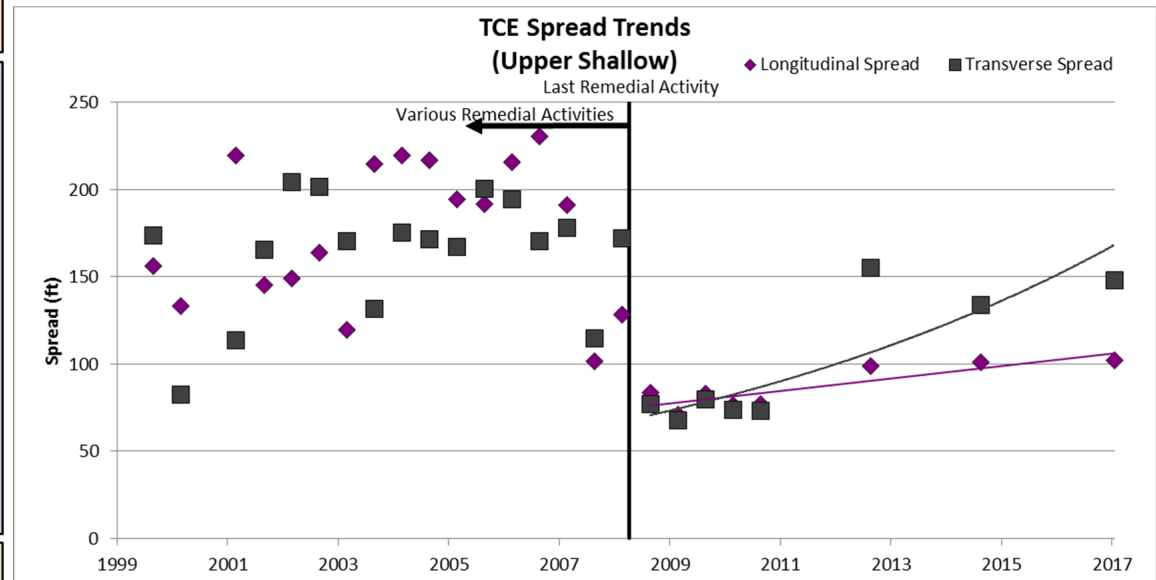
Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 55% Confidence
 Regression: 71% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 97% Confidence
 Regression: 99% Confidence

Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 91% Confidence
 Regression: 99% Confidence

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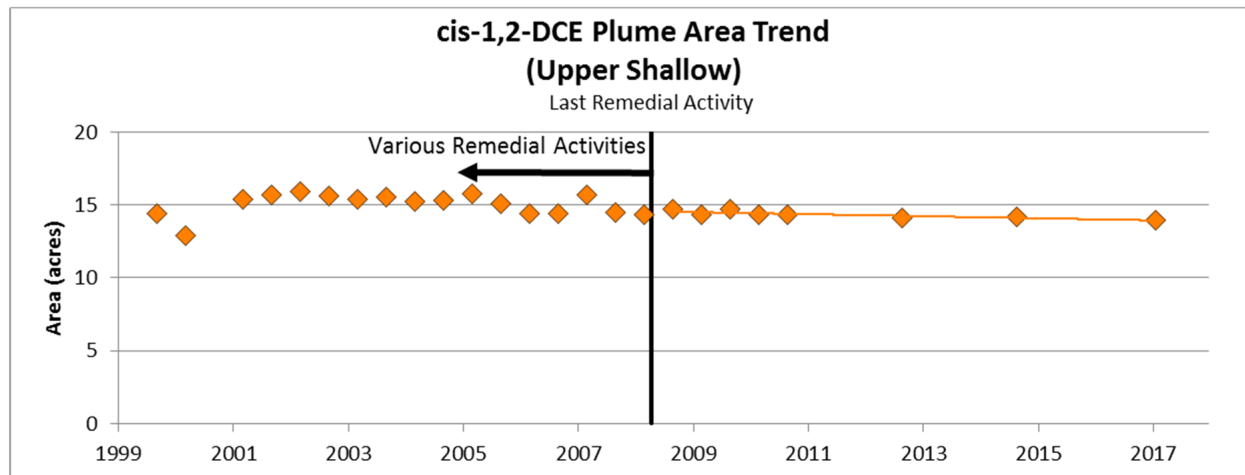
**Plume Stability Analysis Summary
 Trichloroethene (TCE)**

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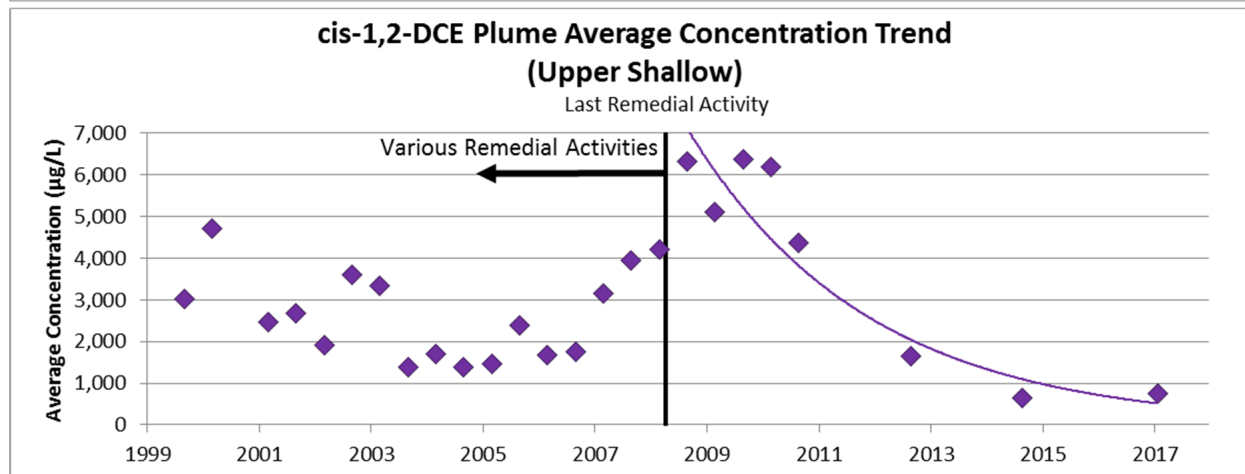
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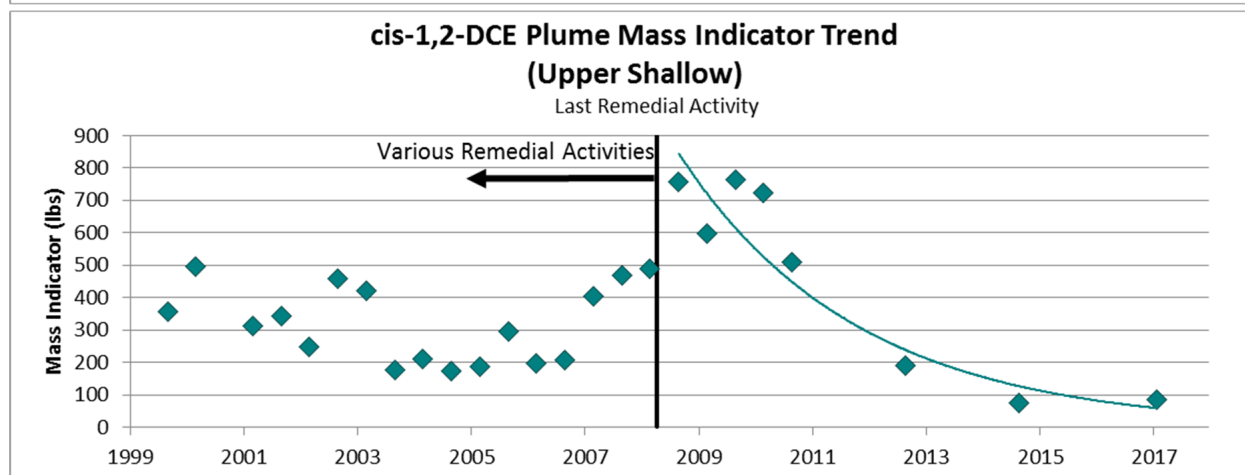
Prepared by: KDC Checked by: DCW Figure: 5



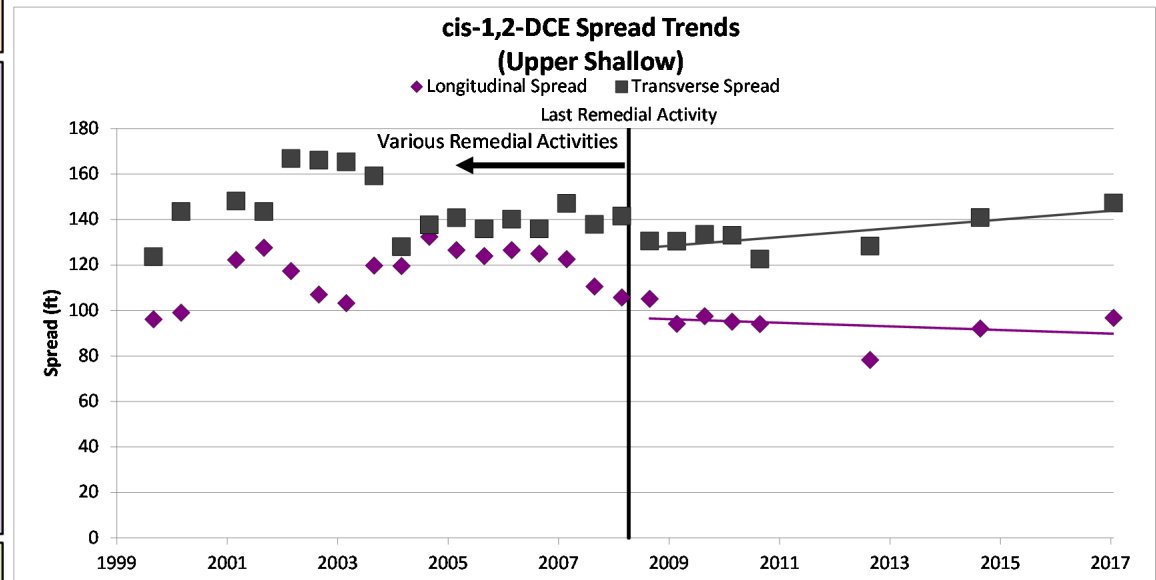
Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 99% Confidence
 Regression: 99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 No Trend/Decreasing Trend
 Mann-Kendall: 91% Confidence
 Regression: 55% Confidence

Sep-2008 to Feb-2017
 No Trend/Increasing Trend
 Mann-Kendall: 80% Confidence
 Regression: 97% Confidence

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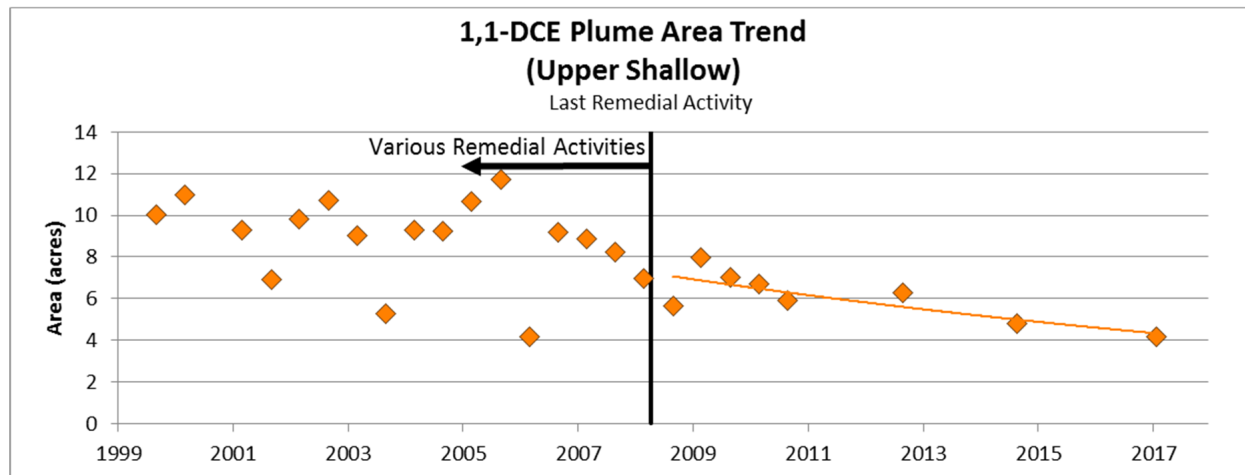
Plume Stability Analysis Summary
cis-1,2-Dichloroethene
(cis-1,2-DCE)

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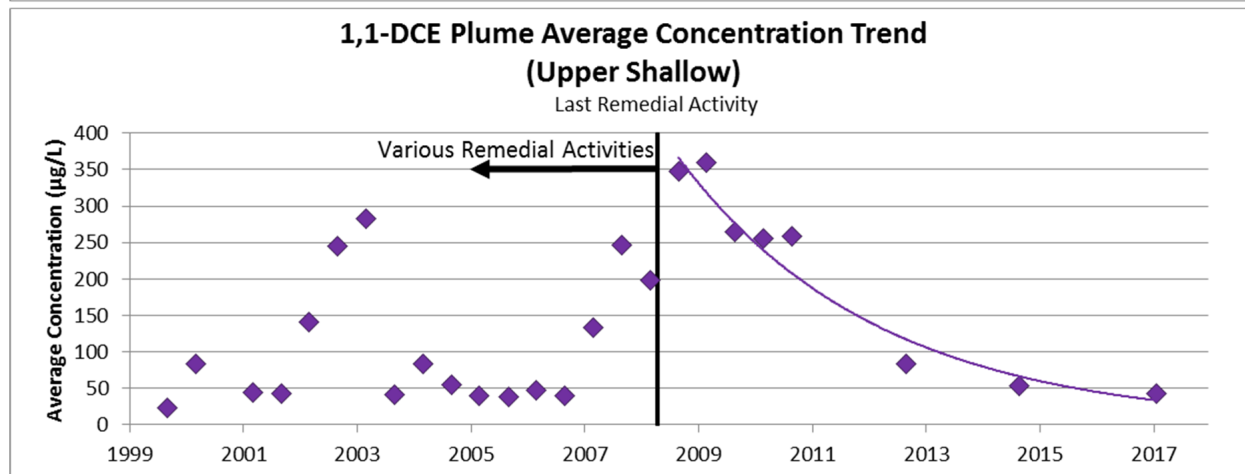
Project Number: 02.20160378.00

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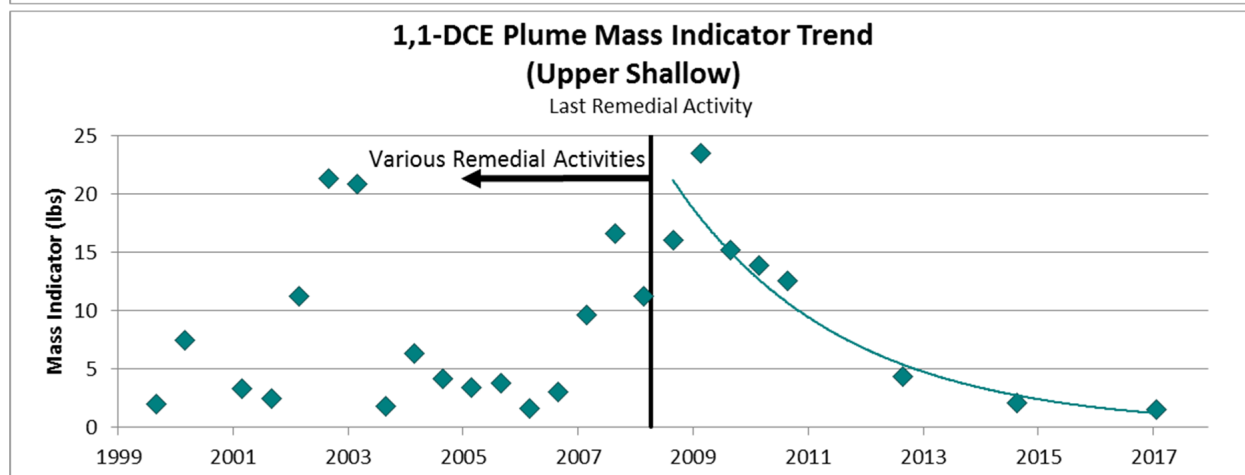
Prepared by: KDC Checked by: DCW Figure: 6



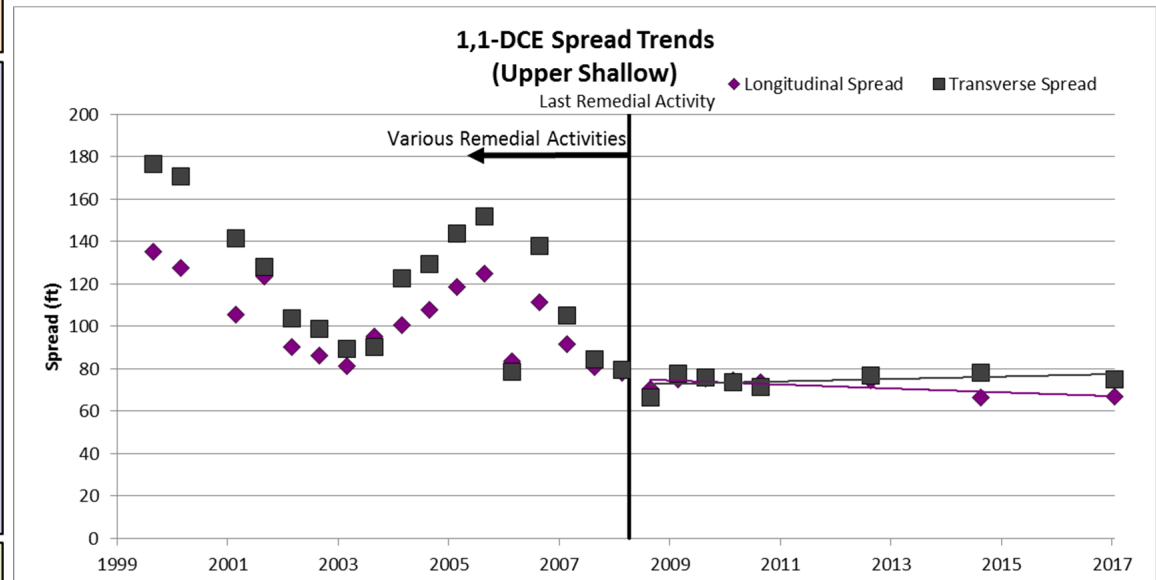
Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 97% Confidence
 Regression: 99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 No Trend/Decreasing Trend
 Mann-Kendall: 86% Confidence
 Regression: 97% Confidence

Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 75% Confidence
 Regression: 69% Confidence

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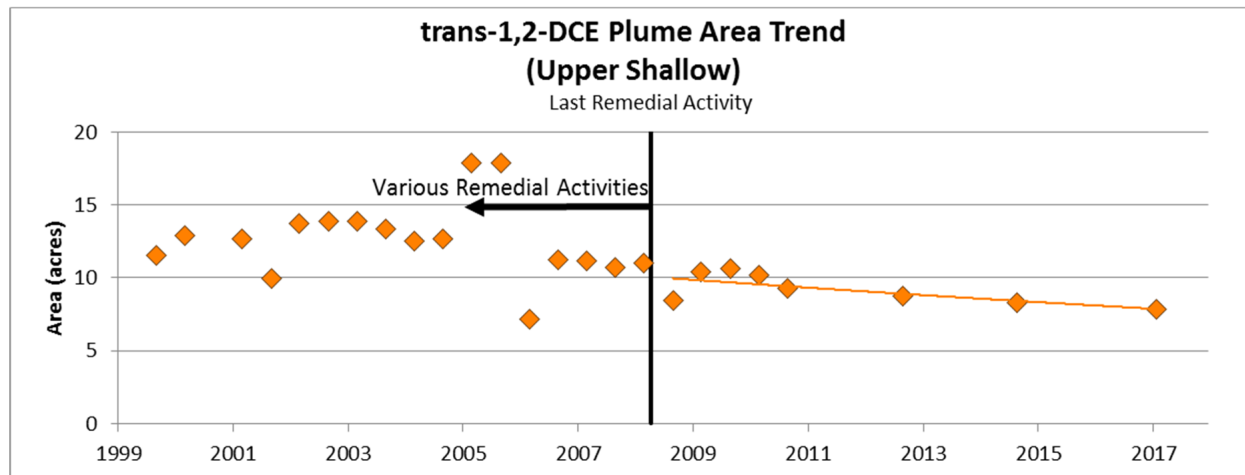
Plume Stability Analysis Summary
1,1-Dichloroethene (1,1-DCE)

Project Number: 02.20160378.00

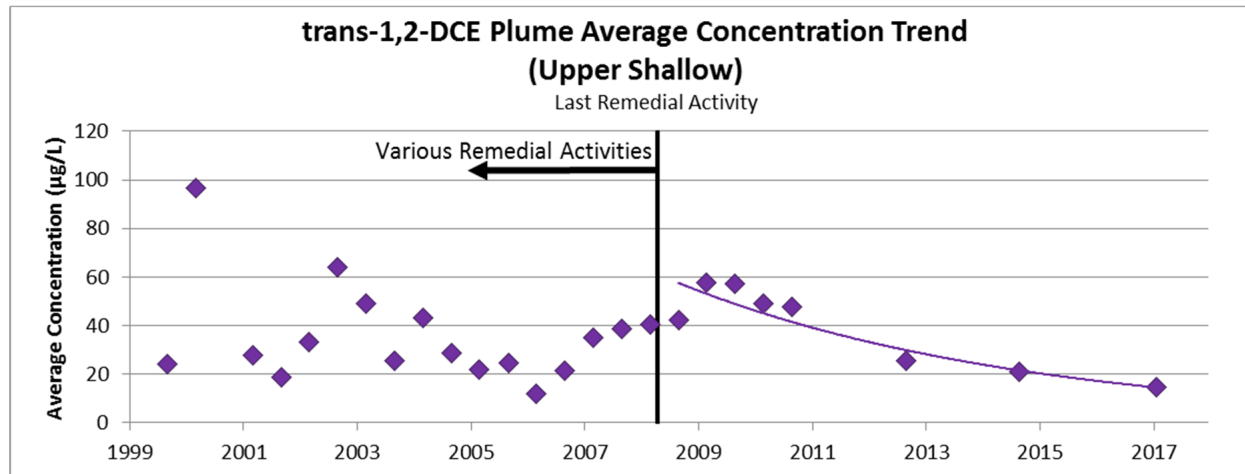
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Prepared by: KDC Checked by: DCW Figure: 7

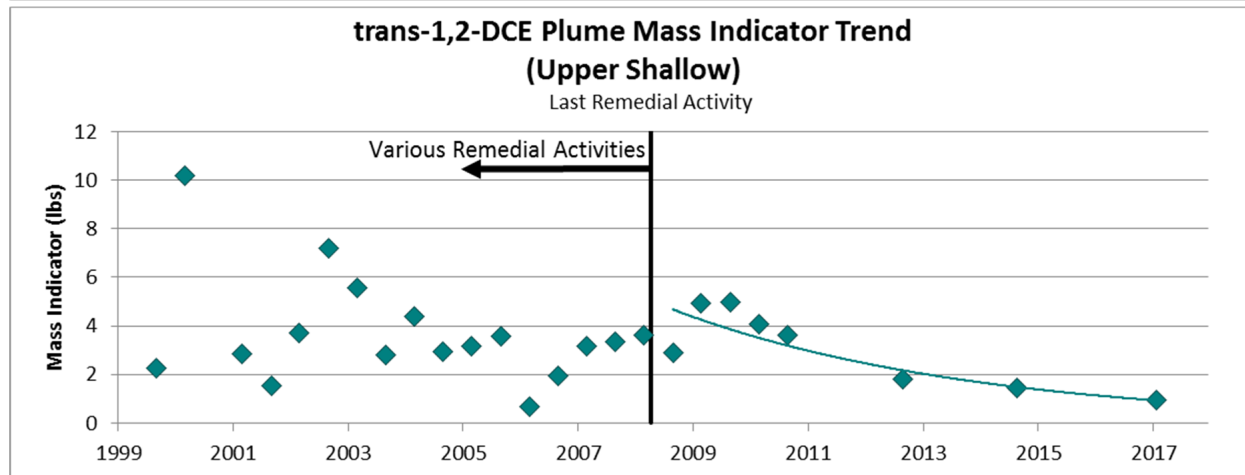
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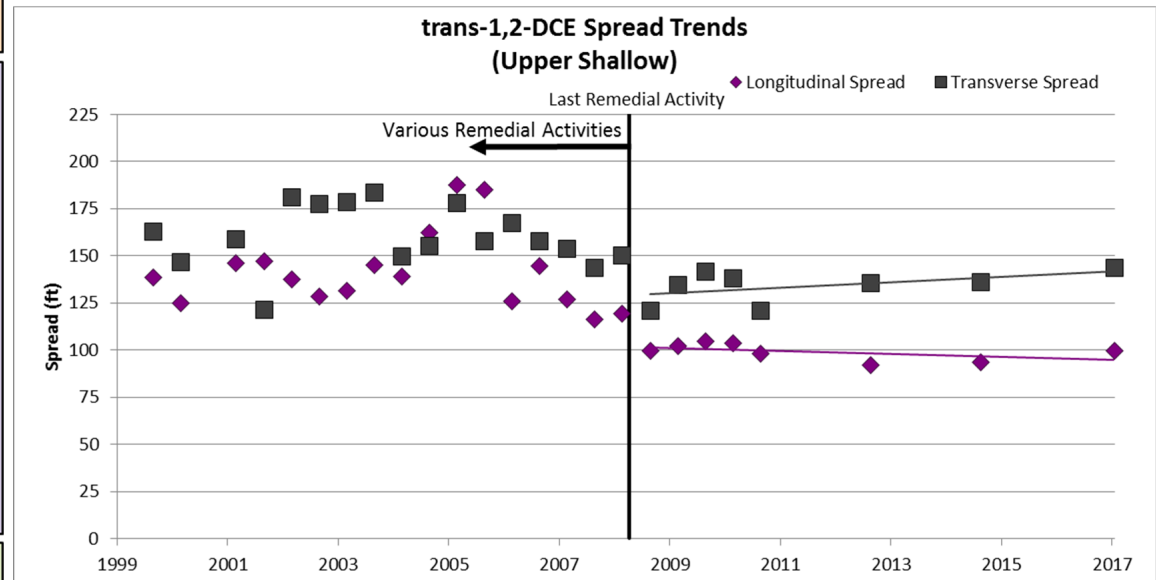
Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 97% Confidence
 Regression: 96% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 98% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 86% Confidence
 Regression: 81% Confidence

Sep-2008 to Feb-2017
 No Trend/Increasing Trend
 Mann-Kendall: 91% Confidence
 Regression: 78% Confidence

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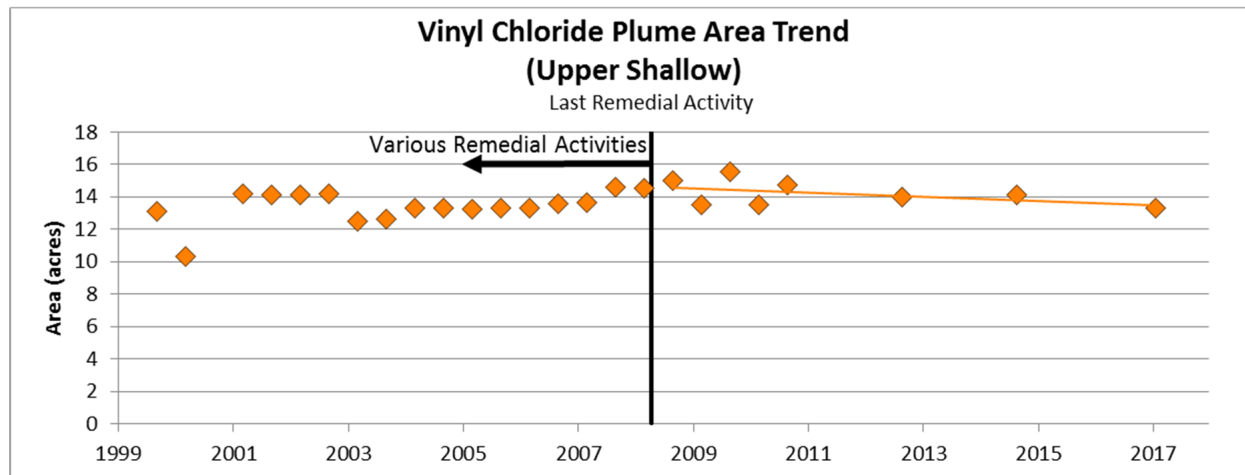


Plume Stability Analysis Summary
trans-1,2-Dichloroethene
(trans-1,2-DCE)

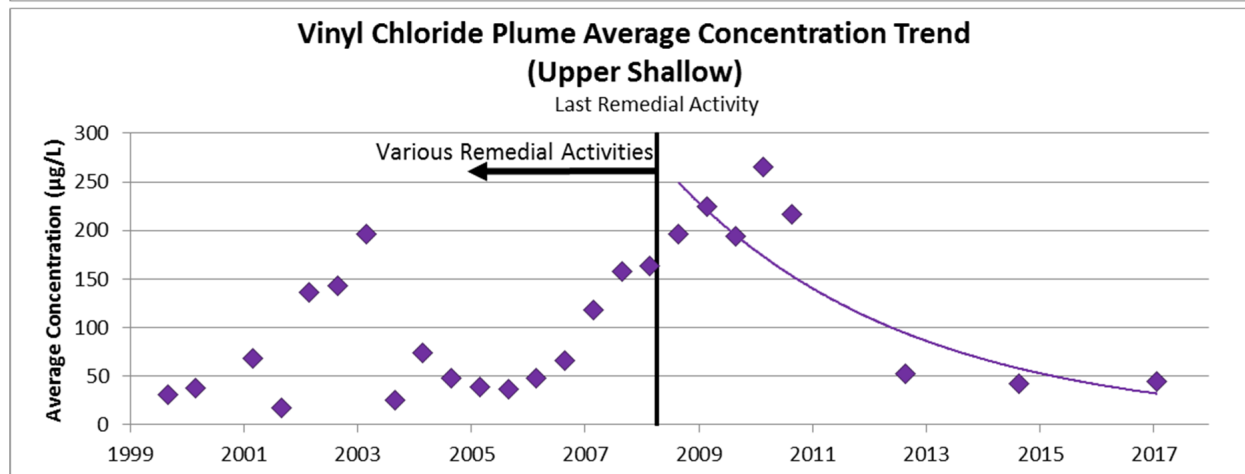
Project Number: 02.20160378.00

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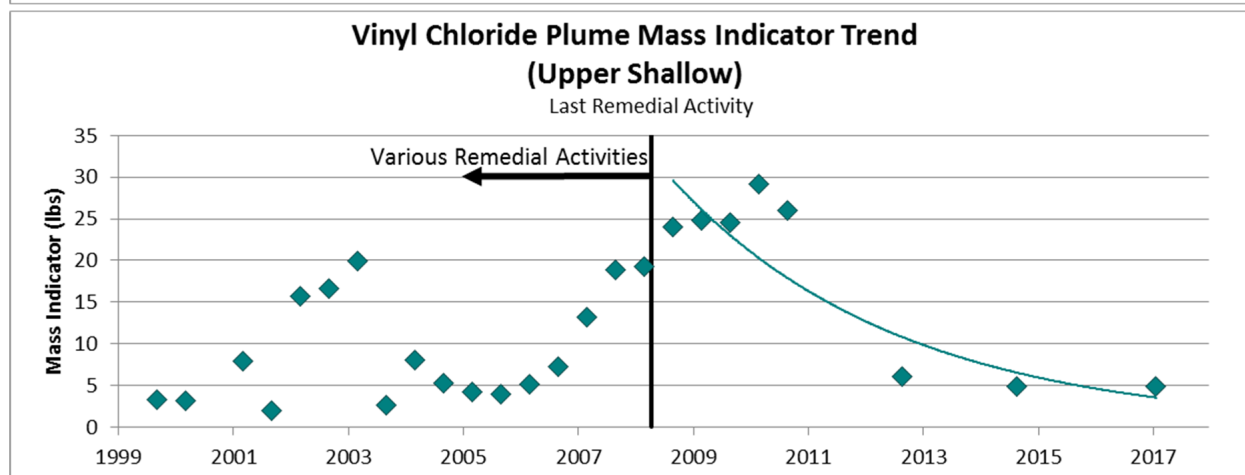
Prepared by: KDC Checked by: DCW Figure: 8



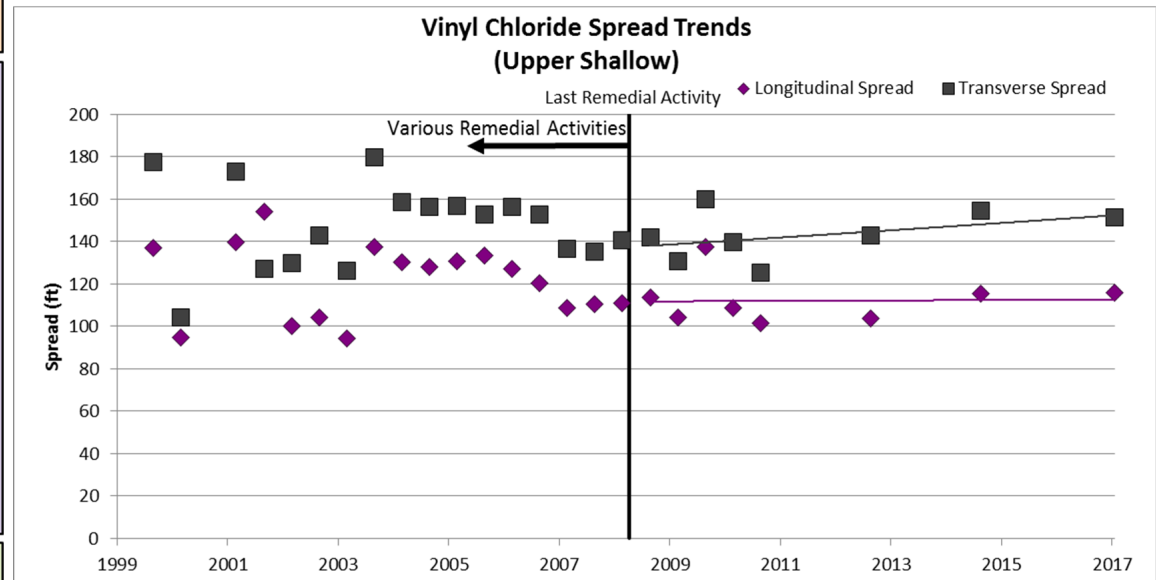
Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 86% Confidence
 Regression: 77% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 95% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 91% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 55% Confidence
 Regression: 5% Confidence

Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 75% Confidence
 Regression: 71% Confidence

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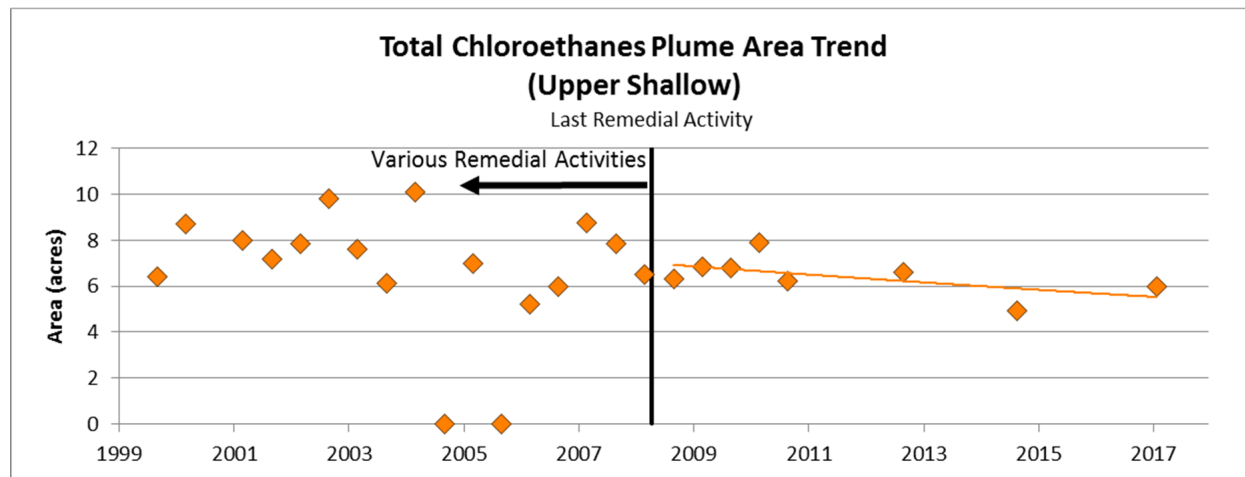
**Plume Stability Analysis Summary
 Vinyl Chloride (VC)**

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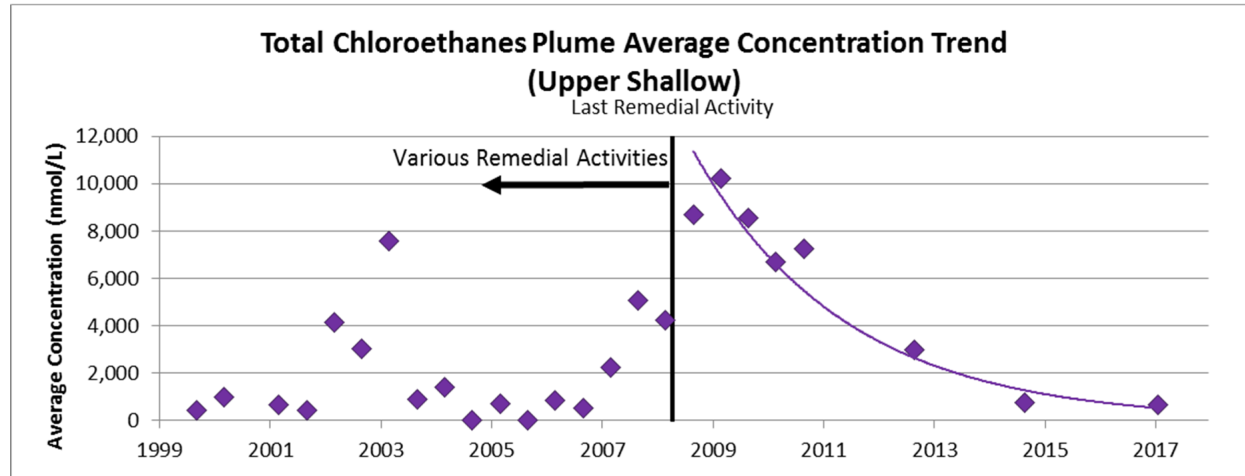
Project Number: 02.20160378.00

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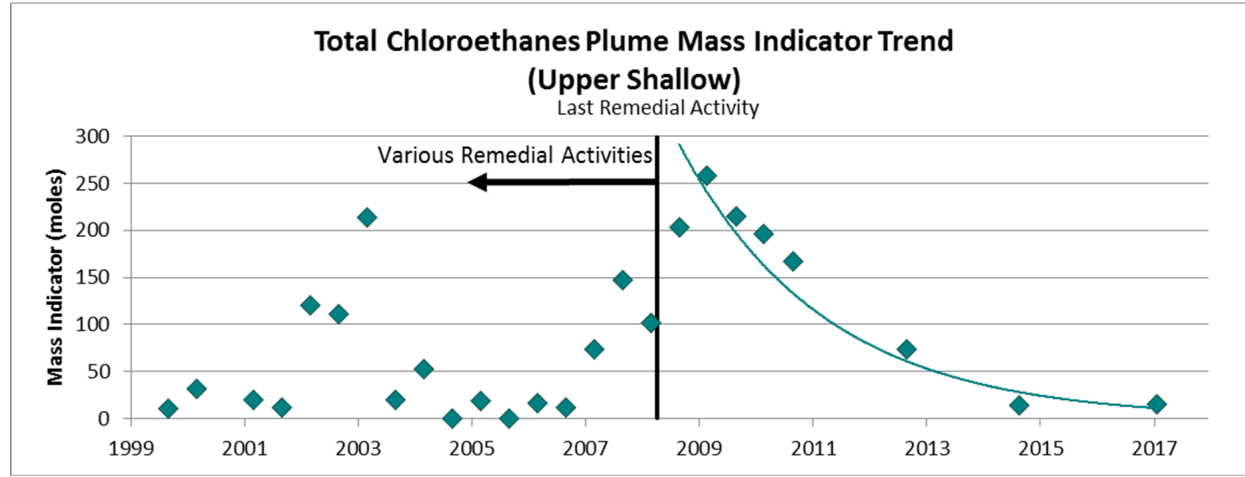
Prepared by: KDC Checked by: DCW Figure: 9



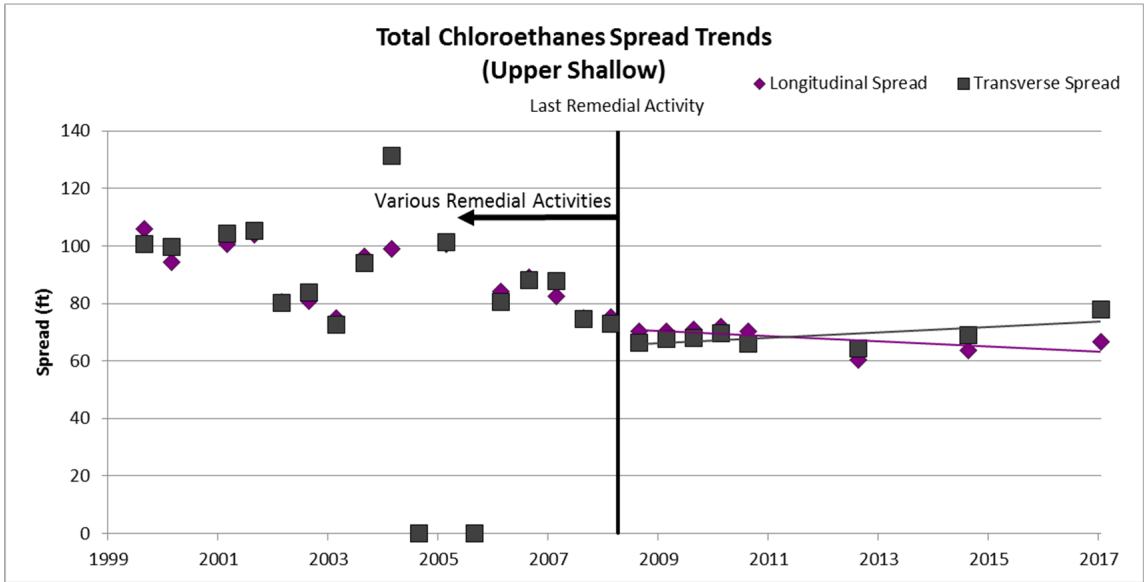
Sep-2008 to Feb-2017
 No Trend/Decreasing Trend
 Mann-Kendall: 91% Confidence
 Regression: 88% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 No Trend/Decreasing Trend
 Mann-Kendall: 80% Confidence
 Regression: 91% Confidence

Sep-2008 to Feb-2017
 No Trend/Increasing Trend
 Mann-Kendall: 80% Confidence
 Regression: 94% Confidence

Former Ducane Company Site
 Blackville, Barnwell County, South Carolina
 BLWM File #401356



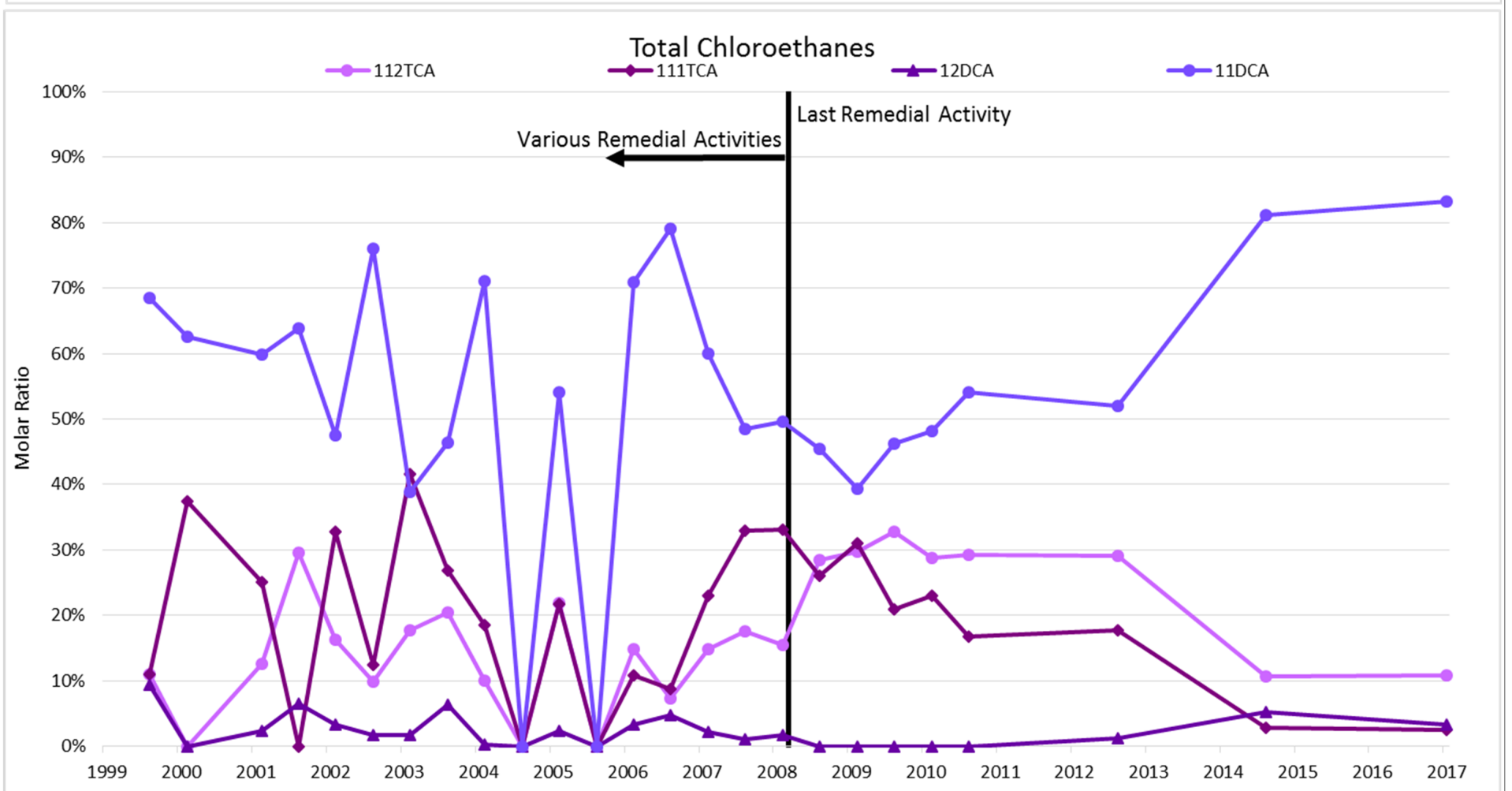
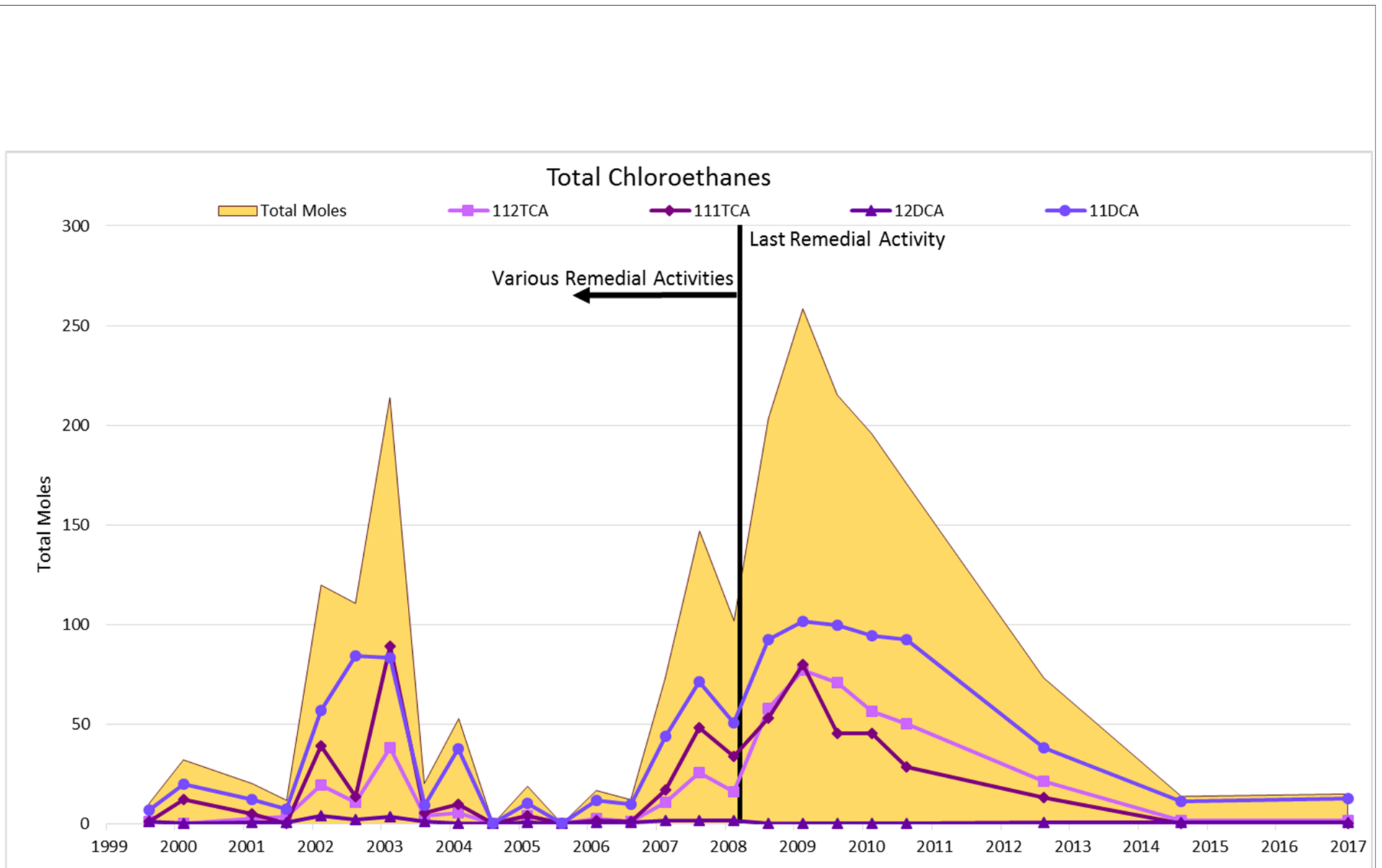
**Plume Stability Analysis Summary
 Total Chloroethanes**

Project Number: 02.20160378.00

1880 West Oak Parkway, Bldg. 100 Suite 106
 Marietta, Georgia 30062

Prepared by: KDC Checked by: DCW Figure: 10

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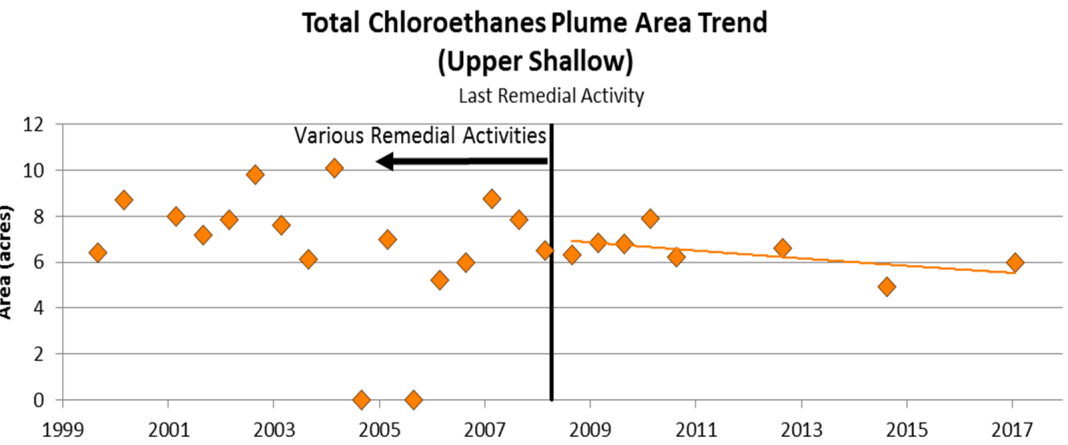
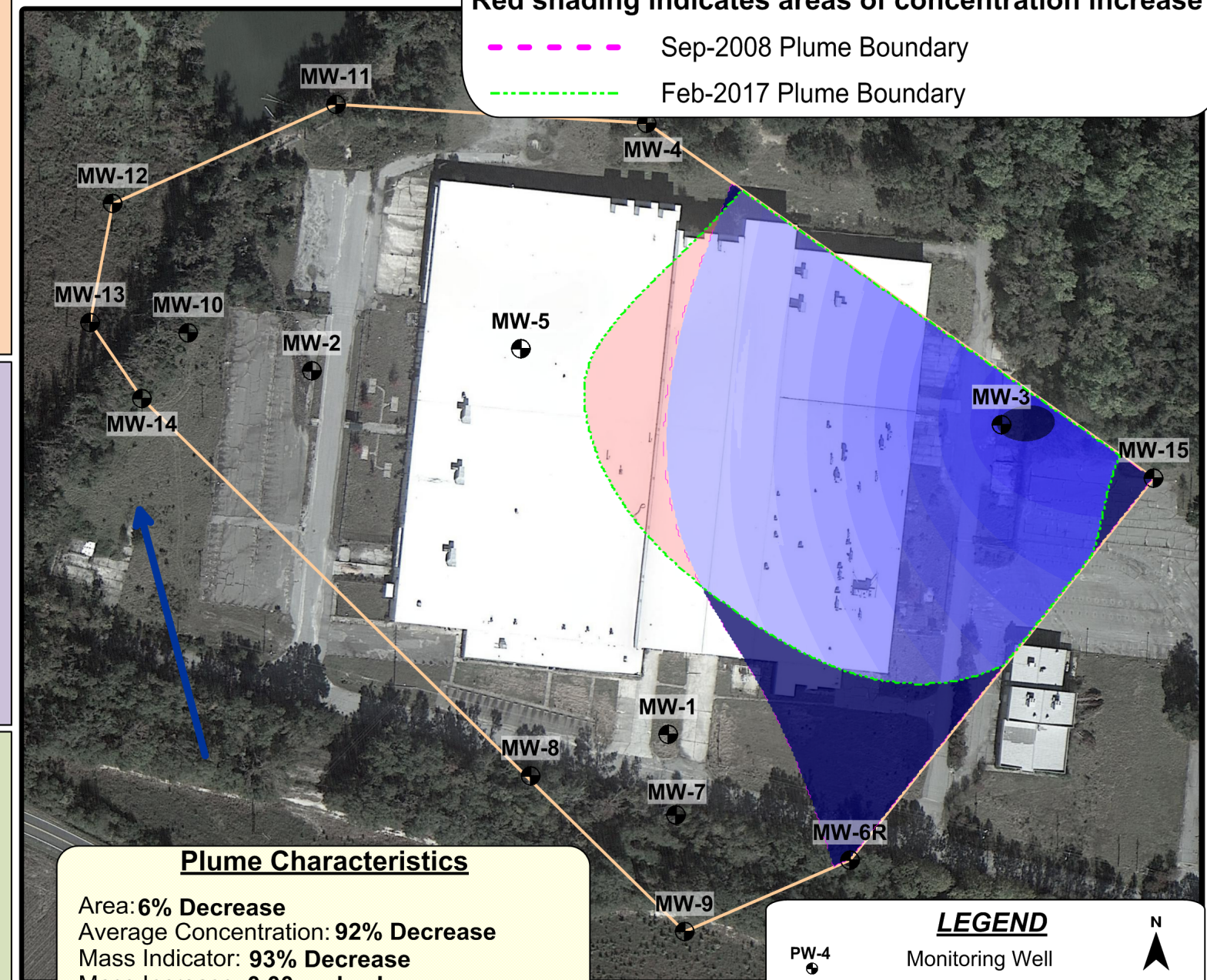
<p>Former Ducane Company Site Blackville, Barnwell County, South Carolina BLWM File #401356</p> <p>Project Number: 02.20160378.00</p>	 <p>1880 West Oak Parkway, Bldg. 100 Suite 106 Marietta, Georgia 30062</p>	<p>Molar Ratios Total Chloroethanes</p> <p>Prepared by: KDC Checked by: DCW Figure: 11</p>
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Plume Difference Map (Sep-2008 vs. Feb-2017)

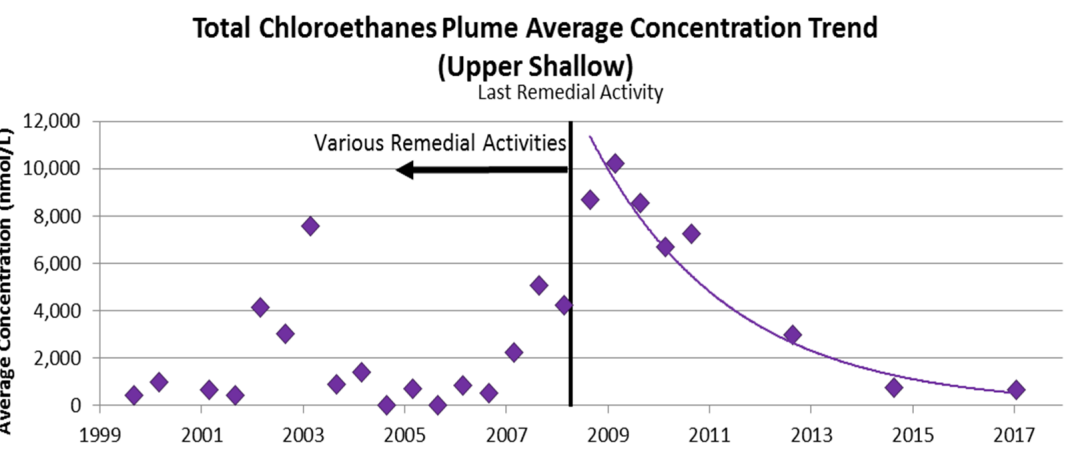
EXPLANATION

Blue shading indicates areas of concentration decrease
Red shading indicates areas of concentration increase

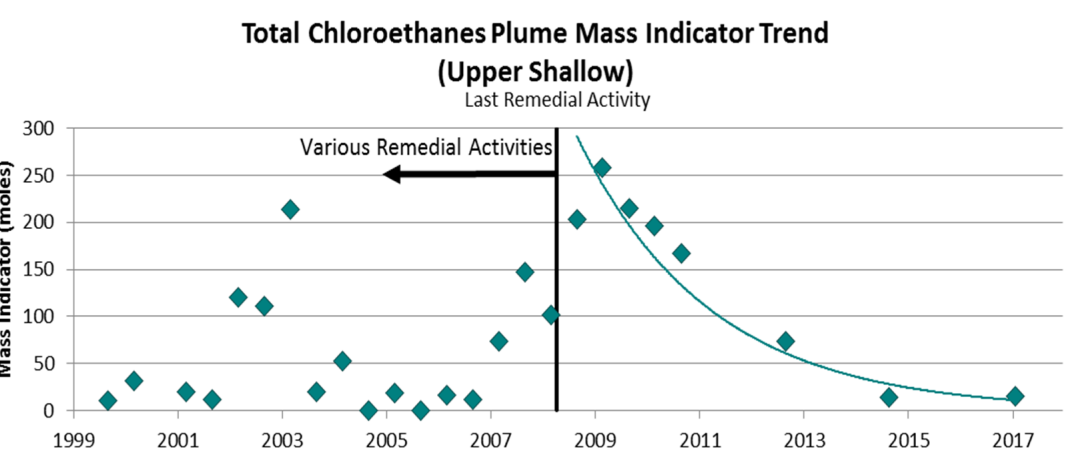
--- Sep-2008 Plume Boundary
--- Feb-2017 Plume Boundary



Sep-2008 to Feb-2017
No Trend/Decreasing Trend
Mann-Kendall: 91% Confidence
Regression: 88% Confidence



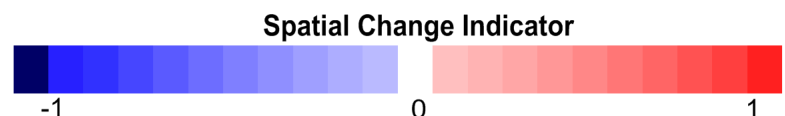
Sep-2008 to Feb-2017
Decreasing Trend
Mann-Kendall: >99% Confidence
Regression: >99% Confidence



Sep-2008 to Feb-2017
Decreasing Trend
Mann-Kendall: >99% Confidence
Regression: >99% Confidence

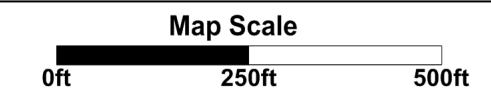
Plume Characteristics

Area: **6% Decrease**
Average Concentration: **92% Decrease**
Mass Indicator: **93% Decrease**
Mass Increase: **0.00 moles Increase**
Mass Decrease: **176 moles Decrease**



LEGEND

● Monitoring Well
→ General Groundwater Flow



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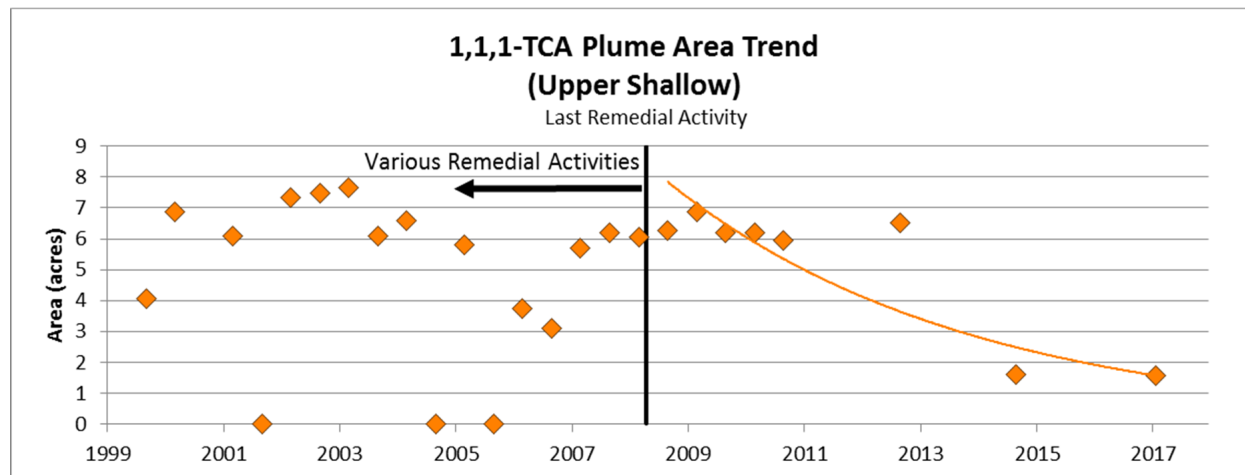
Total Chloroethanes Plume Stability Analysis Summary and Spatial Change Indicator Sep-2008 vs. Feb-2017

Project Number: 02.20160378.00

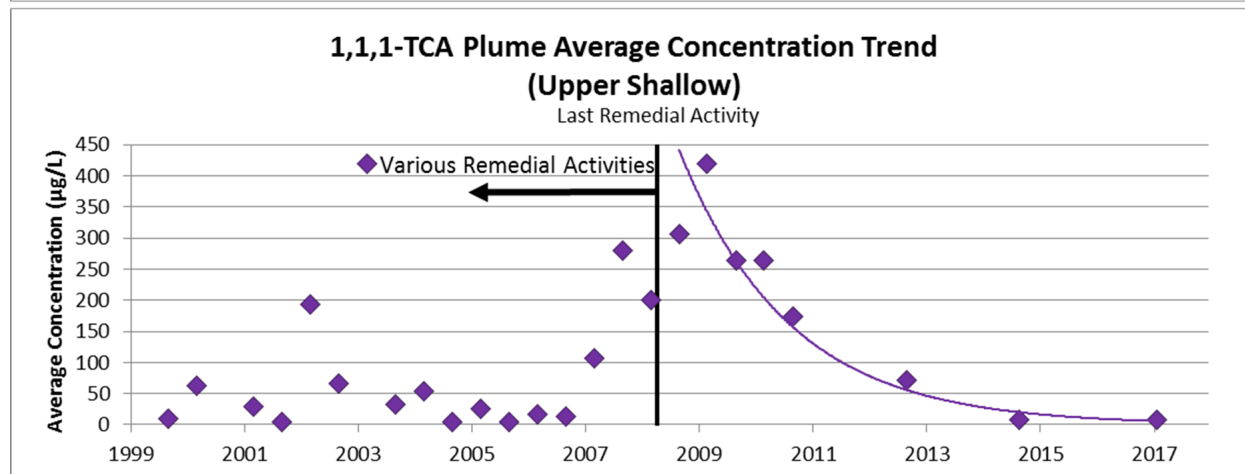
1880 West Oak Parkway, Bldg. 100 Suite 106
Marietta, Georgia 30062

Prepared by: KDC Checked by: DCW Figure: 12

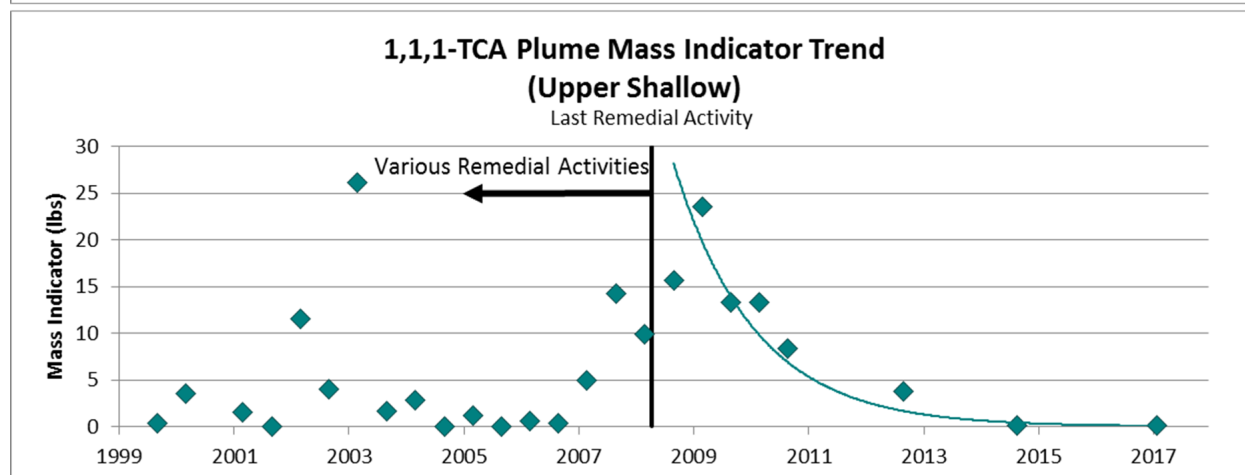
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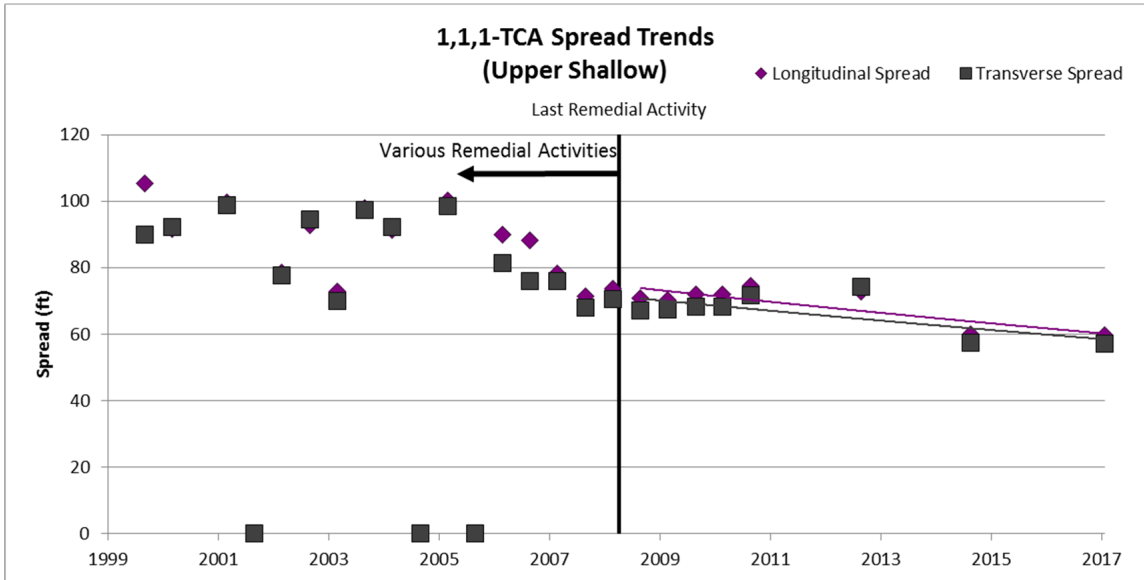
Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: 99% Confidence

Sep-2008 to Feb-2017
 No Trend/Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: 95% Confidence

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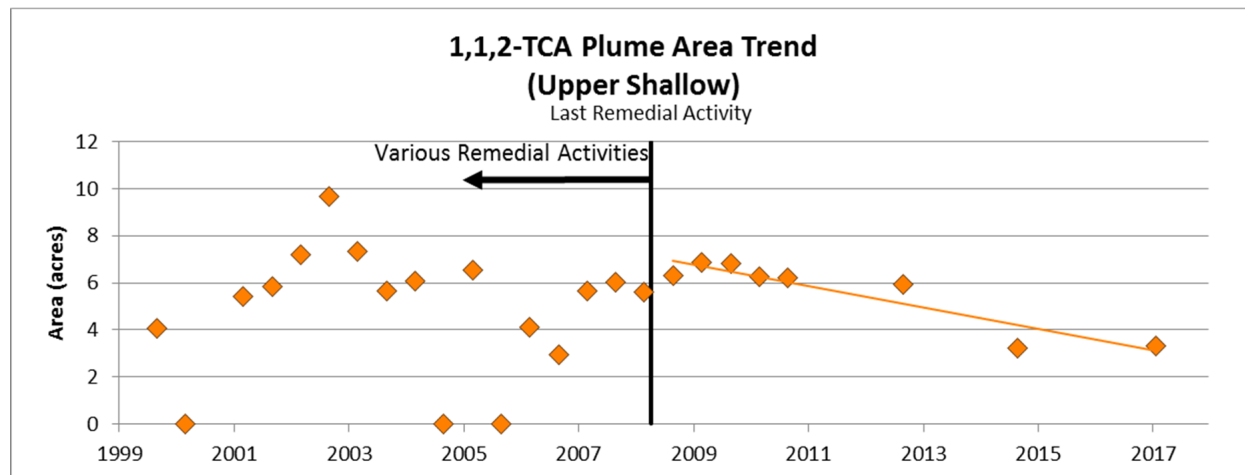
Plume Stability Analysis Summary
1,1,1-Trichloroethane (1,1,1-TCA)

Project Number: 02.20160378.00

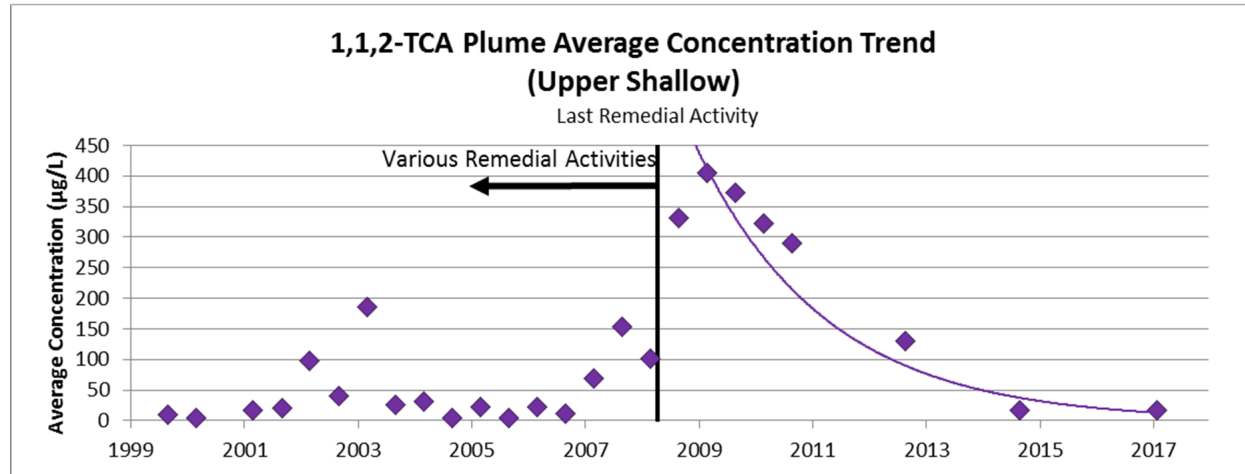
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Prepared by: KDC Checked by: DCW Figure: 13

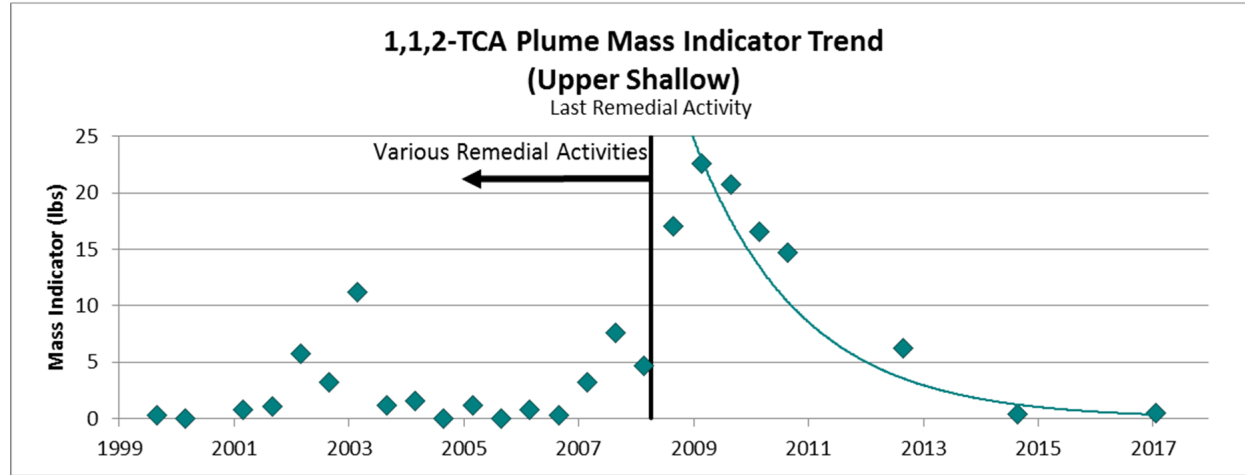
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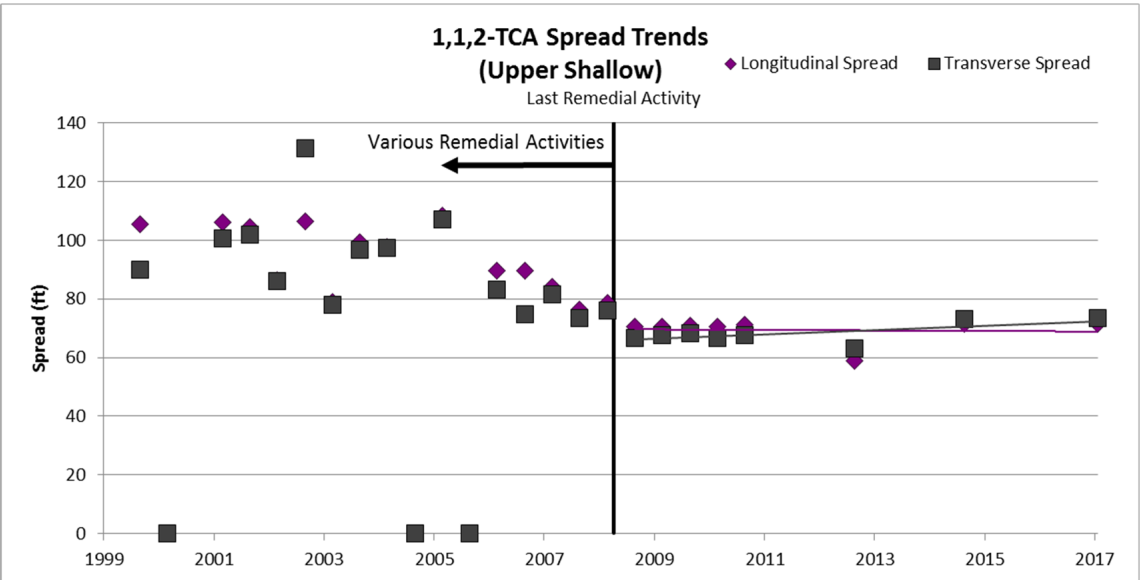
Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: >99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 No Trend/Increasing Trend
 Mann-Kendall: 95% Confidence
 Regression: 11% Confidence

Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 91% Confidence
 Regression: 93% Confidence

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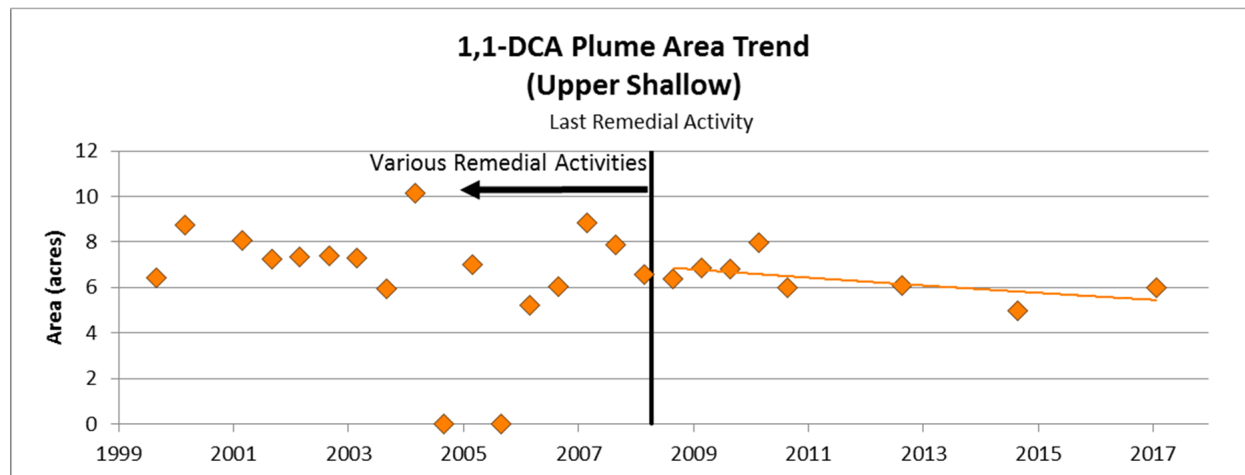
Plume Stability Analysis Summary
1,1,2-Trichloroethane (1,1,2-TCA)

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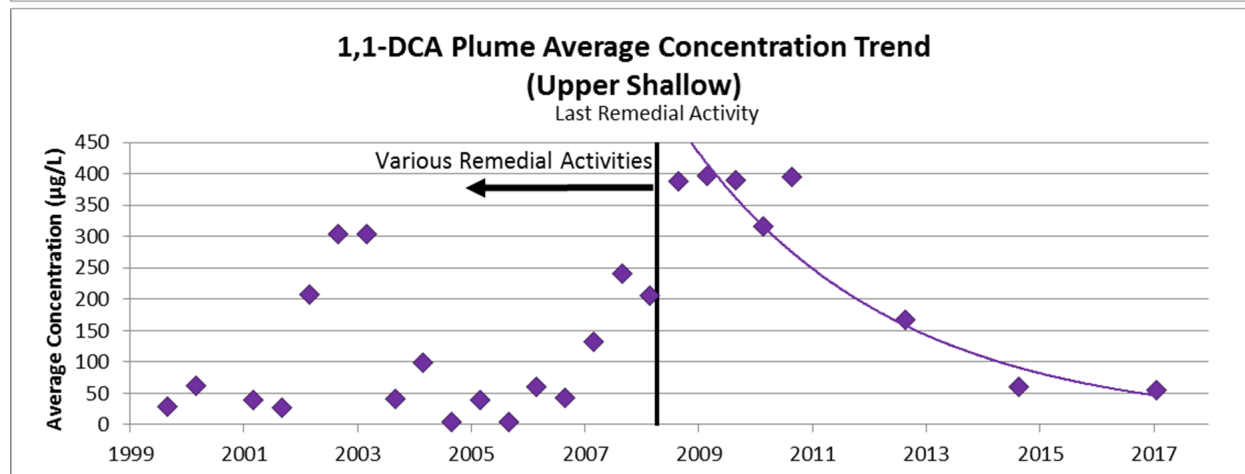
Project Number: 02.20160378.00

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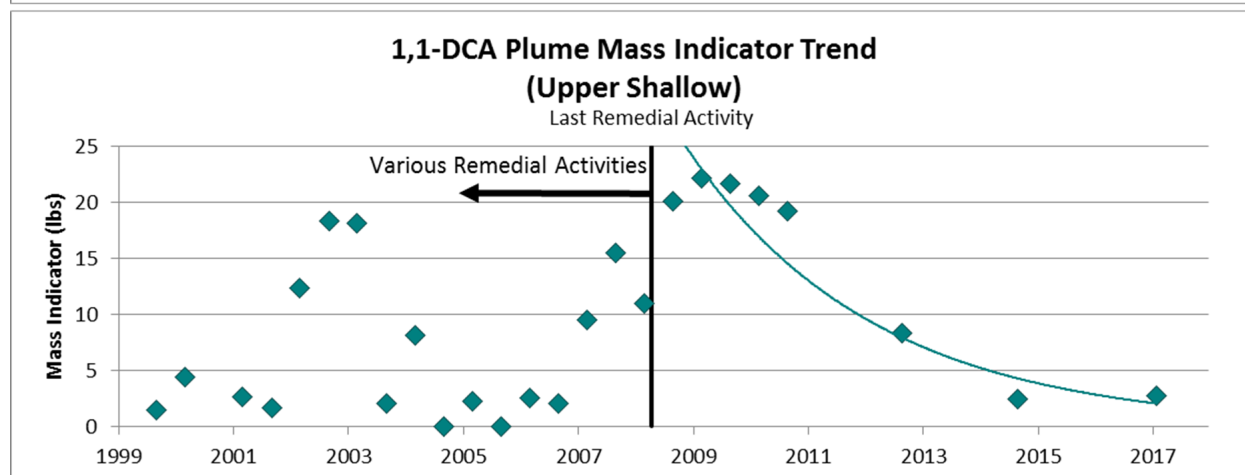
Prepared by: KDC Checked by: DCW Figure: 14



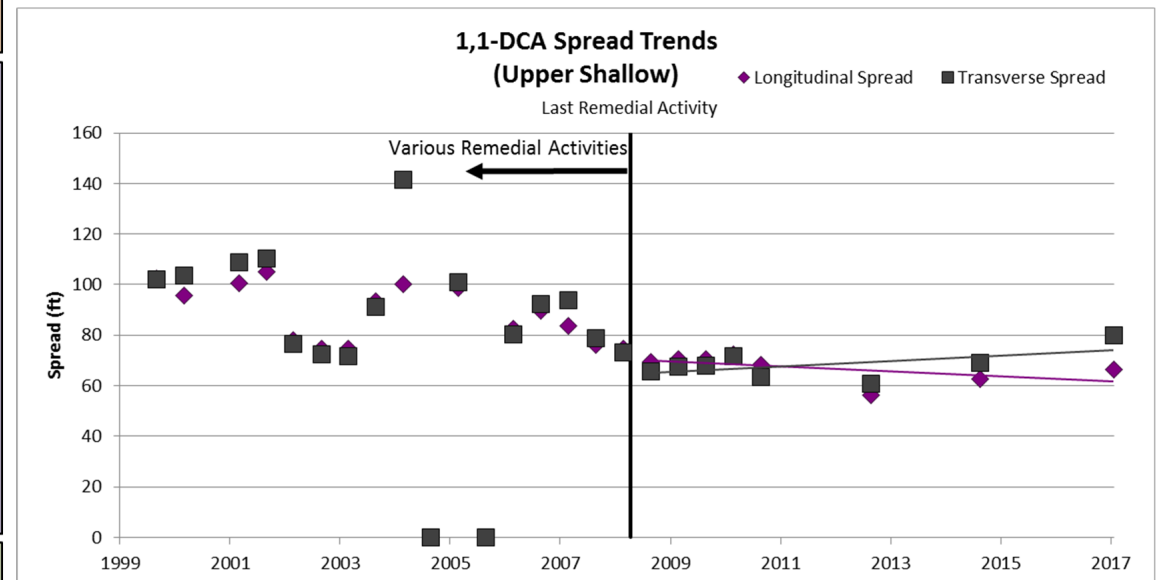
Sep-2008 to Feb-2017
 No Trend/Decreasing Trend
 Mann-Kendall: 91% Confidence
 Regression: 88% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 98% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 86% Confidence
 Regression: 83% Confidence

Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 80% Confidence
 Regression: 85% Confidence

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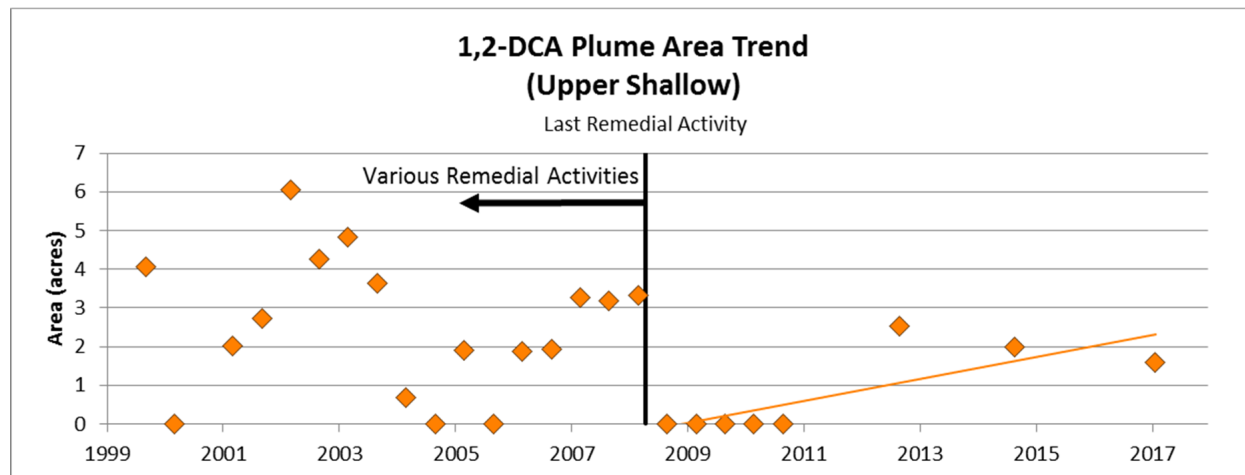
Plume Stability Analysis Summary
1,1-Dichloroethane (1,1-DCA)

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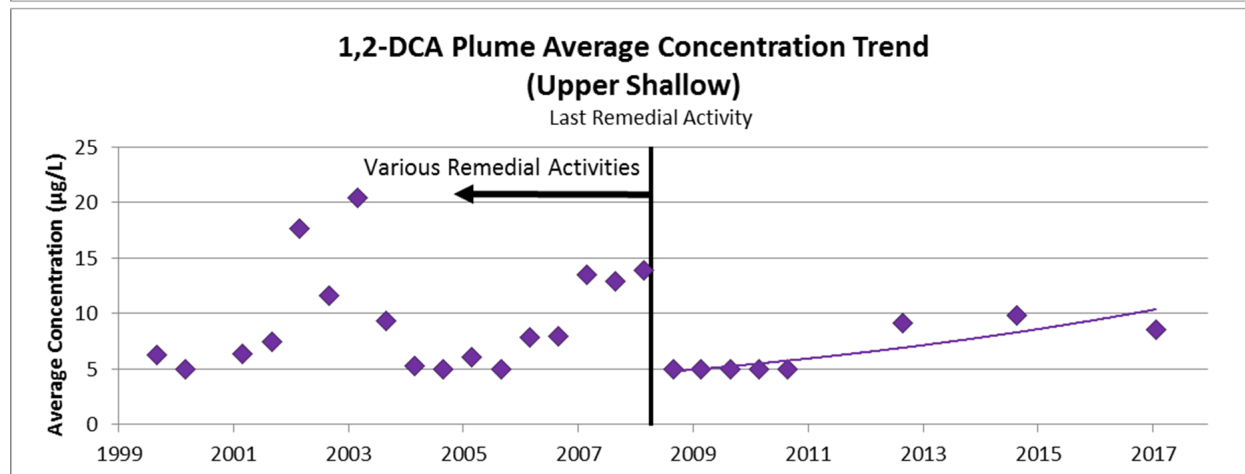
Project Number: 02.20160378.00

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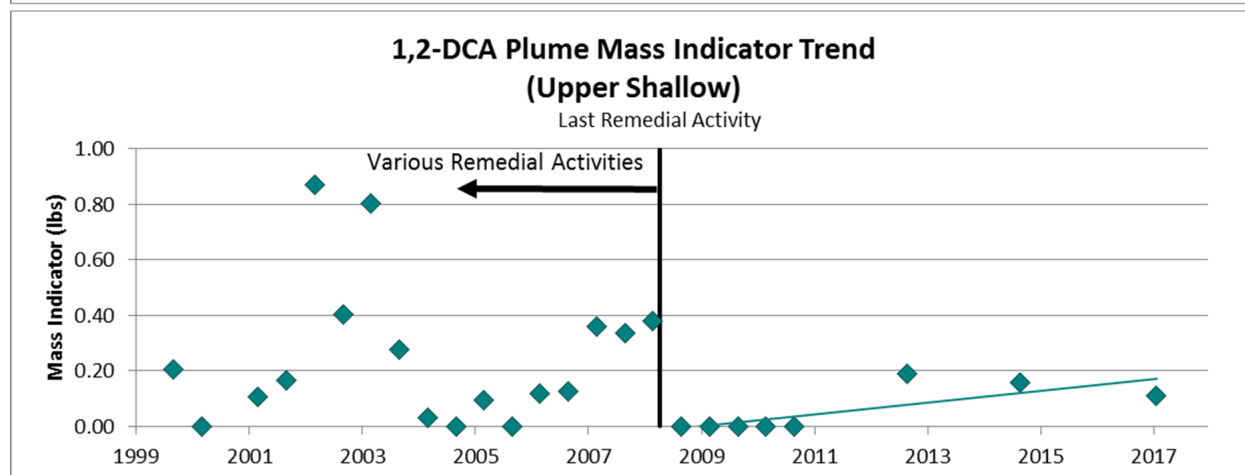
Prepared by: KDC Checked by: DCW Figure: 15



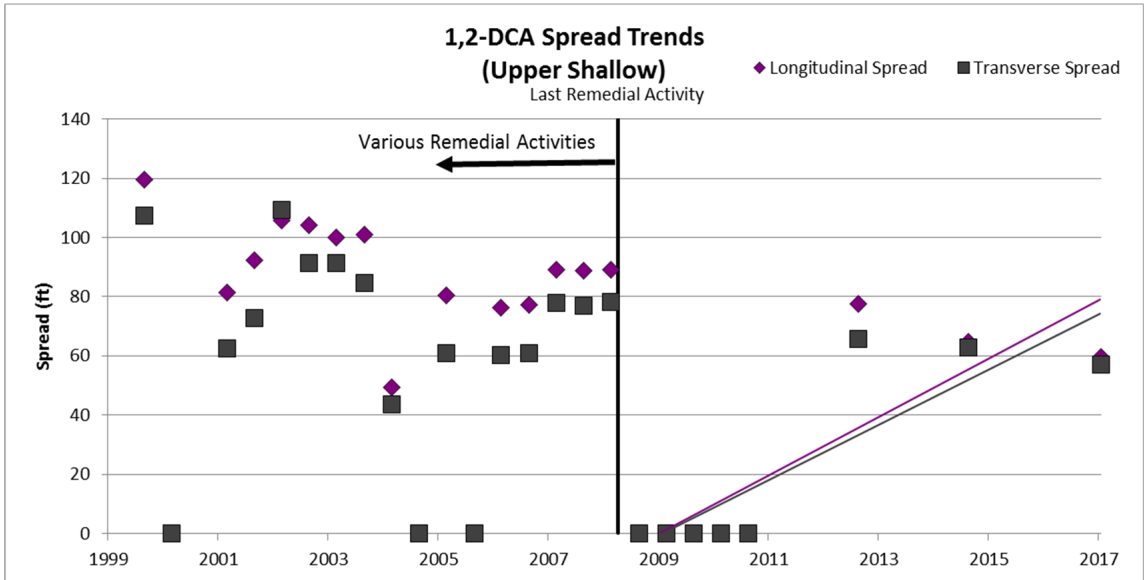
Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 91% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 95% Confidence
 Regression: 99% Confidence



Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 91% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 91% Confidence
 Regression: >99% Confidence

Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 91% Confidence
 Regression: >99% Confidence

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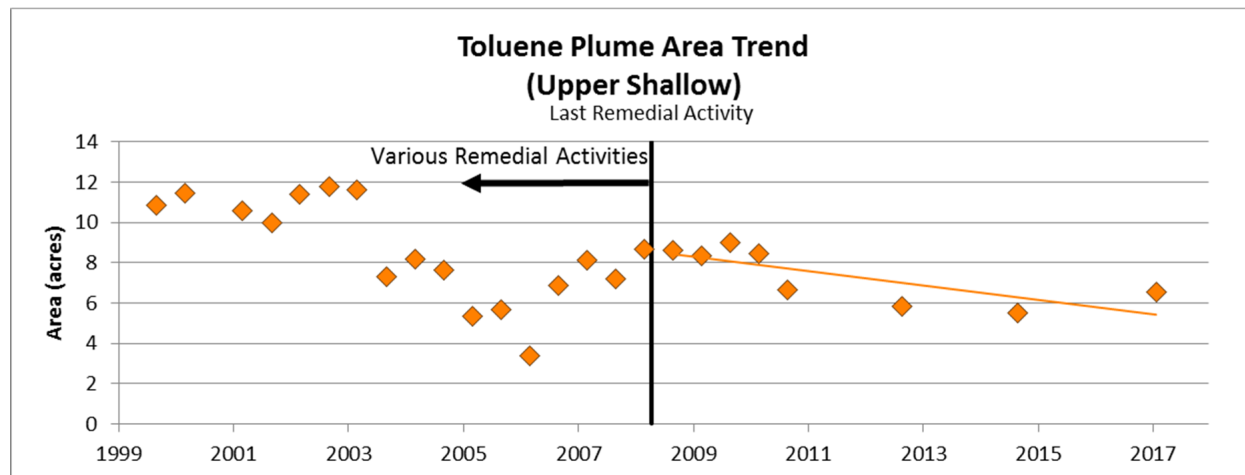
Plume Stability Analysis Summary
1,2-Dichloroethane (1,2-DCA)

Project Number: 02.20160378.00

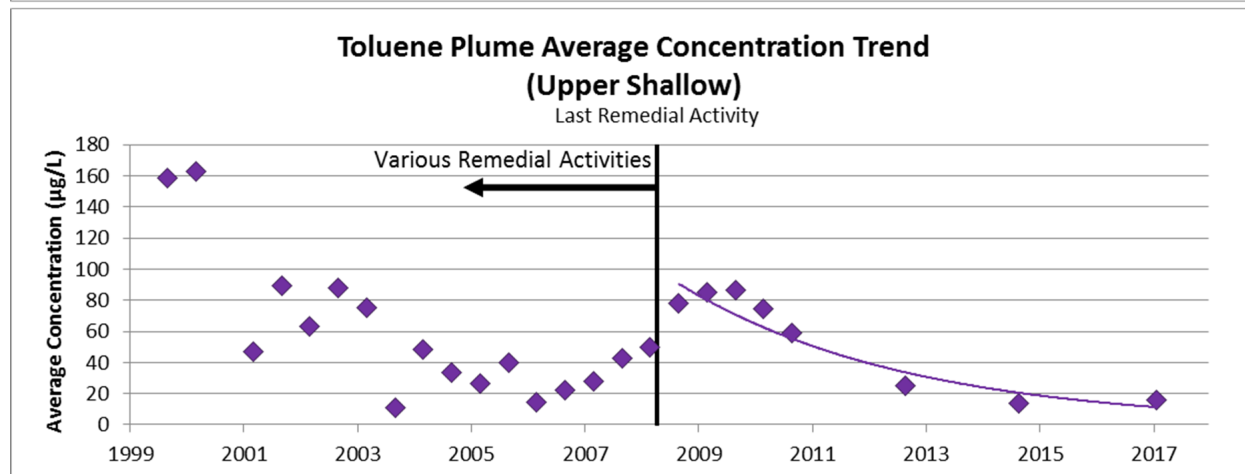
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Prepared by: KDC Checked by: DCW Figure: 16

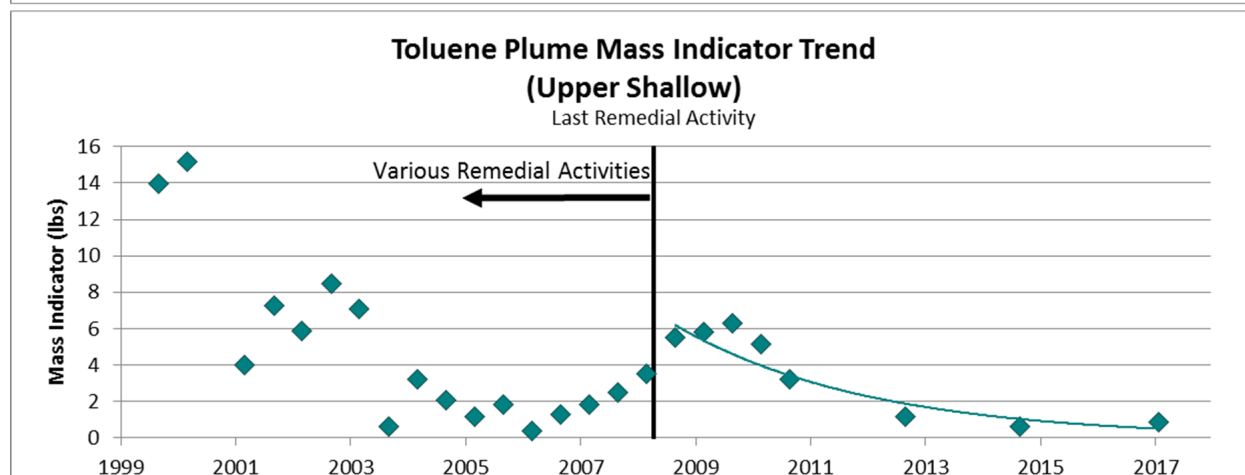
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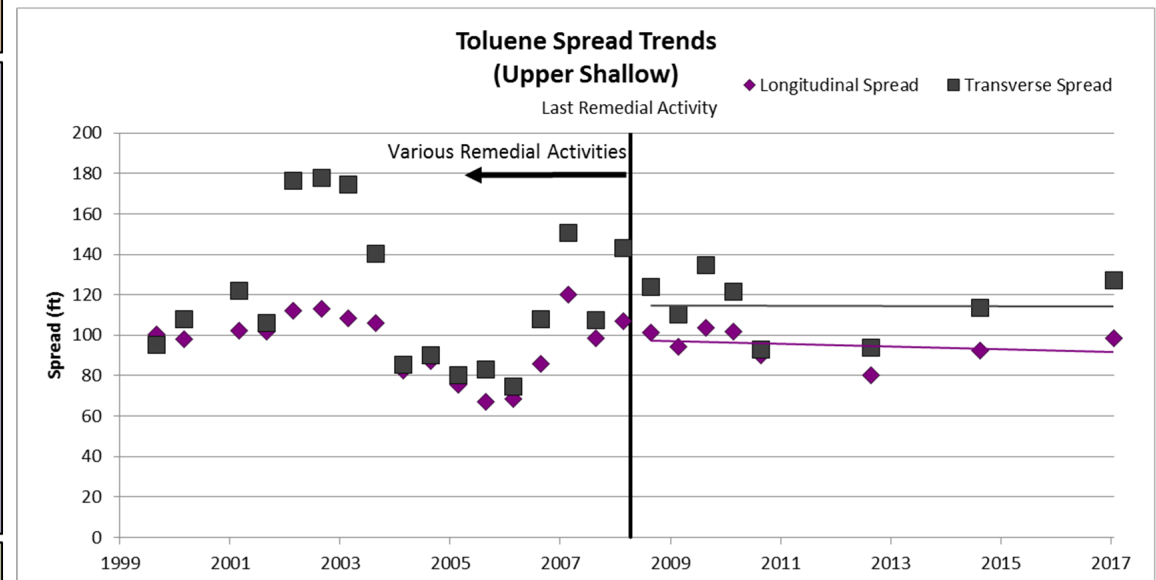
Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 98% Confidence
 Regression: 97% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 99% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 80% Confidence
 Regression: 47% Confidence

Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 55% Confidence
 Regression: 1% Confidence

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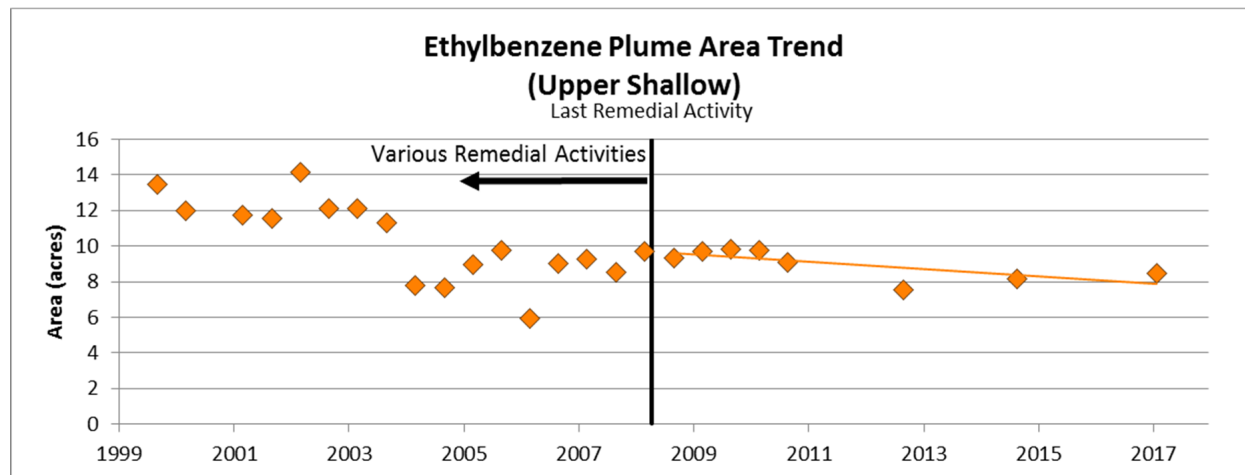
**Plume Stability Analysis Summary
 Toluene**

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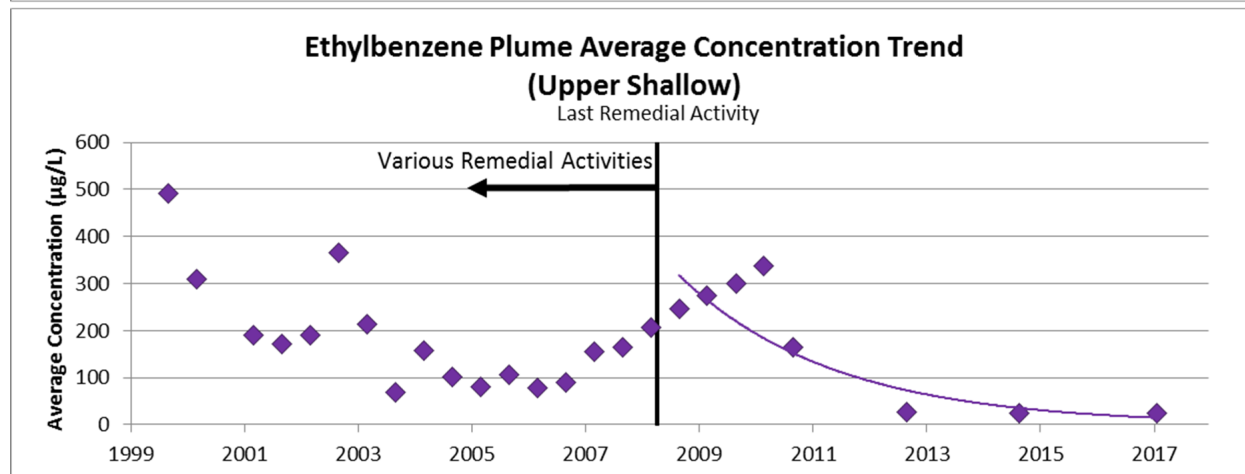
Project Number: 02.20160378.00

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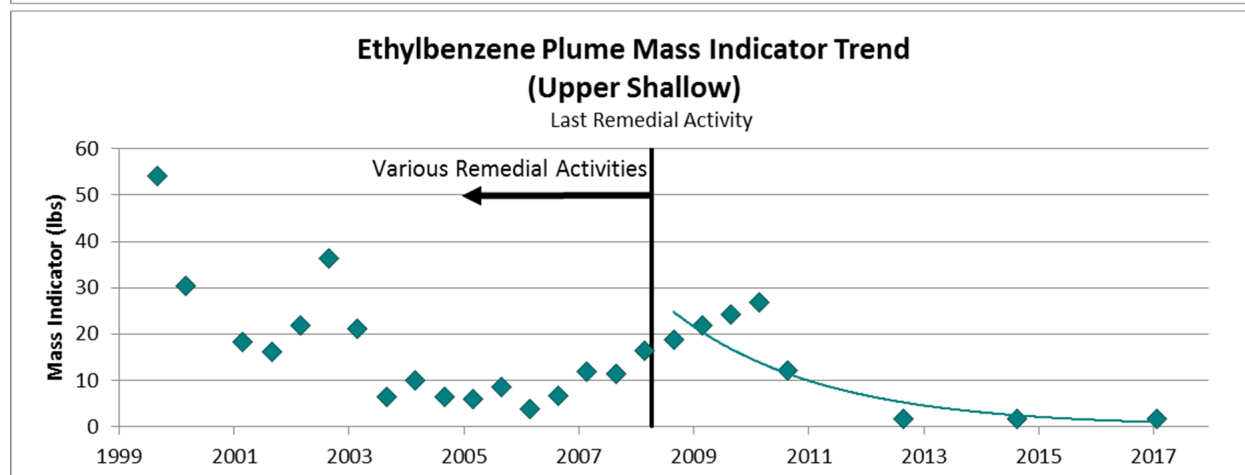
Prepared by: KDC Checked by: DCW Figure: 17



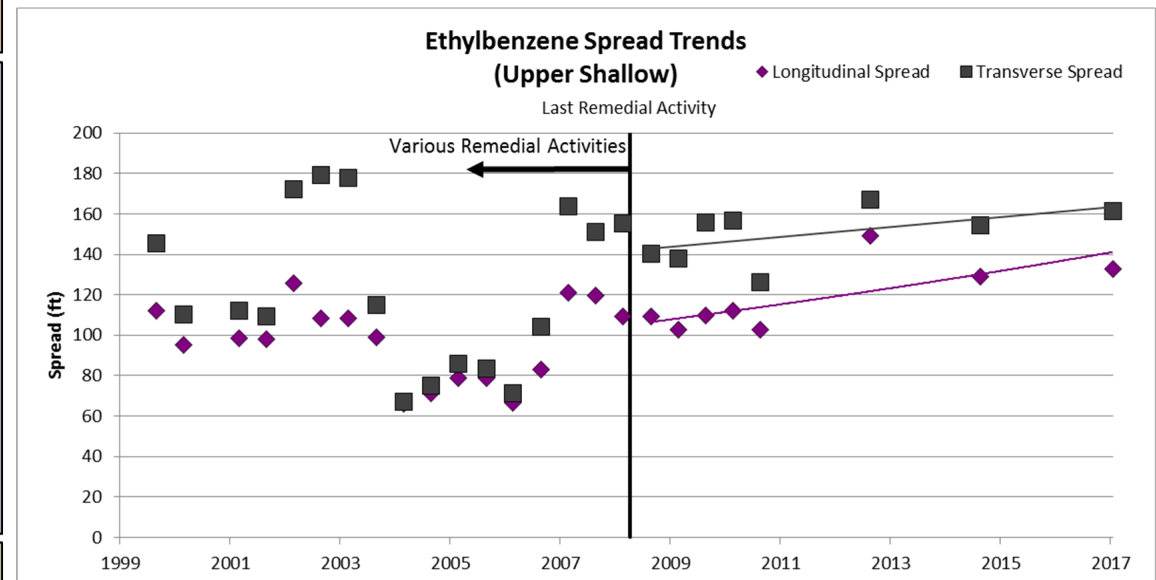
Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 91% Confidence
 Regression: 95% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 95% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 91% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 97% Confidence
 Regression: 96% Confidence

Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 86% Confidence
 Regression: 83% Confidence

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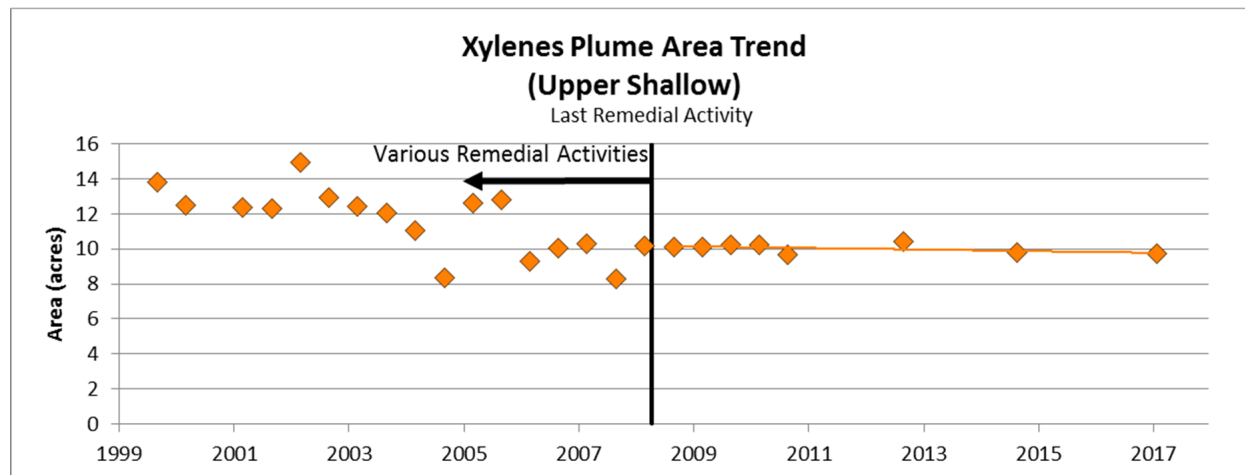
**Plume Stability Analysis Summary
 Ethylbenzene**

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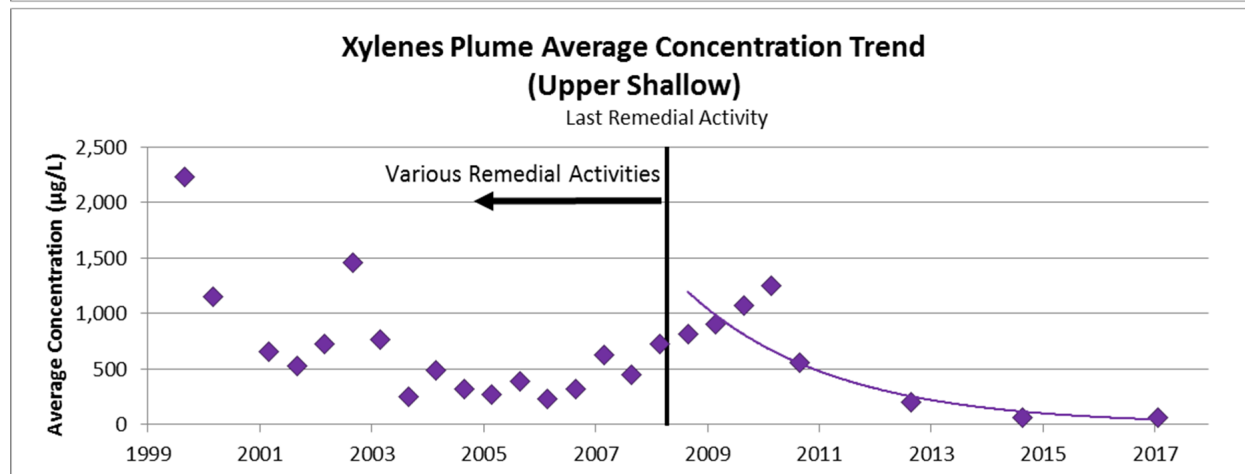
Project Number: 02.20160378.00

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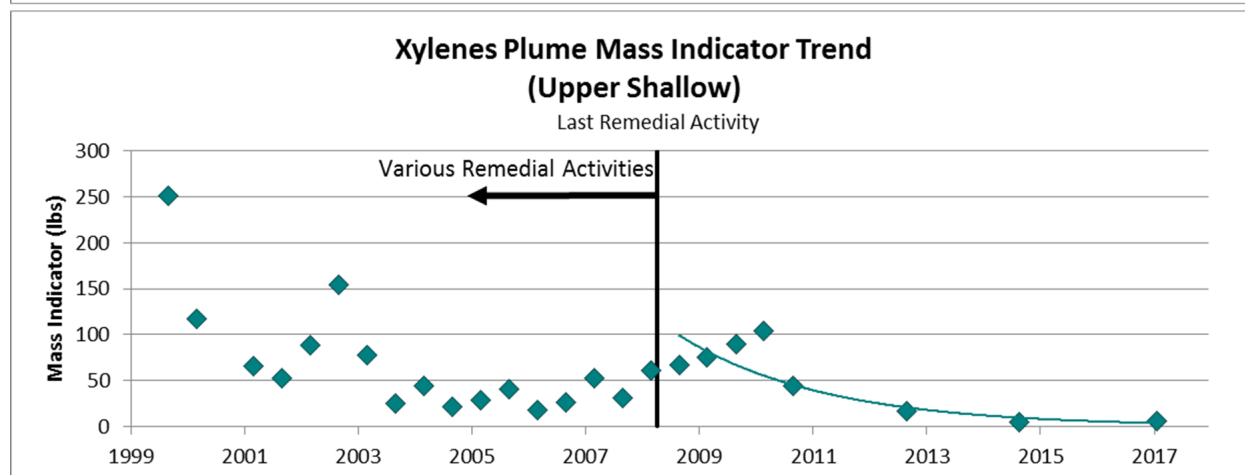
Prepared by: KDC Checked by: DCW Figure: 18



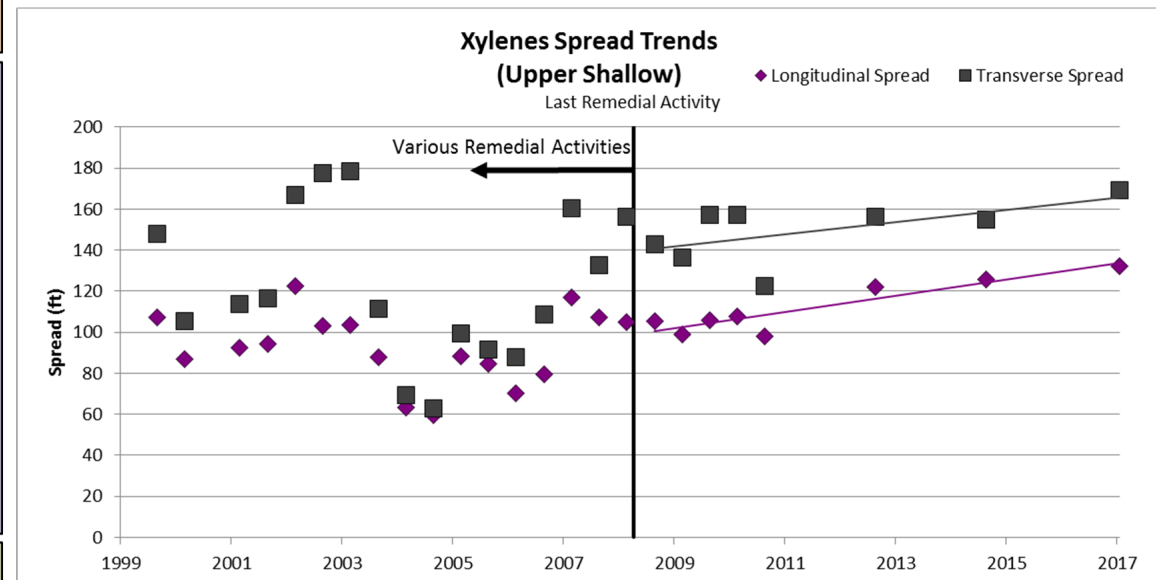
Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 64% Confidence
 Regression: 79% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 95% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Decreasing Trend
 Mann-Kendall: 95% Confidence
 Regression: >99% Confidence



Sep-2008 to Feb-2017
 Increasing Trend
 Mann-Kendall: 98% Confidence
 Regression: >99% Confidence

Sep-2008 to Feb-2017
 No Trend
 Mann-Kendall: 80% Confidence
 Regression: 88% Confidence

Former Ducane Company Site
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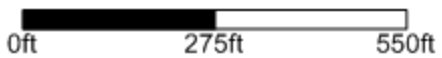
**Plume Stability Analysis Summary
 Xylenes**

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Prepared by: KDC Checked by: DCW Figure: 19

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Concentration (µg/L)



LEGEND

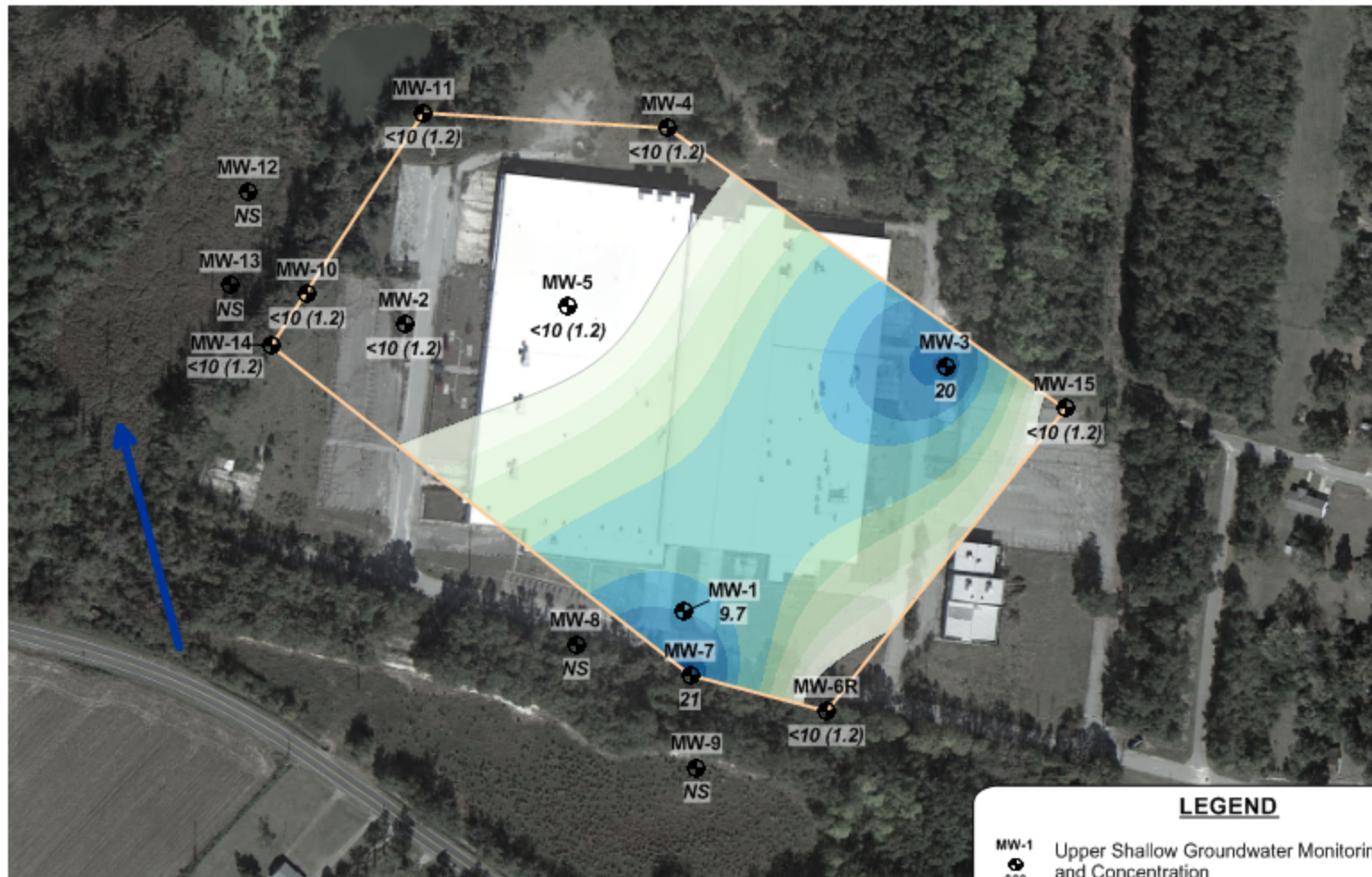
- MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
- General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

Note:
 This analysis requires fixed data points within a fixed area for the purposes of assessing relative changes of area, average concentration, and mass indicator over time. Therefore, any created isopleth maps are not intended to be a depiction or model of the actual plume but rather is meant to show conceptual behavior of the aforementioned metrics over time.

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**Ethane
 Upper Shallow Auqifer
 Feb-2017**



0ft 275ft 550ft

Concentration (µg/L)



LEGEND

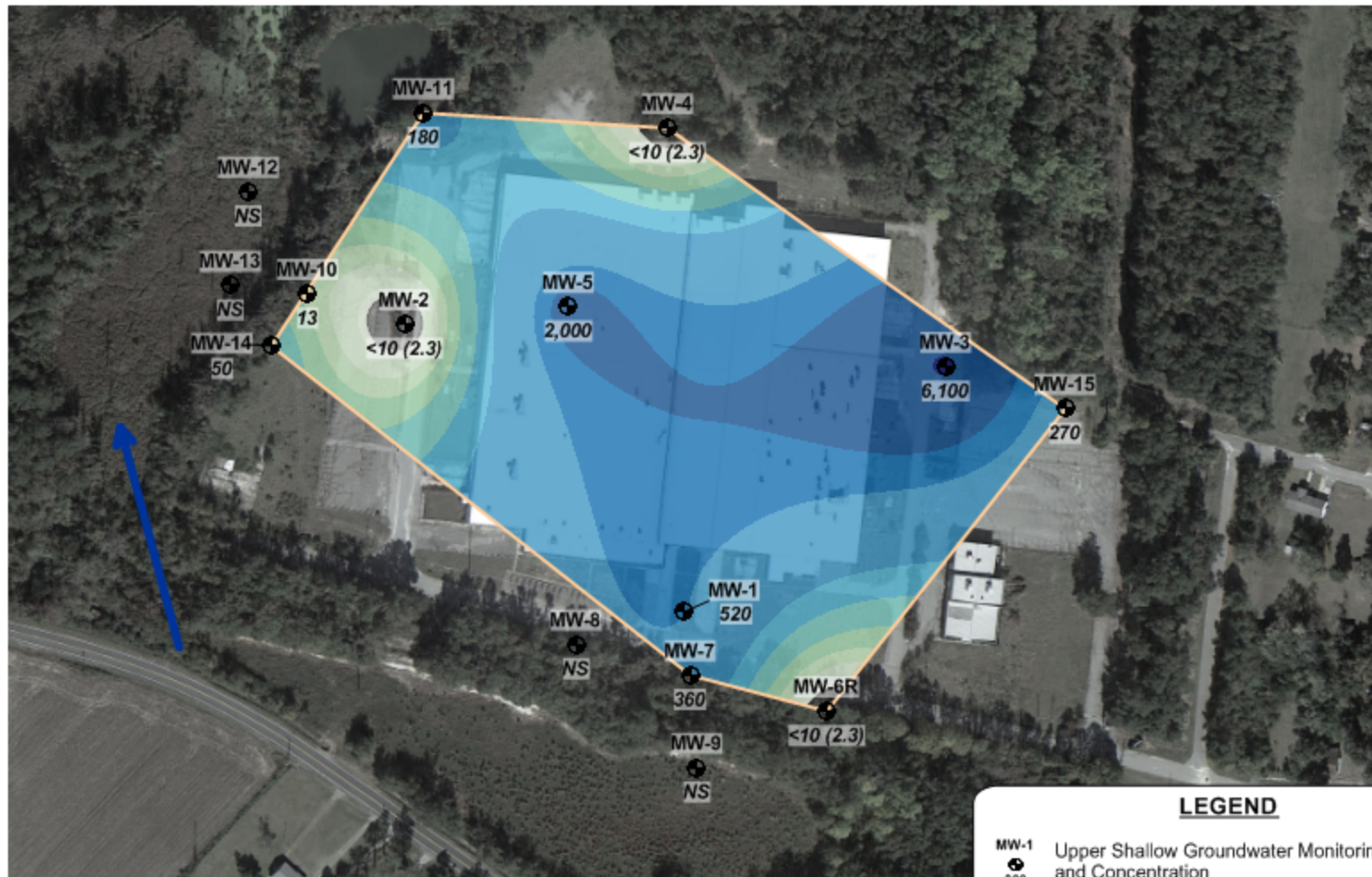
- MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
- General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

Note:
 This analysis requires fixed data points within a fixed area for the purposes of assessing relative changes of area, average concentration, and mass indicator over time. Therefore, any created isopleth maps are not intended to be a depiction or model of the actual plume but rather is meant to show conceptual behavior of the aforementioned metrics over time.

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**Ethene
 Upper Shallow Auqifer
 Feb-2017**



0ft 275ft 550ft

Concentration (µg/L)

5 6 10 15 25 50 100 500 1,000 5,000

LEGEND

- MW-1 300 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
- General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

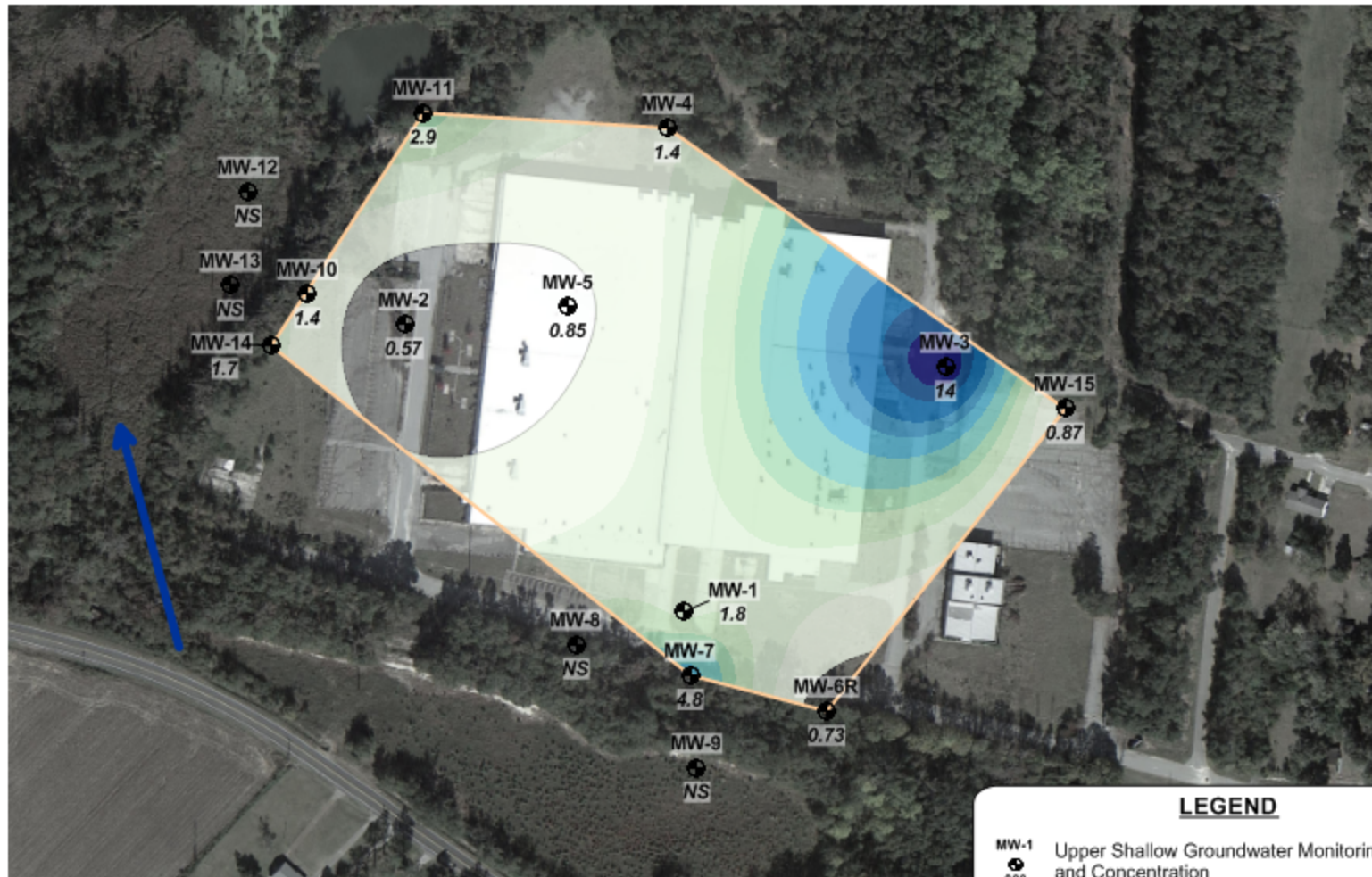
Note:
This analysis requires fixed data points within a fixed area for the purposes of assessing relative changes of area, average concentration, and mass indicator over time. Therefore, any created isopleth maps are not intended to be a depiction or model of the actual plume but rather is meant to show conceptual behavior of the aforementioned metrics over time.

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**Methane
Upper Shallow Auqifer
Feb-2017**



0ft 275ft 550ft

Concentration (mg/L)



LEGEND

- MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
- General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

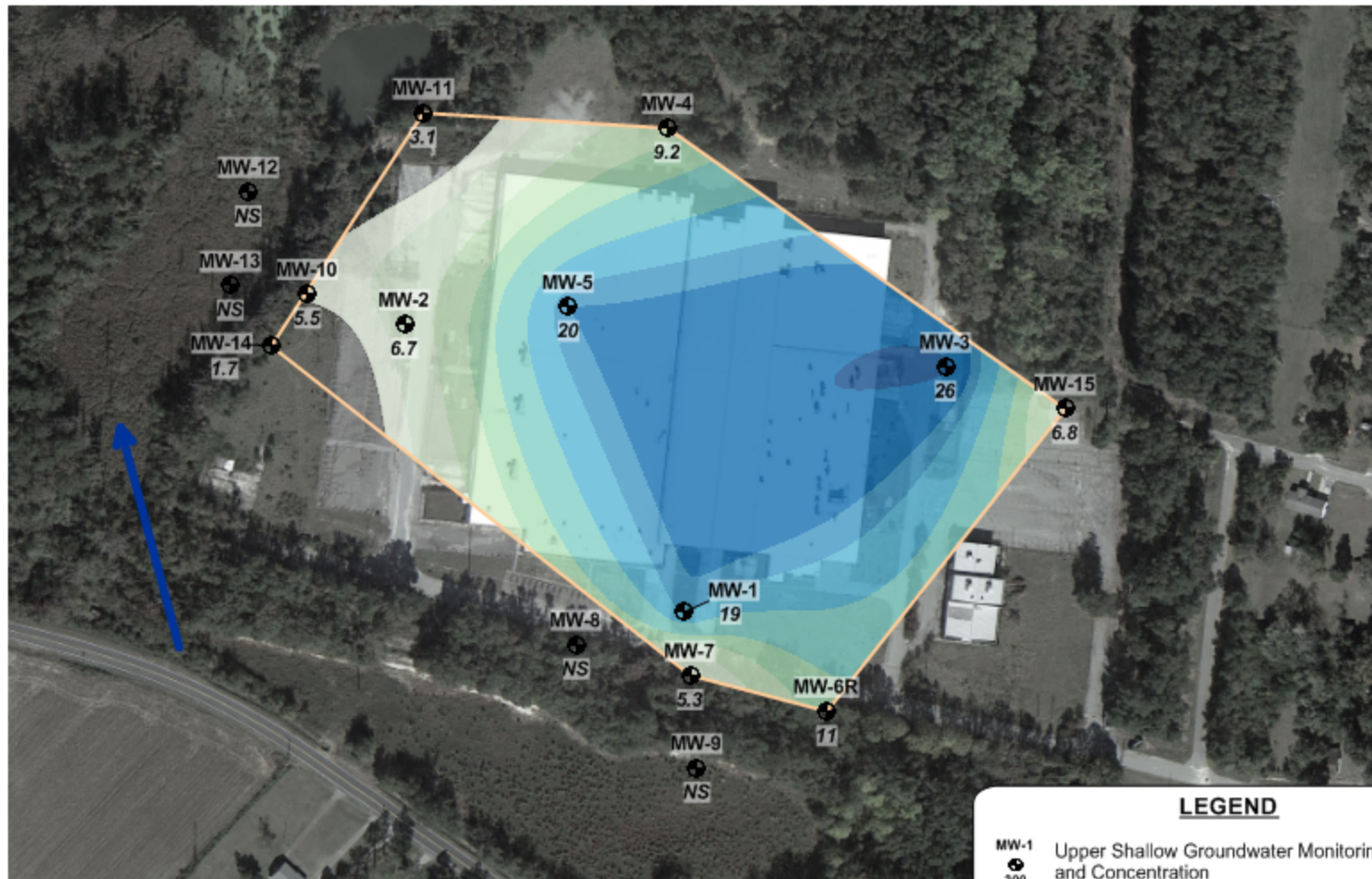
Note:
This analysis requires fixed data points within a fixed area for the purposes of assessing relative changes of area, average concentration, and mass indicator over time. Therefore, any created isopleth maps are not intended to be a depiction or model of the actual plume but rather is meant to show conceptual behavior of the aforementioned metrics over time.

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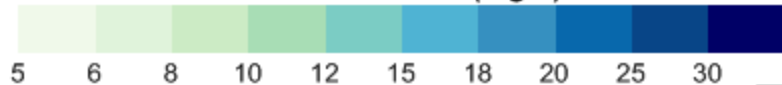
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TOC
Upper Shallow Auqifer
Feb-2017





0ft 275ft 550ft

Concentration (mg/L)



LEGEND

-  MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
-  General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

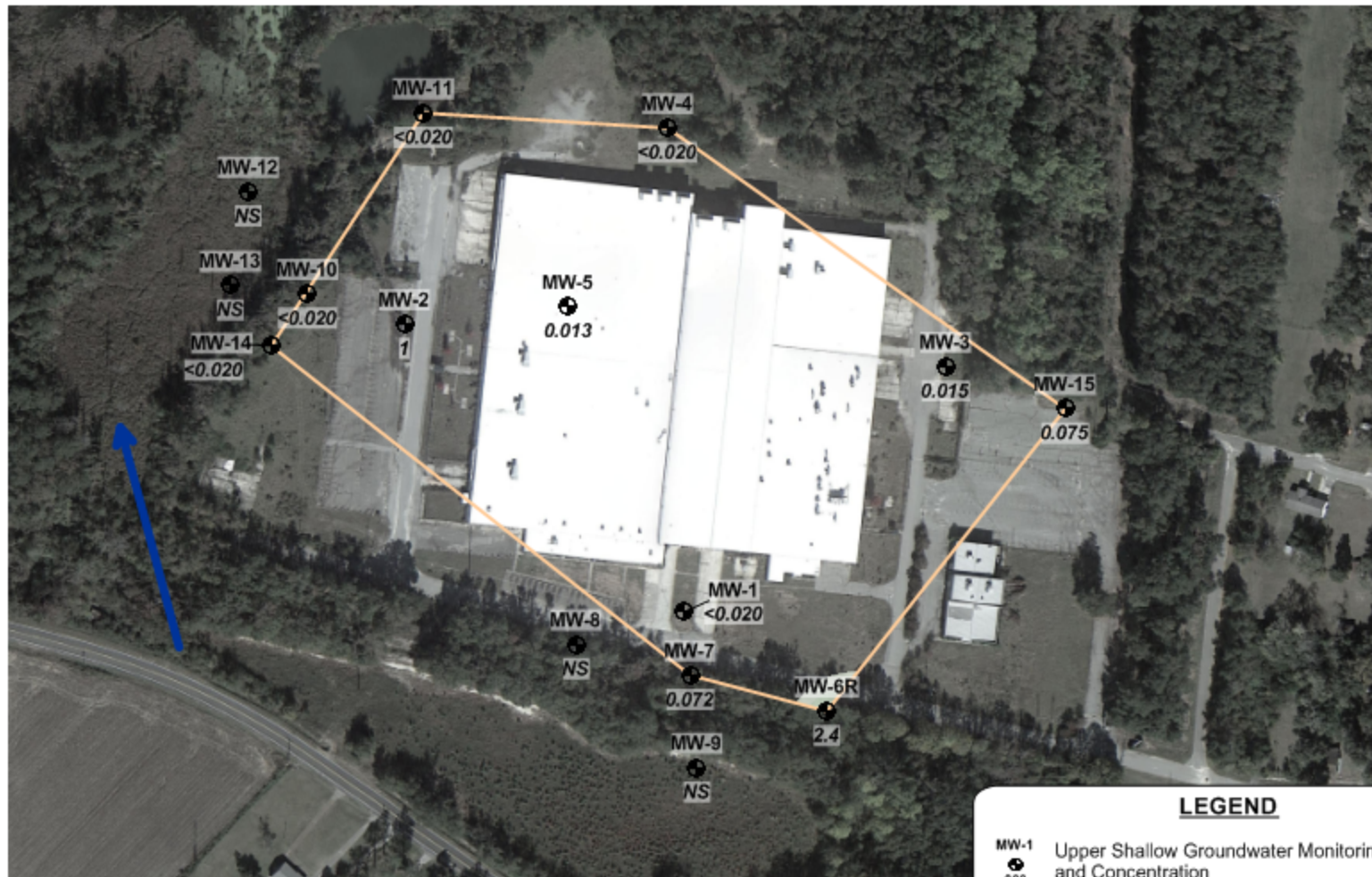
Note:
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**Chloride
Upper Shallow Auqifer
Feb-2017**



0ft 275ft 550ft

Concentration (mg/L)



LEGEND

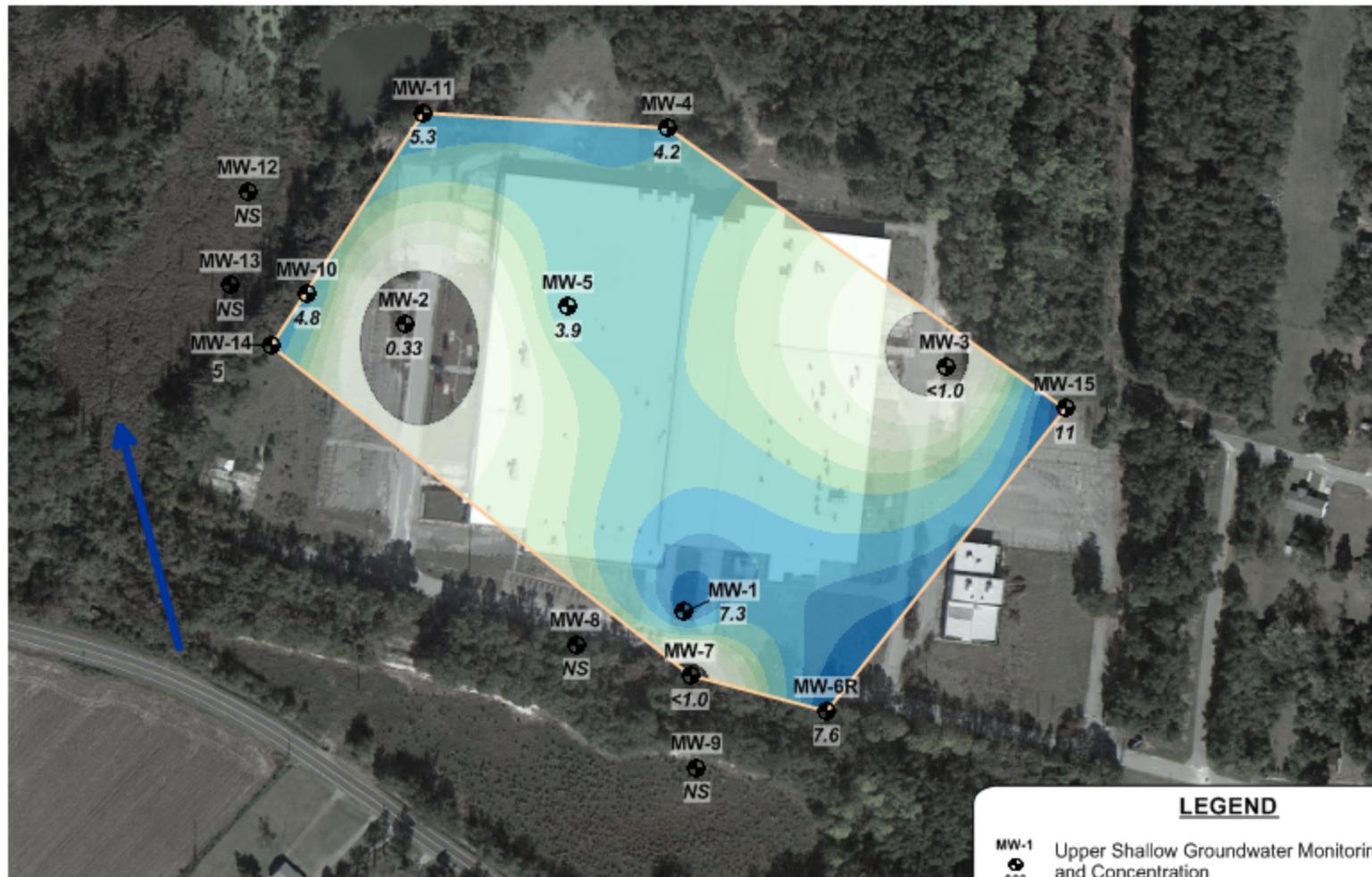
- MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
- General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

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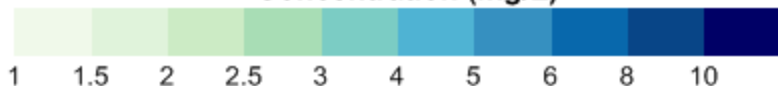
**Nitrate
 Upper Shallow Auqifer
 Feb-2017**

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0ft 275ft 550ft

Concentration (mg/L)



LEGEND

- MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
- General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

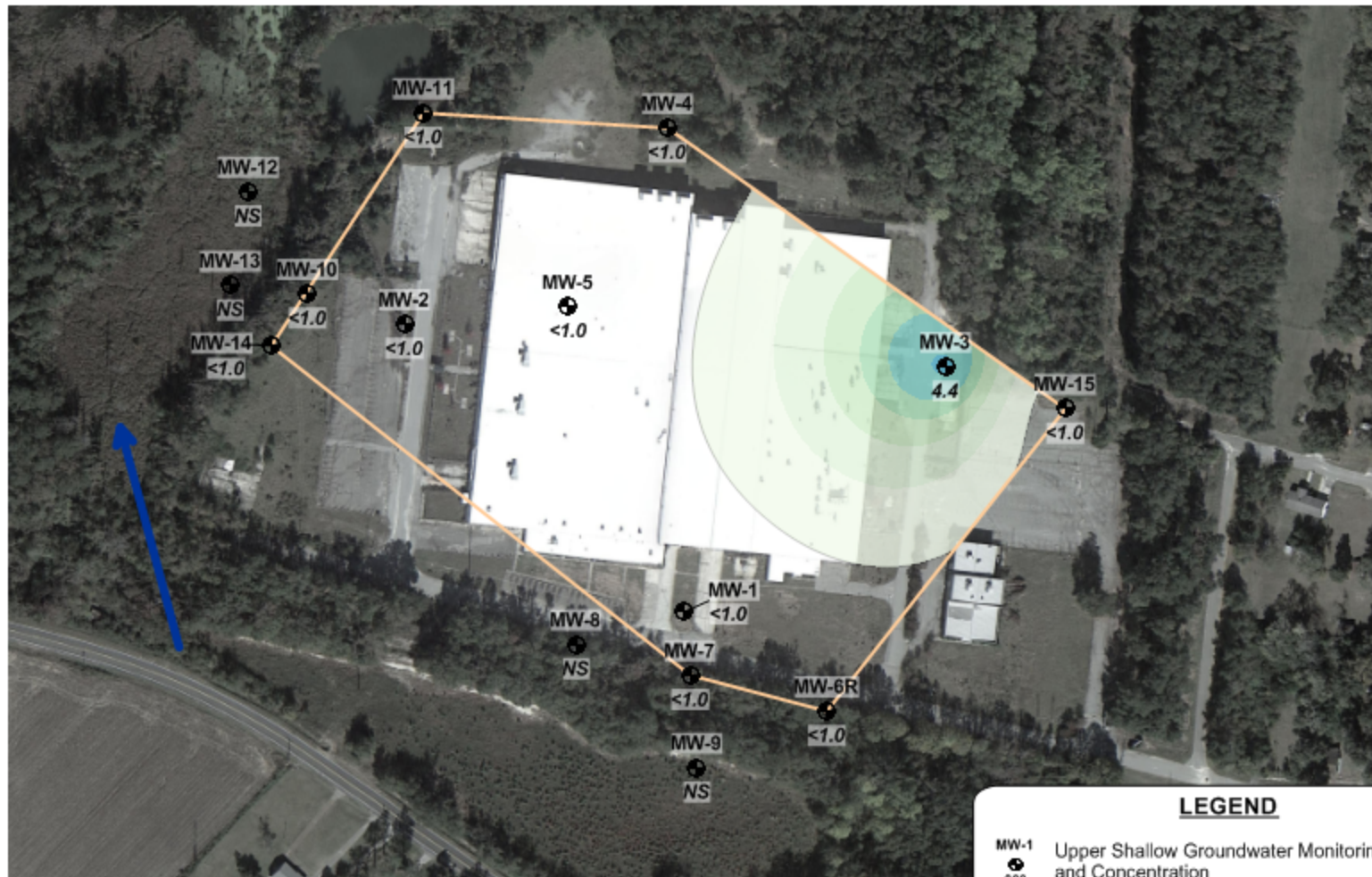
Note:
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Sulfate
Upper Shallow Auqifer
Feb-2017







0ft 275ft 550ft

Concentration (mg/L)



LEGEND

-  MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
-  <10 (2.5) Non-Detect (Assigned Value)
-  NS Well Not Sampled
-  General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)



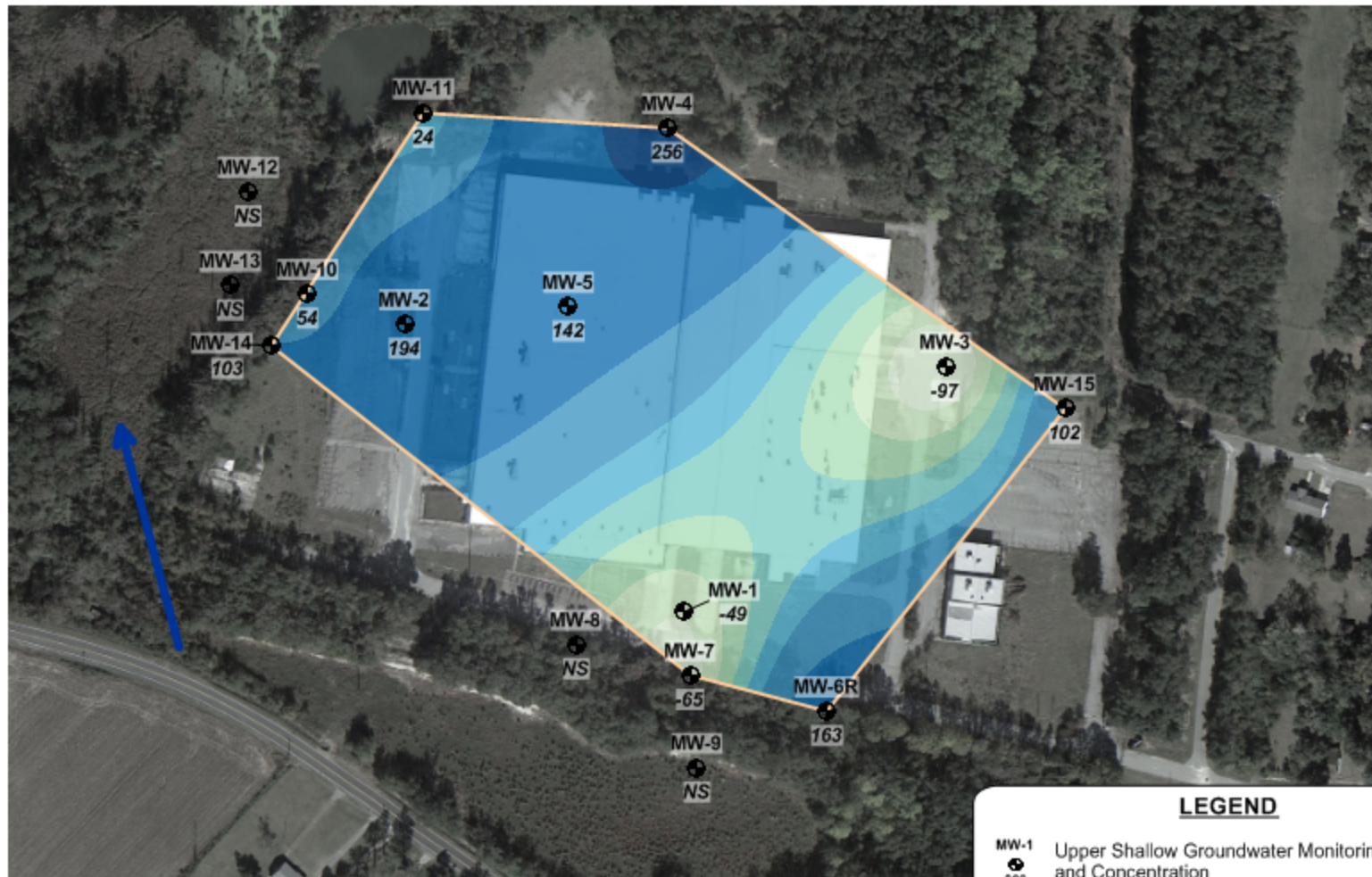
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**Sulfide
 Upper Shallow Auqifer
 Feb-2017**

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0ft 275ft 550ft

Concentration (mV)



LEGEND

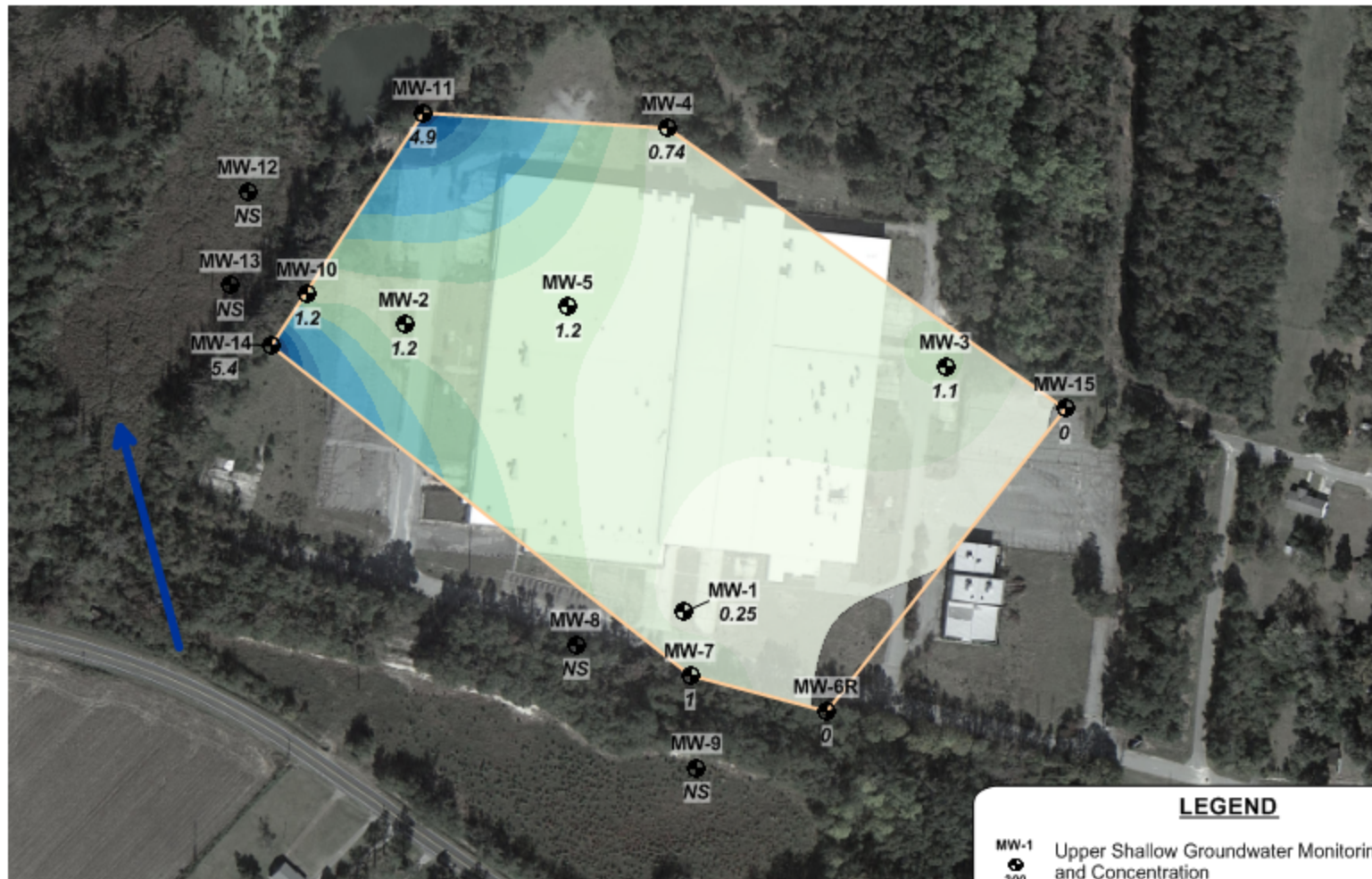
- MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
- General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

Note:
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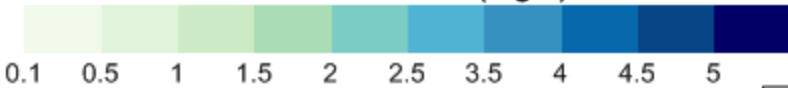
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ORP
Upper Shallow Auqifer
Feb-2017



0ft 275ft 550ft

Concentration (mg/L)



LEGEND

- MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
- General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

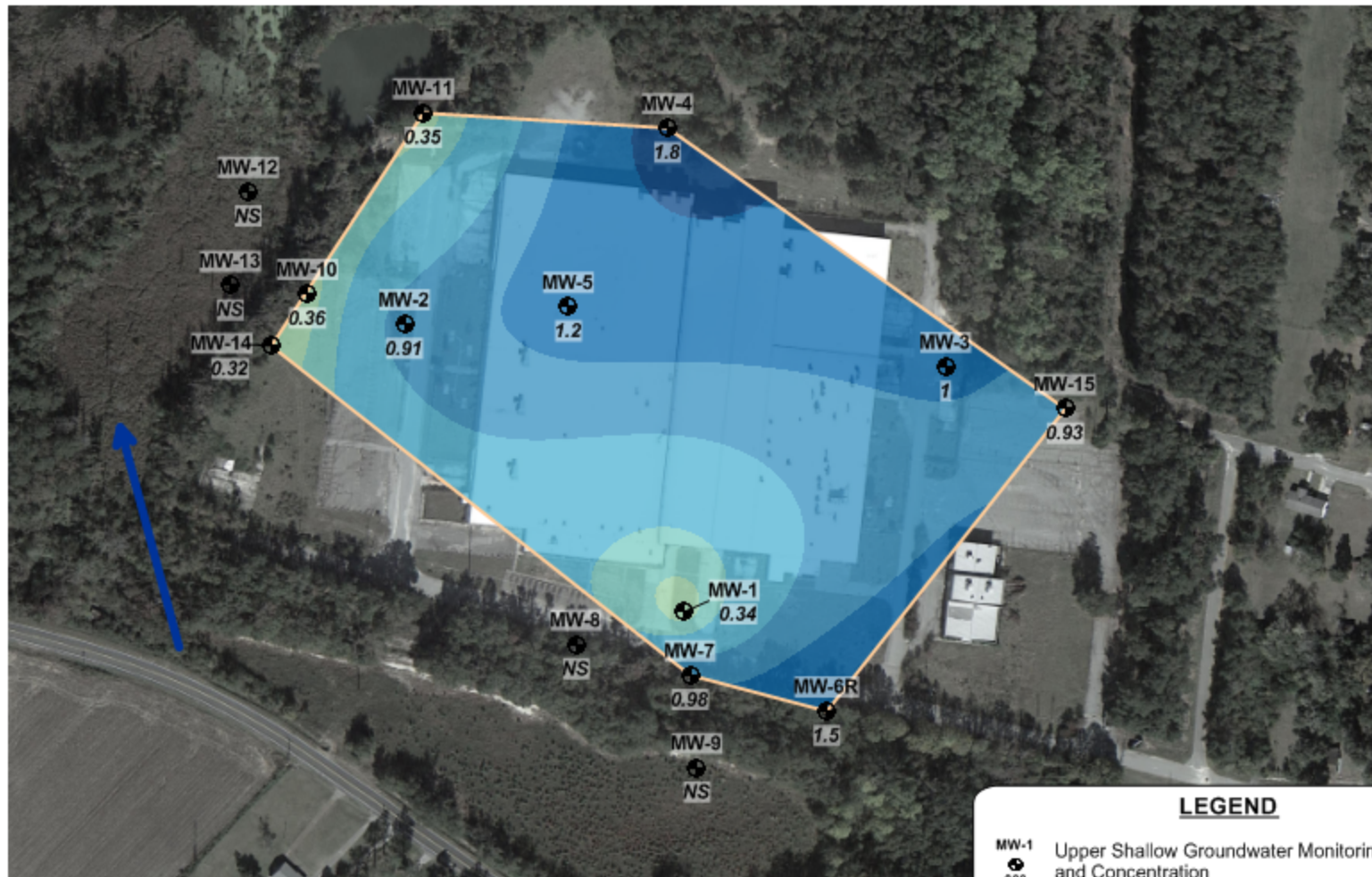
Note:
This analysis requires fixed data points within a fixed area for the purposes of assessing relative changes of area, average concentration, and mass indicator over time. Therefore, any created isopleth maps are not intended to be a depiction or model of the actual plume but rather is meant to show conceptual behavior of the aforementioned metrics over time.

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**Ferrous Iron
Upper Shallow Auqifer
Feb-2017**



0ft 275ft 550ft

Concentration (mg/L)



LEGEND

- MW-1 Upper Shallow Groundwater Monitoring Well and Concentration
- <10 (2.5) Non-Detect (Assigned Value)
- NS Well Not Sampled
- General Groudwater Flow Direction (ERM Groundwater and Soil Assessment Report January 2013)

Note: This analysis requires fixed data points within a fixed area for the purposes of assessing relative changes of area, average concentration, and mass indicator over time. Therefore, any created isopleth maps are not intended to be a depiction or model of the actual plume but rather is meant to show conceptual behavior of the aforementioned metrics over time.

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**Dissolved Oxygen
 Upper Shallow Auqifer
 Feb-2017**

Appendix E – Attachment 1
Plume Analytics Presentation, March 2017

(Separate Attachment)