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1675 SPECTRUM DRIVE • LAWRENCEVILLE, GEORGIA 30043 • TEL (770) 962-5922 • FAX 962-7964

April 11, 2014

Mr. Terry Allison
Response and Remediation Program
2 Martin Luther King, Jr. Drive, S.E.
Suite 1054, East Tower
Atlanta, Georgia 30334

RE: Spalding Corners Shopping Center
7700 Spalding Drive
Sandy Springs, Fulton County, Georgia
HSI #10639

Dear Mr. Allison:

In accordance with the October 12, 2010 Voluntary Remediation Plan Approval Letter, Sailors Engineering Associates, Inc. (SEA) appreciates this opportunity to submit this 1st 2014 Semi-Annual Progress Report on behalf of Selig Enterprises, Inc. for the Spalding Corners Shopping Center Site, HSI #10639 located in Sandy Springs, Fulton County, Georgia.

If you have any questions or need additional information, please contact us at (770) 962-5922. We look forward to working with you on this project.

Respectfully submitted,

SAILORS ENGINEERING ASSOCIATES, INC.

Michael J Haller, P.G.
Manager, Environmental Engineering

w/enclosures
cc: Mr. S. Kevin Curry, Selig Enterprises, Inc w/enclosures

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VRP 1st 2014 SEMI-ANNUAL PROGRESS REPORT SPALDING CORNERS SHOPPING CENTER 7700 SPALDING DRIVE NORCROSS, FULTON COUNTY, GEORGIA HSI #10639

SEA JOB #102-063

SUBMITTED:
April 11, 2014

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CERTIFICATION

I certify, under penalty of law, that the electronic copy is complete, identical to the paper copy, and virus free.

4-11-2014
Date

Michael J. Haller, P.G.
Project Manager

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VOLUNTARY INVESTIGATION AND REMEDIATION PLAN CERTIFICATION

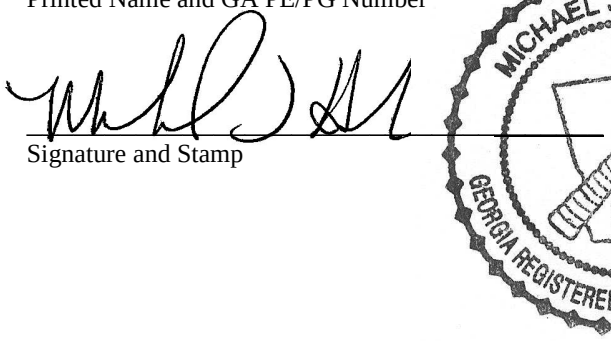
"I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/ Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.

Furthermore, to document my oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.

The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Michael J. Haller, P.G.#1062___
Printed Name and GA PE/PG Number

____April 11, 2014___
Date



Signature and Stamp

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Purpose

The purpose of this First 2014 Semi-Annual Voluntary Remediation Program Progress Report is to discuss the current site conditions and any actions taken since the initial Voluntary Remediation Program (VRP) application and the VRP 1st, 2nd, 3rd and 4th Semi-Annual Progress Reports.

1.2 Background

The VRP application (the Application") submitted for Spalding Corners Shopping Center HSI #10639 located at 7700 Spalding Drive in Norcross, Fulton County, Georgia, dated May 10, 2010 was approved on October 12, 2010. As discussed in the Application, Monitored Natural Attenuation (MNA) with additional In-Situ Chemical Oxidation, as necessary, were identified as the most likely remedial approach for this site. To determine whether MNA is appropriate, Sailors Engineering Associates, Inc. (SEA) evaluated historical data, including prior remediation efforts, conducted additional testing, and commenced efforts to evaluate appropriate models to demonstrate compliance with applicable risk reduction standards ("RRS"). The first semi-annual sampling event occurred in March 2011. The VRP 1st Semi-Annual Progress Report was submitted on April 12, 2011 and the VRP 2nd Semi-Annual Progress Report was submitted on October 12, 2011. The EPD review letter with comments dated March 6, 2012 was received after the commencement of the third semi-annual sampling event. The VRP 3rd Semi-Annual Progress Report was submitted on April 12, 2012 concurrently with a letter in response to the EPD comment letter under separate cover. The VRP 4th Semi-Annual Progress report was submitted on October 12, 1012, recommending that no additional remediation or monitoring is warranted for this site and that a Compliance Status Report be prepared. An EPD review letter with comments dated January 10, 2014 stated that certain potential exposure pathways have not been controlled.

EPD requested draft uniform environmental covenants (UEC) for both qualifying properties restricting groundwater usage and stated that the vapor intrusion pathway must be further evaluated for existing structures at the shopping center. Since the PCE concentrations at the onsite downgradient monitoring wells located east of River Exchange Drive (MW-5S, MW-6S and MW-21S) are above the Type 1 Risk Reduction Standard (RRS) and the PCE concentrations are or appear to be increasing, EPD stated that the VRP Rules require an additional monitoring well to delineate the extent of groundwater contamination beyond the qualifying properties west of River Exchange Drive. EPD also requires continued groundwater monitoring and model calibration until it is demonstrated that impacts will not exceed residential RRS or until the property is included as a qualifying property and a UEC is placed on the property. These and other comments will be addressed in this and subsequent reports.

1.3 Summary of Results

The monitoring conducted to date indicates that plume migration is occurring and that the most down gradient wells MW-5S, MW-6S and MW-21S have been impacted. Further, fate and

transport modeling predicts that contamination will eventually impact the property west of River Exchange Drive (Sandy Springs Property) and ultimately Crooked Creek. SEA determined through mixing calculations, with EPD agreement, that the in-stream PCE concentration in Crooked Creek would not exceed the Georgia In-Stream Water Quality Standards (ISWQS). EPD required an additional permanent monitoring well located on the Sandy Springs Property downgradient of MW-6S and continued groundwater monitoring and model calibration.

The current sampling event, the first monitoring period for 2014 (eighteen month since the last monitoring period), with the exception of MW-5S, PCE concentrations continued an overall decreasing trend.

2.0 SEMI-ANNUAL GROUNDWATER MONITORING EVENT

A total of 14 monitoring wells, two wetland area well points and two seep water locations were sampled as part of the first 2014 semi-annual sampling event. Two monitoring wells, MW-8S and MW-9S, were not sampled this monitoring period since they are located side gradient of the plume and have never shown impacts. The sampled locations represent the plume centerline, down-gradient sampling points, and select upgradient and side-gradient wells. The wells along the centerline of the plume were used to determine the strength of evidence for biotransformation by collecting MNA indicator parameters in addition to the volatile organic compound analysis samples from all chosen sampling points. One seep water location (SW-1) was dry.

The groundwater monitoring wells sampled were purged using a precleaned submersible bladder pump or peristaltic pump. Parameter stabilization was used to determine when the well had been adequately purged prior to sampling.

The EPD review letter with comments dated January 10, 2014 included a section regarding sampling. Comment #14 stated that during the September 1012 event, pH was not stabilized when the samples were collected from MW-13S, MW-18S and MW-19S. In future sampling events, SEA will continue purging until all parameters have three consecutive readings within their respective variance ranges illustrating parameter stabilization before collecting samples. Comment #15 stated that for the Low-Flow purging method, the pump intake should be placed near the mid-point of the screened interval. In future events, SEA will insure that the pump intake is at the recommended location. Comment #16 stated that polyethylene tubing may be used for routine sampling events, but Teflon® tubing must be used when sampling to show compliance with RRS. SEA will use Teflon® tubing when sampling to show compliance with RRS.

2.1 General Approach and Procedures for Sampling

Samples were collected in general accordance with published protocols including USEPA Region 4 Science and Ecosystem Support Division "Groundwater Sampling" Operating Procedure (SESDPROC-301-R3, March 6, 2013) with the exception of the recommended tubing material as noted below. Well purging was conducted using either the *"Tubing-in-Screened-Interval" Method* (Section 3.2.2), where the intake was positioned in the approximate mid-portion of the screened interval or the *Purging with Pumps, Peristaltic Pumps* method (Section

3.3.1.1.1), where the intake was placed in the uppermost portion of the water column when the recovery rate was equal to the purge rate. Groundwater samples were obtained from each well either directly from the submersible pump discharge tubing (Section 4.3.1.3) or from *Peristaltic Pump, Direct from Pump Head Tubing* (Section 4.3.1.1) for MNA parameter samples or *Peristaltic Pump/Vacuum Jug* "soda straw" method B (Section 4.3.1.2) for VOC samples. Due to the relatively high cost of the recommended Teflon® tubing disposable polyethylene tubing was utilized for pump intake and discharge. Disposable polyethylene bladders were used in the bladder pump and disposable silicon tubing was used in the peristaltic pump head. New tubing and bladders were used for each well. Samples were collected following *Order of Sampling with Respect to Analytes* (Section 4.7.2). The various MNA parameter samples were collected in laboratory supplied containers in the recommended order followed by the VOC samples at the end. VOC samples were collected in laboratory supplied 40-ml sample vials preserved with HCL. A Teflon®-lined cap was placed on the vial, and the vial was inverted to ensure zero headspace. The samples were immediately packed in ice and transported to the analytical laboratory under chain-of-custody procedures. To minimize the risk of cross-contamination between wells when conducting groundwater sampling, the pumps and instruments are decontaminated between wells, in accordance with (SESDPROC-205). When possible, groundwater sampling was conducted from the least suspected contaminated area to the most suspected contaminated area. Copies of the well purging logs are included in Appendix 3. Copies of the laboratory data sheets are included in Appendix 5.

2.2 *Decontamination Procedures*

All downhole and/or reusable field equipment and instruments were properly decontaminated between wells in general accordance with published protocols including USEPA Region 4 Science and Ecosystem Support Division "Field Equipment Cleaning and Decontamination" Operating Procedure (SESDPROC-205-R2, December 20, 2011). The electronic water level meter was decontaminated following *Well Sounders or Tapes* (Section 3.5), where unless conditions warrant, the wetted portion of the meter was decontaminated using the procedure listed below:

1. Wash with laboratory grade Liqui-Nox® detergent diluted with deionized water
2. Rinse with deionized water

The water quality meter was decontaminated following *"Classical Parameter" Sampling Equipment* (Section 3.3), where the meter and flow cell was decontaminated by rinsing with deionized water. The bladder pump was decontaminated following *Sample Collection Equipment Contaminated with Environmental Media* (Section 2.5), where the pump was decontaminated using the procedure listed below:

1. Disassemble the pump and remove and discard the bladder
2. Wash with laboratory grade Liqui-Nox® detergent diluted with deionized water
3. Rinse with deionized water
4. Install a new bladder and reassemble the pump

2.3 Results

The results of the March 2014 monitoring event indicate that a few notable changes have occurred in the eighteen months since the September 2012 sampling. Slight increases in PCE concentrations were detected in MW-5S, MW-10S and MW-19S. MW-5S increased from 0.032 mg/L to 0.048 mg/L, MW-10S increased from 0.018 mg/L to 0.043 mg/L and MW-19S increased from <0.005 mg/L to 0.032 mg/L. PCE concentrations decreased significantly in MW-6S, MW-15S, MW-18S and MW-20S this period. The source well MW-15S decreased one order of magnitude from 0.340 mg/L to 0.025 mg/L and MW-18S decreased two orders of magnitude from 0.370 mg/L to 0.0055 mg/L. The presence of VOCs in MW-21S, located at a downgradient location, was detected this period, but at a concentration of 0.0048 mg/L slightly below the Maximum Concentration Limit (MCL) or Type 1 Risk Reduction Standard (RRS) for PCE of 0.005 mg/L. MW-6 and MW-7, also located at downgradient locations, had PCE concentrations below the MCL or Type 1 RRS at concentrations of 0.0019 mg/L and <0.001 mg/L, respectively. Seep water locations SW-2 and SW-3 detected PCE at very low concentrations at 0.0043 mg/L and 0.0016 mg/L, respectively. The PCE concentration detected in upgradient well MW-14S was below the MCL at a concentration of 0.0019 mg/L. TCE was detected in three locations and cDCE was detected in four locations at very low concentrations. TCE was detected in MW-16S, MW-19S and MW-20S below the MCL or Type 1 RRS of 0.005 mg/L. cDCE was detected in MW-5S, MW-6S, MW-19S and MW-20S well below the or MCL or Type 1 RRS of 0.070 mg/L. VC was not detected in the groundwater samples collected from any of the selected sampling locations this period. Chloroform and Methyl tert-butyl ether (MTBE) were detected at two sampling locations at very low concentrations. Chloroform was detected in MW-17S at 0.010 mg/L and MTBE was detected in MW-13S at 0.0051 mg/L. Current and historic laboratory summaries are included in Table 1 and Table 2, respectively, of Appendix 2. Historic Groundwater and Seep Water PCE Trend Graphs are included in Appendix 6

2.4 Monitored Natural Attenuation Evaluation

The natural attenuation mechanisms active at the site include both biological transformation and non-biological attenuation. Both mechanisms are responsible for the attenuation of the plume at this site. In order to determine the contribution from biotransformation, the Natural Attenuation Screening Protocol portion of the BIOCHLOR model was used to evaluate individual wells. Six monitoring wells that were previously sampled for natural attenuation parameters, MW-5S, MW-7S, MW-10S, MW-17S, MW-21S and MW-1D were not sampled for these parameters this monitoring period. Based on the scoring method used in the worksheets, limited evidence of anaerobic biodegradation was only seen in downgradient wells MW-19S and MW-20S. The worksheets indicated inadequate evidence of reductive dechlorination was shown in the "source well", MW-15S, and in downgradient wells MW-6S, MW-16S and MW-18S. The upgradient well, MW-14S, also showed inadequate evidence of reductive dechlorination. SEA interprets the results in MW-19S and MW-20S, where nutrients were injected into the soil and groundwater through the BioNet system in 2006, to indicate that conditions are again favorable for reductive dechlorination, possibly due to the water table rising from recent rains mixing with residual nutrients in the soil from the BioNet system. SEA interprets the results in MW-16S, MW-17S and MW-18S, where a chemical oxidation product (sodium persulfate) with an alkaline (NaOH) activator was injected into the groundwater in the vicinity of MW-16S in 2008, to indicate that

conditions are not favorable for reductive dechlorination. The Natural Attenuation Screening Protocol worksheets are included in Appendix 4. Copies of the well purging logs and laboratory data sheets are included in Appendix 3 and Appendix 5, respectively. Table 4 and Table 5 are current and historic tabular summaries, respectively, of the parameters tested with the results and a scoring summary for each of the site monitoring wells. Historic laboratory summaries are included in Table 2 of Appendix 2. A Site Plan depicting the sample locations and Isoconcentration Maps for PCE, TCE, cDCE and Chloroform have been included in Appendix 1.

Based on the results of the biotransformation evaluation, dispersion and dilution are the primary mechanisms responsible for the natural attenuation at the site.

3.0 GROUNDWATER MODELING

A mass transport model and a remedial timeframe model were presented in the VRP 1st Semi-Annual Progress Report, dated April 12, 2011 to estimate whether Crooked Creek would be impacted by the contaminant plume. SEA utilized REMChlor to model the fate and transport of impacted groundwater on site because it can simultaneously account for both source and plume remediation and Source DK to evaluate the possibility that MNA will attenuate the impacted groundwater to levels that will not affect Crooked Creek.

REMChlor predicted that the leading edge of the contaminant plume, if no additional remedial efforts are conducted at the site, would reach Crooked Creek in approximately ten years or 2021 at a PCE concentration of 0.00885 mg/l. However, since groundwater from the VRP Property represents only a small fraction of the total contribution to Crooked Creek, it is highly unlikely that impacts would ever be detectable at any level in the surface water. This has been verified through mixing calculations conducted for the site as discussed below in Section 3.3.

SourceDK indicated that the plume is shrinking and is not expected to expand beyond its present geometry. The most downgradient well analyzed, MW-20S, would be in compliance with the Type 1/3 RRS for PCE by 2014 and that the groundwater impacts from the VRP Property could not impact a hypothetical point of compliance 1,000 feet from the VRP Property.

In the March 6, 2012 Comment Letter regarding the 1st and 2nd Semi-Annual Progress Reports, EPD issued several comments (Comment Numbers 3 through 6) which related to groundwater modeling. Comment #4 noted that the ISWQS for PCE is 0.0033 mg/l rather than 0.0085 mg/l as reported. Also EPD requested mixing calculations using 7Q10 data before the CSR is submitted to ensure concentrations will not exceed ISWQS in Crooked Creek. Comment #5 suggested evaluating the changes to the concentrations reaching the stream from the use of a range of values for gamma in the REMChlor model to assess the range of possible impacts. Comment #6 suggested continuing monitoring in order to reconcile the differences between the two models and until the REMChlor model has been sufficiently calibrated and verified by adequate field data.

A site specific screening value of 0.0033 mg/L PCE was chosen as a point of reference for the model calculations below so that the model results could be used to determine if the concentrations of impacted groundwater reaching Crooked Creek would cause the creek to

exceed the ISWQS for PCE of 0.0033 mg/L. That number was used as the basis for the mixing calculations shown in Section 3.3 below.

In response to the 3rd and 4th Semi-Annual Progress Reports, the EPD review letter with comments dated January 10, 2014 included a section regarding groundwater modeling, Comments #7 through #13. Comment #7 stated that setting the REMChlor source parameter gamma of 1.0 was reasonable for the site. Comment #8 stated that the retardation factor calculated in BIOCHLOR and used in REMChlor was not appropriate for modeling PCE only and to re-calculate the retardation factor specific to PCE. Comment #9 requested that we provide justification for the use of non-zero decay rates for PCE when no daughter products are produced and evaluation of the site shows that the potential for reductive dechlorination is low. Comment #10 requested that for future reports that we provide input and output data sets used in REMChlor and SourceDK model runs as well as screen shots of each model run showing input parameters. Comment #11 requested that we provide a table giving the value of each parameter used in the REMChlor model with remarks describing the basis for estimated values and explaining why that value is considered appropriate. Comment # 12 requested a brief description of how the REMChlor model was calibrated for before-remediation and after-remediation scenarios. Comment #13 requested a sensitivity analysis of the calibrated REMChlor model that identifies the parameters to which the model is most sensitive and ranks relative importance in determining predicted concentrations.

3.1 REMChlor

SEA attempted to use the mass transport model REMChlor to evaluate the fate of groundwater impacted by chlorinated ethenes at the site. REMChlor is a significant improvement on existing analytical models such as BIOCHLOR because it can simultaneously account for both source and plume remediation. The January 10, 2014 comments regarding groundwater modeling, specifically Comments #7, #8 and #9, were employed in the model. However, attempts to calibrate the model to earlier and current conditions proved unsuccessful. This is likely the result of the complexity of the historic conditions with regard to soil and groundwater impacts. There is adequate historic data for the site since the release was first detected (B-1) during a due diligence investigation for a real estate transaction for the River Exchange Property in September 1999. However, the initial analytical data for the Source Well MW-15S in July 2000 (0.110 mg/L) is an order of magnitude lower than the analytical data reported for B-1 in September 1999 (2.590 mg/L). The PCE concentrations in other downgradient wells reflect higher concentrations than the source well until source removal by soil excavation in late 2003 appears to have resulted in the significant transfer of CVOCs from the sorbed phase to the dissolved phase which proved difficult to simulate in the model. In March 2004, PCE concentration in MW-15S was 4.300 mg/L reducing to 0.500 mg/L in March 2005. Pilot tests for enhanced bioremediation and chemical oxidation into the plume complicated model calibration.

3.2 SourceDK

SEA reran the SourceDK model using the site specific screening value or In-Stream Water Quality Standards (ISWQS) values for PCE, TCE and cDCE of 0.0033 mg/l, 0.030 mg/l and 10.000 mg/l, respectively. The ISWQS for trans-1,2-Dichloroethene (tDCE) was used for cDCE

since cDCE has no ISWQS. The inputs for SourceDK Tier 1 and Tier 2 were revised with the current VOC concentrations.

Model Results:

For the purpose of analyzing the Spalding Drive Property source area, the Tier 1 model, based on the existing analytical data for monitoring wells, specifically MW-15S, was used to predict the cleanup date and estimate the Source Decay Constant (k_s) for PCE, TCE and cis-1,2-Dichloroethene (cDCE), the contaminants of concern (COCs). Once a k_s value was estimated for a COC in a particular monitoring well, the k_s value was directly entered into the Tier 2 model.

Model Conclusions**:**

The Tier 1 model predicted date to achieve the site specific screening value at a 95% confidence interval for PCE in MW-19S is 2014 to 2029 for PCE in MW-15S and 2072 for PCE in MW-16S. The Tier 2 model estimated the time to achieve the site specific screening value for MW-15S as 31 years (2035) for PCE.

SourceDK Modeling Conclusions:

(i) Based on the field data and the results of the remedial timeframe modeling, with the exception of MW-17S the PCE concentrations in the plume centerline wells are in decreasing concentration trends.

(ii) Based on the results of the remedial timeframe modeling, the predicted date to achieve the site specific screening value throughout the entire plume is 2072 for PCE.

(iii) Comparing the current model run to the 2012 model run, the predict dates to achieve the site screening value for the entire plume were reduced from 2090 to 2072 or by 18 years.

3.3 Groundwater–Surface Water Mixing Calculations

At the request of EPD, SEA performed site specific groundwater-surface water mixing calculations to model the effect of the groundwater impacts on the groundwater receptor, Crooked Creek. SEA used data from USGS Gaging Station 02335350 (Crooked Creek near Norcross, GA) to perform simple mixing calculations to ensure concentrations will not exceed the ISWQS in Crooked Creek. USGS Gaging Station 02335350 is located at the bridge on Spalding Drive approximately 500 feet southwest of the Spalding Drive-River Exchange Drive intersection. The groundwater-surface water mixing calculations demonstrated that Crooked Creek would not be impacted by the dissolved contaminant plume above the current ISWQS. The groundwater-surface water mixing calculations were included in the 4th Semi-Annual Progress Report.

EPD stated in the January 10, 2014 comment letter that they agree that the mixing calculations presented are conservative and that the in-stream concentration of PCE in Crooked Creek will

not exceed ISWQS. Although EPD agrees with the overall conclusion, EPD requested an explanation of the use of a Darcy velocity value of 3.96E-06 ft/s. In response, after review of SEA's calculations, it appears that the incorrect value for the Darcy velocity of 3.96E-06 ft/s was the result of an error in converting between metric units and US units and the correct value should be 5.41E-07 ft/s.

3.4 CONCLUSION

Site specific groundwater-surface water mixing calculations conclude that negligible impact to Crooked Creek. Attempts to calibrate the REMChlor model to earlier and current conditions proved unsuccessful due to the models inability to account for the remedial efforts conducted at the site.

3.5 POTENTIAL VAPOR EXPOSURE ROUTES

The potential for a future worker to be exposed to vapors from the groundwater impacts beneath the shopping center where the former dry cleaner was located was evaluated. USEPA's *OSWER Vapor Intrusion Assessment, Vapor Intrusion Screening Level (VISL) Calculator Version 3.1, November 2013 RSLs* was used to evaluate vapor intrusion risk at the site. The current groundwater analytical data from the nearest monitoring well, MW-15S or the Source Well, was used for the assessment. Based on the results of the VISL calculator using default and site specific input values for groundwater, vapor exposure above the incremental exposure risk for carcinogens will not be exceeded. No additional assessment will be conducted to model the vapor pathway for human exposure. The spreadsheets for the *Vapor Intrusion Screening Level (VISL) Calculator Version 3.1, November 2013 RSLs* are included in Appendix 8.

4.0 PLANNED ACTIVITIES

SEA is in the process of acquiring access to work upon the "Sandy Springs Property" (Parcel Number 06-0313-LL036-4) located west of River Exchange Drive from the subject property. The City of Sandy Springs recently acquired the property (December 2013) and requires an access agreement between Selig Enterprises, Inc. and the City of Sandy Springs before any work can proceed, which is currently being negotiated. SEA plans to install the new monitoring well designated MW-22S as soon as access is granted and our drilling schedule allows. The proposed monitoring well location is depicted on Figure 2, Revised Site Plan in Appendix 1. The draft UECs for all qualifying properties will be submitted with the Second 2014 Semi-Annual report, including the Sandy Springs parcel if testing indicates that it needs to be included as a qualifying property.

SEA has scheduled the Second 2014 Semi-Annual MNA sampling event for September 2014.

5.0 CONCLUSION AND RECOMMENDATIONS

As discussed in the MNA summaries of the previous semi-annual progress reports, the groundwater plume at the site generally exhibits Type 3 behavior because there are limited PCE breakdown products, low concentrations of carbon and aerobic conditions exist in the groundwater that is unlikely to support high levels of reductive dechlorination. Fluctuations in

contaminant concentrations have been observed in a number of the wells, but the overall trend is a reduction in the concentrations both temporally and with regard to distance from the source area. Coupled with the Groundwater-Surface Water Mixing Calculations presented in the 4th Semi-Annual report, site conditions are adequate to avoid impact to Crooked Creek and a hypothetical groundwater receptor 1000 feet from the site.

SEA recommends that the proposed monitoring well located on the Sandy Springs Property Tract be installed and sampled once access is secured and that if delineation to the default residential standard is achieved, that the Compliance Status Report be prepared and submitted.

APPENDICES

Appendix 1 Figures

1 - Area Plan
2 - Site Plan
3 – Potentiometric Surface Maps, March 18, 2014
4 – PCE Isoconcentration Map, March 2014
5 – TCE Isoconcentration Map, March 2014
6 – cDCE Isoconcentration Map, March 2014
7 – Chloroform Isoconcentration Map, March 2014

Appendix 2 Tables

Table 1 – Current Groundwater and Seep Water Analytical Results Summary
Table 2 – Historic Groundwater and Seep Water Analytical Results Summary
Table 3 – Historic Groundwater Elevation Summary
Table 4 – Current MNA Screening Laboratory Results Summary
Table 5 – Historic MNA Screening Laboratory Results Summary

Appendix 3 Groundwater Sampling Logs

Appendix 4 Monitored Natural Attenuation Screening Protocol Worksheets

Appendix 5 Laboratory Data Sheets – Groundwater

Appendix 6 Historic Groundwater and Seep Water PCE Trend Graphs

Appendix 7 Groundwater Modeling

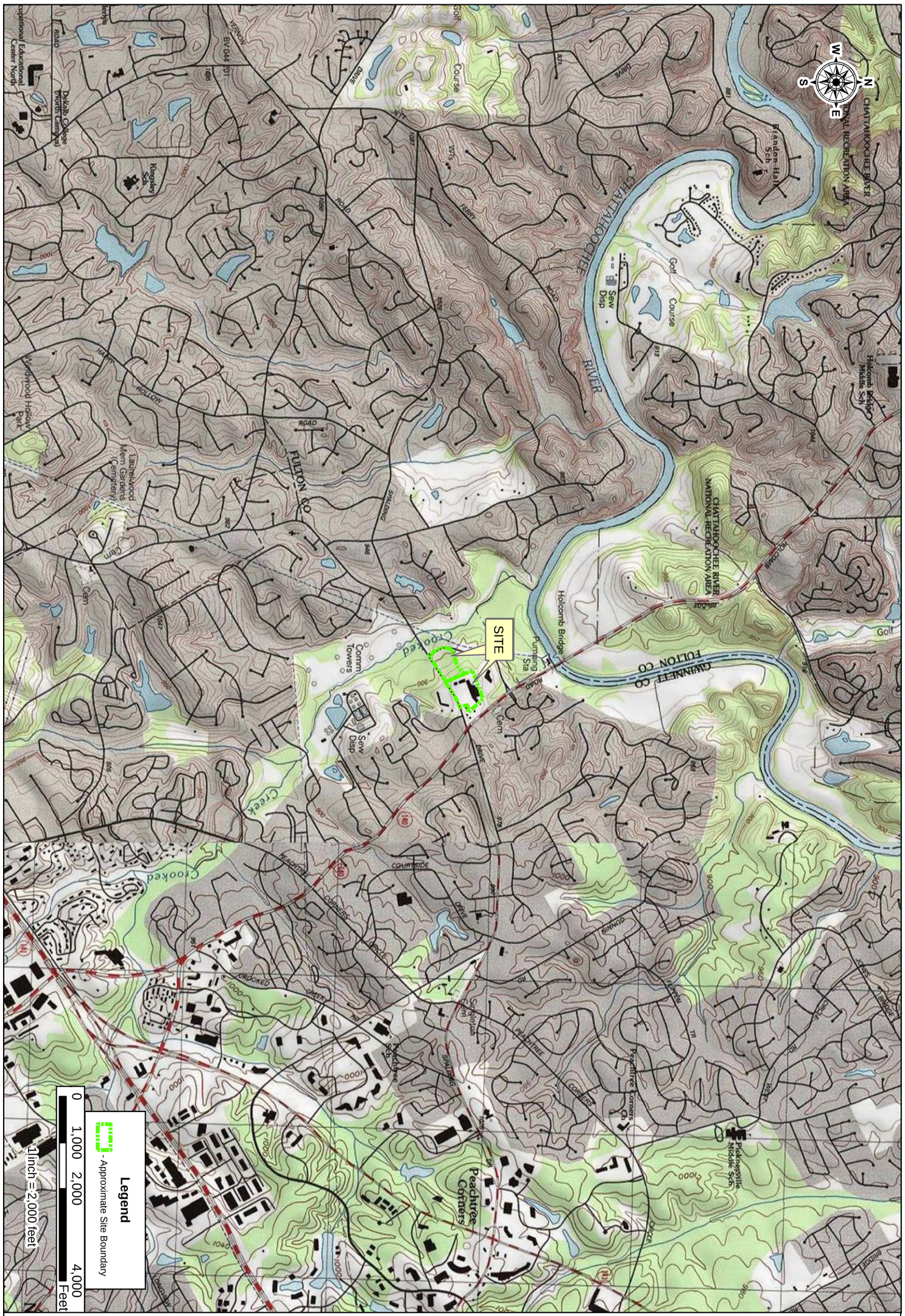
SourceDK

Appendix 8 Vapor Intrusion assessment (USEPA *OSWER VISL Calculator*)

Appendix 9 Summary of Services and Professional Hours

APPENDIX 1

FIGURES



DATA SOURCES: - 1:24,000 Chamblee, Georgia USGS 7.5' Topographic Map Quadrangle courtesy of ESRI Map Services

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REVISED AREA PLAN

Figure 1

SPALDING CORNERS SHOPPING CENTER
7700 Spalding Drive
Sandy Springs, Fulton County, Georgia
HSI# 10639

Job No. 102-063

SEA-2203

06-0313-LL0372
SANDY SPRINGS SENIOR HOLDINGS LLC
UNDER DEVELOPMENT

06-0313-LL036-4
"SANDY SPRINGS PROPERTY"

06-0313-LL034-9
DUNWOODY PLACE VENTURES LLC

06-0313-LL0091
SELIG ENTERPRISES INC

RIVER EXCHANGE DRIVE

SPALDING DRIVE

PROPOSED MONITORING WELL (MW-22s)

MW-1s
MW-2s
MW-3s
MW-4s
MW-5s
MW-6s
MW-7s
MW-8s
MW-9s
MW-10s
MW-11s
MW-12s
MW-13s
MW-14s
MW-15s
MW-16s
MW-17s
MW-18s
MW-19s
MW-20s
MW-21s
MW-1d
SW-1
SW-2
SW-3
SW-4
SW-5

Legend

- PMW- Proposed Monitoring Well Location
- Monitoring Well Location
- Approximate Site Boundary
- Delisted Parcel Boundary

0 50 100 200 Feet

1 inch = 100 feet

DATA SOURCES: - 2009 aerial photography courtesy of *Gwinnett County GIS Department*

SPALDING CORNERS SHOPPING CENTER
7700 Spalding Drive
Sandy Springs, Fulton County, Georgia
HSI #10639

Job No. 102-063

SEA-2203

REVISED SITE PLAN

Figure 2

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SAILORS ENGINEERING ASSOCIATES, INC.
ENVIRONMENTAL/GEOTECHNICAL
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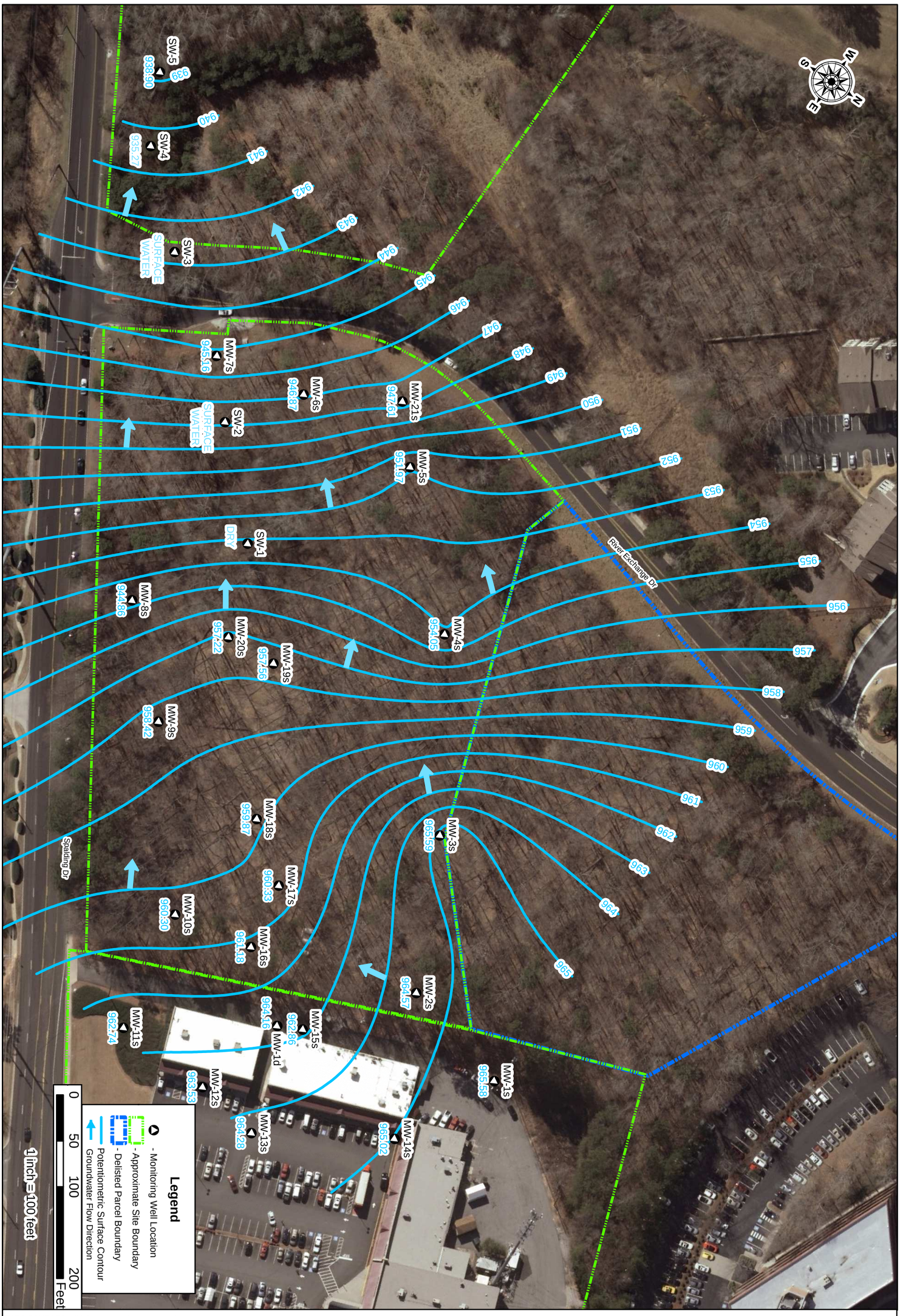


DATA SOURCES: - 2009 aerial photography courtesy of ***Gwinnett County GIS Department***

SEA **SAILORS ENGINEERING ASSOCIATES, INC.**
ENVIRONMENTAL/GEOTECHNICAL

1675 SPECTRUM DRIVE
LAWRENCEVILLE, GEORGIA 30043

(770) 962-5922 FAX 962-7964

POTENTIOMETRIC SURFACE MAP

MARCH 18, 2014
Figure3

SPALDING CORNERS SHOPPING CENTER

7700 Spalding Drive
Sandy Springs, Fulton County, Georgia
HSI# 10639

Job No. 122-081

SEA-2203

DATA SOURCES: - 2009 aerial photography courtesy of *Gwinnett County GIS Department*

PCE
ISOCONCENTRATION
MAP
MARCH 2014
Figure 4

SPALDING CORNERS SHOPPING CENTER
7700 Spalding Drive
Sandy Springs, Fulton County, Georgia
HSI# 10639

Job No. 102-063

SEA-2203

SEA
SAILORS ENGINEERING ASSOCIATES, INC.
ENVIRONMENTAL/GEOTECHNICAL
1675 SPECTRUM DRIVE
LAWRENCEVILLE, GEORGIA 30043
(770) 962-5922 FAX 962-7964

DATA SOURCES: - 2009 aerial photography courtesy of *Gwinnett County GIS Department*

TCE
ISOCONCENTRATION
MAP
MARCH 2014
Figure 5

SPALDING CORNERS SHOPPING CENTER
7700 Spalding Drive
Sandy Springs, Fulton County, Georgia
HSI# 10639

Job No. 102-063

SEA-2203

SEA
SAILORS ENGINEERING ASSOCIATES, INC.
ENVIRONMENTAL/GEOTECHNICAL
1675 SPECTRUM DRIVE
LAWRENCEVILLE, GEORGIA 30043
(770) 962-5922 FAX 962-7964

DATA SOURCES: 2009 aerial photography courtesy of *Gwinnett County GIS Department*

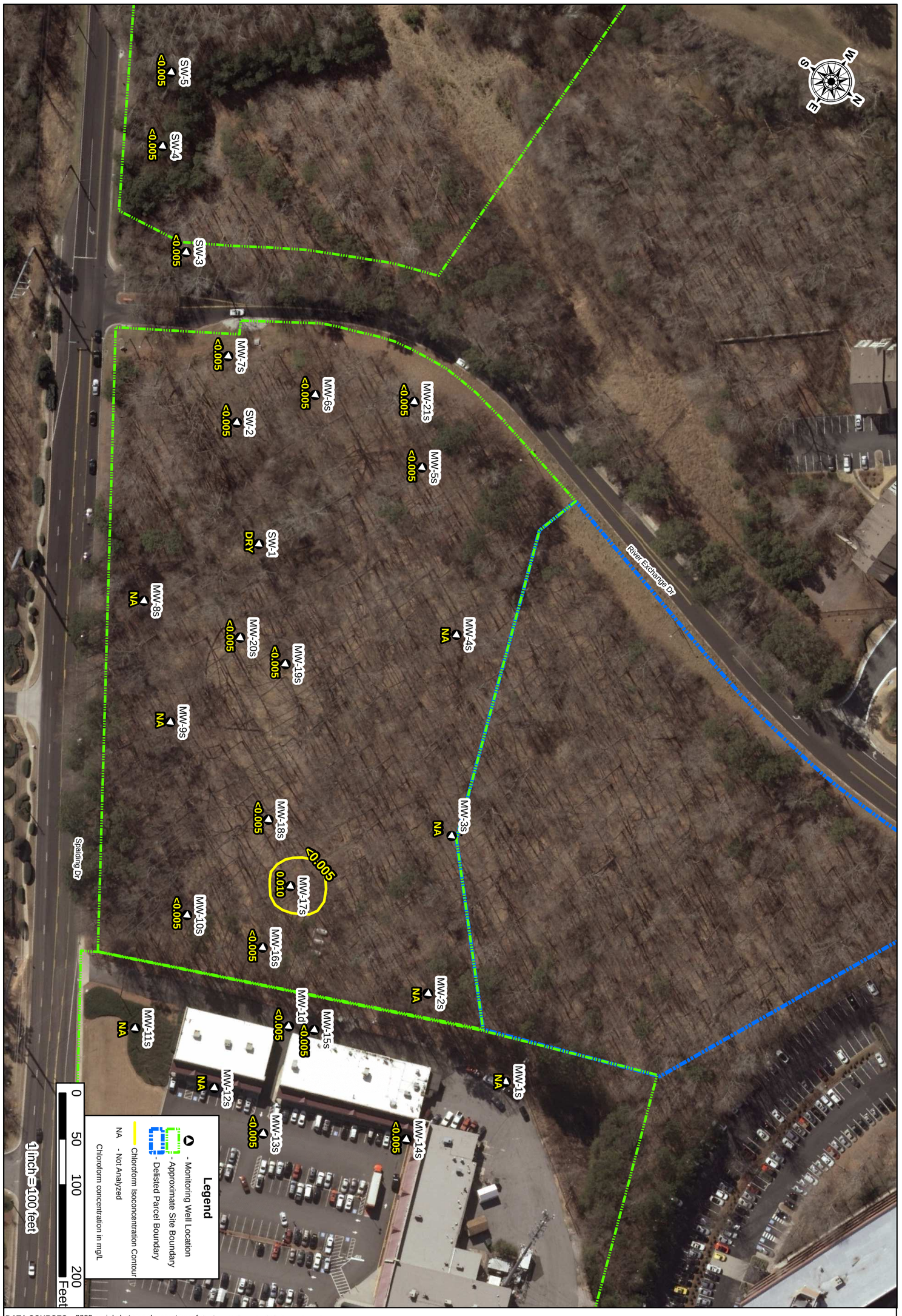
SPALDING CORNERS SHOPPING CENTER
7700 Spalding Drive
Sandy Springs, Fulton County, Georgia
HSI# 10639

Job No. 102-063

SEA-2203

cDCE
ISOCONCENTRATION
MAP
MARCH 2014
Figure 6

SEA
SAILORS ENGINEERING ASSOCIATES, INC.
ENVIRONMENTAL/GEOTECHNICAL
1675 SPECTRUM DRIVE
LAWRENCEVILLE, GEORGIA 30043
(770) 962-5922 FAX 962-7964



DATA SOURCES: - 2009 aerial photography courtesy of ***Gwinnett County GIS Department***

SEA
SAILORS ENGINEERING ASSOCIATES, INC.
ENVIRONMENTAL/GEOTECHNICAL
1675 SPECTRUM DRIVE
LAWRENCEVILLE, GEORGIA 30043
(770) 962-5922 FAX 962-7964

CHLOROFORM ISOCONCENTRATION MAP MARCH 2014

Figure 7

SPALDING CORNERS SHOPPING CENTER
7700 Spalding Drive
Sandy Springs, Fulton County, Georgia
HSI# 10639

Job No. 102-063

SEA-2203

APPENDIX 2

TABLES

TABLE 1

Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
Current Groundwater Analytical Results Summary

Location	Date Sampled	2-Butonone	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Methyl tert-butyl ether	Tetrachloroethene	Toluene	Trichloroethene	Vinyl Chloride	Total Xylenes
MW-5S	3/19/2014	<0.050	<0.050	<0.005	<0.005	**0.0011**	<0.005	**0.048**	<0.005	<0.001	<0.001	<0.010
MW-6S	3/18/2014	<0.050	<0.050	<0.005	<0.005	**0.0018**	<0.005	**0.0019**	<0.005	<0.001	<0.001	<0.010
MW-7S	3/20/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.010
MW-8S	3/2/2011	Not Sampled										
MW-9S	3/1/2011	Not Sampled										
MW-10S	3/19/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.043**	<0.005	<0.001	<0.001	<0.010
MW-13S	3/19/2014	<0.050	<0.050	<0.005	<0.005	<0.001	**0.0051**	<0.001	<0.005	<0.001	<0.001	<0.010
MW-14S	3/19/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0019**	<0.005	<0.001	<0.001	<0.010
MW-15S	3/18/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.025**	<0.005	<0.001	<0.001	<0.010
MW-16S	3/19/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.170**	<0.005	**0.0014**	<0.001	<0.010
MW-17S	3/19/2014	<0.050	<0.050	<0.005	**0.010**	<0.001	<0.005	**0.110**	<0.005	<0.001	<0.001	<0.010
MW-18S	3/19/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0055**	<0.005	<0.001	<0.001	<0.010
MW-19S	3/18/2014	<0.050	<0.050	<0.005	<0.005	**0.0035**	<0.005	**0.032**	<0.005	**0.0022**	<0.001	<0.010
MW-20S	3/19/2014	<0.050	<0.050	<0.005	<0.005	**0.0060**	<0.005	**0.0027**	<0.005	**0.0019**	<0.001	<0.010
MW-21S	3/18/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0048**	<0.005	<0.001	<0.001	<0.010
MW-1D	3/18/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0012**	<0.005	<0.001	<0.001	<0.010
SW-1	3/20/2014	DRY										
SW-2	3/20/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0043**	<0.005	<0.001	<0.001	<0.010
SW-3	3/20/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0015**	<0.005	<0.001	<0.001	<0.010
SW-4 (SEA)	3/20/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.010
SW-5 (SEA)	3/20/2014	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.010
Type I & 3 Risk Reduction Standard		**2.000**	**4.000**	**0.005**	**0.100**	**0.070**	**Not Applicable**	**0.005**	**1.000**	**0.005**	**0.002**	**10.000**

Note: All concentrations listed in mg/L
HIGHLIGHTED RESULTS EXCEED TYPE 1 RRS
2014 sampling performed by Sailors Engineering Associates, Inc.

TABLE 2

Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
Historic Groundwater Analytical Results Summary

Location	Date Sampled	1,1,2-Trichloroethane	2-Butonone	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Methyl tert-butyl ether	Tetrachloroethene	Toluene	Trichloroethene	Total Xylenes
MW-1S (SMW-13 N2)	10/22/2003	NA	NA	NA	NA	NA	<0.005	<0.005	<0.005	NA	<0.005	<0.005
	3/7/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	5/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/30/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/23/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
MW-2S (SMW-24)	2/4/2003	<0.005	NA	NA	<0.005	NA	NA	<0.005	NA	<0.005	NA	<0.005
	2/12/2003	<0.005	NA	NA	<0.005	**0.0320**	<0.005	<0.005	**0.0090**	<0.005	<0.005	<0.005
	12/12/2003	<0.005	<0.010	<0.020	<0.005	**0.014**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/7/2005	<0.005	<0.010	<0.020	<0.005	**0.0063**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/31/2007	<0.005	<0.050	<0.050	<0.005	**0.012**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/22/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
MW-3S (SMW-20)	1/15/2003	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	3/9/2004	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005
	3/7/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/31/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/22/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
MW-4S (SMW-26 N)	5/12/2003	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	3/7/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	6/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	6/1/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/22/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
MW-5S (SMW-17)	12/31/2002	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	3/9/2004	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005
	3/7/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	6/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.0080**	<0.005	<0.005	<0.010
	6/1/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.010**	<0.005	<0.005	<0.010
	8/21/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.012**	<0.005	<0.005	<0.010
	10/26/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.019**	<0.005	<0.005	<0.010
	3/22/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.014**	<0.005	<0.005	<0.010
	2/28/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.023**	<0.005	<0.005	<0.010
	9/14/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.024**	<0.005	<0.005	<0.010
	3/16/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/12/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.032**	<0.005	<0.005	<0.010
	3/19/2014	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0011**	<0.005	**0.048**	<0.005	<0.001	<0.010
MW-6S (SMW-10)	8/20/2002	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	3/9/2004	NA	NA	NA	NA	<0.005	<0.005	<0.005	**0.020**	NA	<0.005	<0.005
	3/19/2004	NA	NA	NA	NA	NA	NA	NA	**0.016**	NA	NA	NA
	8/19/2004	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.012**	<0.005	<0.005	<0.005
	3/9/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.011**	<0.005	<0.005	<0.010
	1/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.0062**	<0.005	<0.005	<0.010
	6/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	11/29/2006	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.0055**	<0.005	<0.005	<0.010
	6/1/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.0094**	<0.005	<0.005	<0.010
	3/22/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.073**	<0.005	<0.005	<0.010
	2/28/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.044**	<0.005	<0.005	<0.010
	9/16/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.014**	<0.005	<0.005	<0.010
	3/15/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.041**	<0.005	<0.005	<0.010
	9/10/2012		DRY									
	3/18/2014	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0018**	<0.005	**0.0019**	<0.005	<0.001	<0.010
Type I & 3 Risk Reduction Standard		**0.005**	**2.000**	**4.000**	**0.005**	**0.100**	**0.070**	**Not Applicable**	**0.005**	**1.000**	**0.005**	**10.000**

All concentrations listed in mg/L
HIGHLIGHTED RESULTS EXCEED TYPE 1 RRS
Sampling: 2000 by Rindt-McDuff; 2002-2003 by Pyramid;
2004-2010 by Peachtree Environmental
2011-current by SEA

TABLE 2

Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
Historic Groundwater Analytical Results Summary

Location	Date Sampled	1,1,2-Trichloroethane	2-Butonone	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Methyl tert-butyl ether	Tetrachloroethene	Toluene	Trichloroethene	Total Xylenes
MW-7S (SC-2)	3/2/2004	NA	NA	NA	NA	<0.005	<0.005	NA	**0.0081**	NA	<0.005	NA
	3/8/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	6/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.059**	<0.005	**0.012**	<0.005	**0.017**	<0.010
	6/1/2007	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0083**	<0.005	**0.0051**	<0.005	<0.005	<0.010
	3/22/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/2/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/12/2011		DRY									
	3/15/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/10/2012		DRY									
	3/20/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.001	<0.010
MW-8S (SC-1)	3/2/2004	NA	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA
	3/7/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/30/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/29/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/2/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/12/2011		DRY									
	3/14/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/14/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
MW-9S (SMW-7)	8/7/2002	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	3/9/2004	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.010
	3/8/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	5/30/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/29/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/1/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/15/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/14/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/13/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
MW-10S (SMW-3 SE)	7/29/2002	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	**0.236**	<0.005	<0.005	<0.005
	3/9/2004	NA	NA	NA	NA	<0.005	<0.005	<0.005	**0.0075**	NA	<0.005	<0.005
	3/19/2004	NA	NA	NA	NA	NA	NA	NA	**0.0062**	NA	NA	NA
	8/19/2004	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.015**	<0.005	<0.005	<0.010
	3/8/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.022**	<0.005	<0.005	<0.010
	5/30/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.018**	<0.005	<0.005	<0.010
	11/29/2006	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.026**	<0.005	<0.005	<0.010
	6/1/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.021**	<0.005	<0.005	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.024**	<0.005	<0.005	<0.010
	3/2/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.034**	<0.005	<0.005	<0.010
	9/14/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.065**	<0.005	<0.005	<0.010
	3/14/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.052**	<0.005	<0.005	<0.010
	9/13/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.018**	<0.005	<0.005	<0.010
	3/19/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.043**	<0.005	<0.001	<0.010
MW-11S (MW-3 SE)	5/28/2003	<0.005	NA	NA	<0.005	**0.0050**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	10/22/2003	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA
	8/13/2004	<0.005	<0.010	<0.020	<0.005	**0.0084**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	3/8/2005	<0.005	<0.010	**0.180**	<0.005	**0.0062**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	6/1/2006	<0.005	<0.050	<0.050	<0.005	**0.0070**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/30/2007	<0.005	<0.050	<0.050	<0.005	**0.018**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/23/2010	<0.005	<0.050	<0.050	<0.005	**0.018**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
Type I & 3 Risk Reduction Standard		**0.005**	**2.000**	**4.000**	**0.005**	**0.100**	**0.070**	**Not Applicable**	**0.005**	**1.000**	**0.005**	**10.000**

All concentrations listed in mg/L
HIGHLIGHTED RESULTS EXCEED TYPE 1 RRS
Sampling: 2000 by Rindt-McDuff; 2002-2003 by Pyramid;
2004-2010 by Peachtree Environmental
2011-current by SEA

TABLE 2

Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
Historic Groundwater Analytical Results Summary

Location	Date Sampled	1,1,2-Trichloroethane	2-Butonone	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Methyl tert-butyl ether	Tetrachloroethene	Toluene	Trichloroethene	Total Xylenes
MW-12S	5/28/2003	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
(MW-1 S)	3/8/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/30/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/23/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
MW-13S	12/30/2002	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
(SMW-11)	3/9/2004	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005
	3/8/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	6/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/30/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/23/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	2/28/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/13/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/12/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/11/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/19/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	**0.0051**	<0.001	<0.005	<0.001	<0.010
MW-14S	5/28/2003	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA
(MW-1 N2)	10/22/2003	NA	NA	NA	NA	<0.005	<0.005	<0.005	NA	NA	<0.005	<0.005
	3/8/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	6/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	5/30/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/23/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	2/28/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/13/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.011**	<0.005	<0.005	<0.010
resample	9/23/2011	NA	NA	NA	NA	NA	<0.005	NA	**0.011**	NA	<0.005	NA
	9/12/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.0050**	<0.005	<0.005	<0.010
	3/19/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0019**	<0.005	<0.001	<0.010
MW-15S	2/21/2000	<0.005	NA	NA	<0.005	NA	BRL	BRL	**0.110**	<0.005	BRL	BRL
(MW-2)	7/20/2000	<0.005	NA	NA	<0.005	<0.005	**0.045**	<0.005	**0.135**	<0.005	<0.005	<0.005
	2/12/2003	<0.005	NA	NA	<0.005	NA	NA	<0.005	NA	<0.005	NA	<0.005
	2/21/2003	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	**0.1350**	<0.005	<0.005	<0.005
	3/9/2004	<0.005	<0.010	<0.020	<0.005	**0.0065**	**0.045**	<0.005	**4.300**	<0.005	**0.058**	<0.005
	8/13/2004	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**1.000**	<0.005	**0.017**	<0.010
	3/9/2005	<0.005	<0.010	**0.033**	<0.005	<0.005	<0.005	<0.005	**0.500**	<0.005	**0.0083**	<0.010
	11/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.800**	<0.005	**0.012**	<0.010
	6/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0057**	<0.005	**0.950**	<0.005	**0.013**	<0.010
	11/29/2006	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.130**	<0.005	<0.005	<0.010
	5/31/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.260**	<0.005	<0.005	<0.010
	3/23/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.430**	<0.005	<0.005	<0.010
	3/2/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.490**	<0.005	<0.005	<0.010
	9/13/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.450**	<0.005	<0.005	<0.010
	3/13/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.290**	<0.005	<0.005	<0.010
	9/12/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.340**	<0.005	<0.005	<0.010
	3/18/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.025**	<0.005	<0.001	<0.010
Type I & 3 Risk Reduction Standard		**0.005**	**2.000**	**4.000**	**0.005**	**0.100**	**0.070**	**Not Applicable**	**0.005**	**1.000**	**0.005**	**10.000**

All concentrations listed in mg/L
HIGHLIGHTED RESULTS EXCEED TYPE 1 RRS
Sampling: 2000 by Rindt-McDuff; 2002-2003 by Pyramid;
2004-2010 by Peachtree Environmental
2011-current by SEA

TABLE 2

Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
Historic Groundwater Analytical Results Summary

Location	Date Sampled	1,1,2-Trichloroethane	2-Butonone	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Methyl tert-butyl ether	Tetrachloroethene	Toluene	Trichloroethene	Total Xylenes
MW-16S	2/4/2003	<0.005	NA	NA	<0.005	NA	NA	<0.005	NA	<0.005	NA	<0.005
(SMW-23)	2/12/2003	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	**0.1860**	<0.005	<0.005	<0.005
	3/10/2004	NA	NA	NA	NA	<0.005	<0.005	<0.005	**0.440**	NA	**0.0051**	<0.005
	8/13/2004	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.350**	<0.005	<0.005	<0.010
	3/9/2005	<0.005	<0.010	**1.600**	<0.005	<0.005	<0.005	<0.005	**0.230**	<0.005	**0.0055**	<0.010
	8/31/2005	<0.005	<0.050	<0.050	<0.005	**0.0052**	**0.0092**	<0.005	**0.520**	<0.005	**0.0077**	<0.010
	9/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.019**	<0.005	**0.960**	<0.005	**0.019**	<0.010
	10/31/2005	<0.005	<0.050	<0.050	<0.005	**0.0051**	**0.0089**	<0.005	**0.700**	<0.005	**0.0088**	<0.010
	11/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.012**	<0.005	**0.670**	<0.005	**0.012**	<0.010
	1/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.013**	<0.005	**0.610**	<0.005	**0.011**	<0.010
	6/2/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.014**	<0.005	**0.810**	<0.005	**0.014**	<0.010
	11/29/2006	<0.005	<0.010	<0.020	<0.005	<0.005	**0.0072**	<0.005	**0.500**	<0.005	**0.0081**	<0.010
	6/1/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.240**	<0.005	<0.005	<0.010
	8/21/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.190**	<0.005	<0.005	<0.010
	10/26/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.160**	<0.005	<0.005	<0.010
	8/18/2008	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.120**	<0.005	<0.005	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.240**	<0.005	<0.005	<0.010
	3/2/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.390**	<0.005	<0.005	<0.010
	9/14/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.390**	<0.005	<0.005	<0.010
	3/12/2012	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0050**	<0.005	**0.560**	<0.005	**0.0072**	<0.010
	9/12/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.280**	<0.005	<0.005	<0.010
	3/19/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.170**	<0.005	**0.0014**	<0.010
MW-17S	12/31/2002	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	**0.1510**	<0.005	<0.005	<0.005
(SMW-14)	3/10/2004	<0.005	<0.010	<0.020	<0.005	**0.0064**	<0.005	<0.005	**0.190**	<0.005	<0.005	<0.005
	8/13/2004	<0.005	<0.010	**0.028**	<0.005	**0.013**	<0.005	<0.005	**0.110**	<0.005	<0.005	<0.010
	3/9/2005	<0.005	<0.010	**0.028**	<0.005	**0.020**	<0.005	<0.005	**0.071**	<0.005	<0.005	<0.010
	8/31/2005	<0.005	<0.050	<0.050	<0.005	**0.017**	<0.005	<0.005	**0.041**	<0.005	<0.005	<0.010
	9/29/2005	<0.005	<0.050	<0.050	<0.005	**0.018**	<0.005	<0.005	**0.082**	<0.005	<0.005	<0.010
	10/31/2005	<0.005	<0.050	<0.050	<0.005	**0.026**	<0.005	<0.005	**0.073**	<0.005	<0.005	<0.010
	11/29/2005	<0.005	<0.050	<0.050	<0.005	**0.015**	<0.005	<0.005	**0.072**	<0.005	<0.005	<0.010
	1/31/2006	<0.005	<0.050	<0.050	<0.005	**0.017**	<0.005	<0.005	**0.084**	<0.005	<0.005	<0.010
	6/2/2006	<0.005	<0.050	<0.050	<0.005	**0.015**	<0.005	<0.005	**0.087**	<0.005	<0.005	<0.010
	11/29/2006	<0.005	<0.010	<0.020	<0.005	**0.011**	<0.005	<0.005	**0.034**	<0.005	<0.005	<0.010
	5/31/2007	<0.005	<0.050	<0.050	<0.005	**0.011**	<0.005	<0.005	**0.032**	<0.005	<0.005	<0.010
	8/21/2007	<0.005	<0.050	<0.050	<0.005	**0.010**	<0.005	<0.005	**0.035**	<0.005	<0.005	<0.010
	10/26/2007	<0.005	<0.050	<0.050	<0.005	**0.0089**	<0.005	<0.005	**0.072**	<0.005	<0.005	<0.010
	8/18/2008	<0.005	<0.050	<0.050	<0.005	**0.0089**	<0.005	<0.005	**0.047**	<0.005	<0.005	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	**0.0084**	<0.005	<0.005	**0.035**	<0.005	<0.005	<0.010
	2/28/2011	<0.005	<0.050	<0.050	<0.005	**0.0083**	<0.005	<0.005	**0.086**	<0.005	<0.005	<0.010
	3/15/2012	<0.005	<0.050	<0.050	<0.005	**0.0080**	<0.005	<0.005	**0.150**	<0.005	<0.005	<0.010
	9/11/2012	<0.005	<0.050	<0.050	<0.005	**0.012**	<0.005	<0.005	**0.140**	<0.005	<0.005	<0.010
	3/19/2014	<0.005	<0.050	<0.050	<0.005	**0.010**	<0.001	<0.005	**0.110**	<0.005	<0.001	<0.010
Type I & 3 Risk Reduction Standard		**0.005**	**2.000**	**4.000**	**0.005**	**0.100**	**0.070**	**Not Applicable**	**0.005**	**1.000**	**0.005**	**10.000**

All concentrations listed in mg/L
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Location	Date Sampled	1,1,2-Trichloroethane	2-Butonone	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Methyl tert-butyl ether	Tetrachloroethene	Toluene	Trichloroethene	Total Xylenes
MW-18S (SMW-2b)	7/29/2002	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	**0.3730**	<0.005	<0.005	<0.005
	3/9/2004	<0.005	<0.010	<0.020	<0.005	<0.005	**0.011**	<0.005	**0.870**	<0.005	**0.014**	<0.005
	8/13/2004	<0.005	<0.010	<0.020	<0.005	<0.005	**0.015**	<0.005	**1.200**	<0.005	**0.019**	<0.010
	3/9/2005	<0.005	<0.010	<0.020	<0.005	<0.005	**0.012**	<0.005	**1.000**	<0.005	**0.017**	<0.010
	8/31/2005	<0.005	<0.050	<0.050	<0.005	**0.0067**	**0.011**	<0.005	**0.740**	<0.005	**0.013**	<0.010
	9/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0091**	<0.005	**0.790**	<0.005	**0.012**	<0.010
	10/31/2005	<0.005	<0.050	<0.050	<0.005	**0.0085**	**0.014**	<0.005	**0.730**	<0.005	**0.014**	<0.010
	11/29/2005	<0.005	<0.050	<0.050	<0.005	**0.0057**	**0.013**	<0.005	**0.900**	<0.005	**0.014**	<0.010
	6/2/2006	<0.005	<0.050	<0.050	<0.005	**0.0061**	**0.0071**	<0.005	**0.700**	<0.005	**0.010**	<0.010
	11/29/2006	<0.005	<0.010	<0.020	<0.005	**0.014**	**0.017**	<0.005	**0.870**	<0.005	**0.019**	<0.010
	6/1/2007	<0.005	<0.050	<0.050	<0.005	**0.0092**	**0.040**	<0.005	**1.300**	<0.005	**0.024**	<0.010
	8/21/2007	<0.005	<0.050	<0.050	<0.005	**0.011**	**0.018**	<0.005	**0.830**	<0.005	**0.018**	<0.010
	10/26/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.680**	<0.005	<0.005	<0.010
	8/18/2008	<0.005	<0.050	<0.050	<0.005	**0.0092**	**0.0054**	<0.005	**0.290**	<0.005	**0.0074**	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.043**	<0.005	<0.005	<0.010
	3/3/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.310**	<0.005	<0.005	<0.010
	9/14/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.280**	<0.005	<0.005	<0.010
	3/15/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.140**	<0.005	<0.005	<0.010
	9/13/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.370**	<0.005	<0.005	<0.010
	3/19/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0055**	<0.005	<0.001	<0.010
MW-19S (SMW-6)	8/7/2002	<0.005	NA	NA	<0.005	<0.005	**0.0050**	<0.005	**0.1450**	<0.005	<0.005	<0.005
	3/9/2004	<0.005	<0.010	<0.020	<0.005	**0.0054**	**0.0082**	<0.005	**0.560**	<0.005	**0.0059**	<0.005
	8/13/2004	<0.005	<0.010	<0.020	<0.005	<0.005	**0.0054**	<0.005	**0.380**	<0.005	<0.005	<0.010
	3/9/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.540**	<0.005	**0.0081**	<0.010
	6/21/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.350**	<0.005	**0.0064**	<0.010
	7/28/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.310**	<0.005	**0.0074**	<0.010
	8/31/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.440**	<0.005	**0.0071**	<0.010
	9/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.570**	<0.005	**0.0094**	<0.010
	10/31/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0071**	<0.005	**0.560**	<0.005	**0.012**	<0.010
	11/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0060**	<0.005	**0.660**	<0.005	**0.011**	<0.010
	6/2/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0069**	<0.005	**0.730**	<0.005	**0.014**	<0.010
	7/13/2006	<0.005	**0.046**	**0.062**	**0.0020**	<0.005	**0.038**	<0.005	**0.230**	**1.500**	**0.0089**	<0.010
	9/22/2006	<0.005	<0.050	<0.050	<0.005	**0.0056**	**0.034**	<0.005	**0.570**	<0.005	**0.130**	<0.010
	11/29/2006	<0.005	<0.010	<0.020	<0.005	**0.0063**	**0.130**	<0.005	**0.350**	<0.005	**0.050**	<0.010
	1/23/2007	<0.005	<0.050	<0.050	<0.005	**0.0072**	**0.095**	<0.005	**0.460**	<0.005	**0.063**	<0.010
	6/1/2007	<0.005	<0.050	<0.050	<0.005	**0.0070**	**0.024**	<0.005	**0.530**	<0.005	**0.020**	<0.010
	8/21/2007	**0.014**	<0.050	<0.050	<0.005	**0.0066**	**0.0065**	<0.005	**0.400**	<0.005	**0.015**	<0.010
	10/26/2007	<0.005	<0.050	<0.050	<0.005	**0.011**	**0.016**	<0.005	**0.740**	<0.005	**0.016**	<0.010
	8/18/2008	<0.005	<0.050	<0.050	<0.005	**0.0074**	**0.016**	<0.005	**0.210**	<0.005	**0.0063**	<0.010
	11/11/2008	<0.005	<0.050	<0.050	<0.005	**0.012**	**0.0066**	<0.005	**0.510**	<0.005	**0.010**	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0077**	<0.005	**0.018**	<0.005	**0.013**	<0.010
	3/2/2011	<0.005	<0.050	<0.050	<0.005	<0.005	**0.013**	<0.005	**0.052**	<0.005	**0.0051**	<0.010
	9/15/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0051**	<0.010
	3/14/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/13/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/18/2014	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0035**	<0.005	**0.032**	<0.005	**0.0022**	<0.010
Type I & 3 Risk Reduction Standard		**0.005**	**2.000**	**4.000**	**0.005**	**0.100**	**0.070**	**Not Applicable**	**0.005**	**1.000**	**0.005**	**10.000**

All concentrations listed in mg/L
HIGHLIGHTED RESULTS EXCEED TYPE 1 RRS
Sampling: 2000 by Rindt-McDuff; 2002-2003 by Pyramid;
2004-2010 by Peachtree Environmental
2011-current by SEA

TABLE 2

Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
Historic Groundwater Analytical Results Summary

Location	Date Sampled	1,1,2-Trichloroethane	2-Butonone	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Methyl tert-butyl ether	Tetrachloroethene	Toluene	Trichloroethene	Total Xylenes
MW-20S	10/22/2003	NA	NA	NA	NA	<0.025	NA	<0.005	NA	NA	NA	<0.025
(SMW-6 SW2)	8/13/2004	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.410**	<0.005	**0.0091**	<0.010
	3/9/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.330**	<0.005	**0.0092**	<0.010
	6/21/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.370**	<0.005	**0.0076**	<0.010
	7/28/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.350**	<0.005	**0.010**	<0.010
	11/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.370**	<0.005	**0.0083**	<0.010
	3/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.039**	<0.005	**0.330**	**0.430**	**0.0096**	<0.010
	6/2/2006	<0.005	**0.055**	**0.076**	<0.005	<0.005	**0.036**	<0.005	**0.320**	**0.850**	**0.0083**	<0.010
	7/13/2006	<0.005	<0.050	<0.050	<0.005	**0.0059**	**0.0067**	<0.005	**0.600**	**0.014**	**0.013**	<0.010
	9/22/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.031**	<0.005	**0.450**	**0.200**	**0.012**	<0.010
	11/29/2006	<0.005	<0.010	<0.020	<0.005	<0.005	**0.022**	<0.005	**0.390**	**0.019**	**0.0084**	<0.010
	1/23/2007	<0.005	<0.050	<0.050	<0.005	<0.005	**0.029**	<0.005	**0.300**	<0.005	**0.0095**	<0.010
	6/1/2007	<0.005	<0.050	<0.050	<0.005	<0.005	**0.028**	<0.005	**0.720**	<0.005	**0.014**	<0.010
	8/21/2007	**0.026**	<0.050	<0.050	<0.005	<0.005	**0.033**	<0.005	**0.650**	<0.005	**0.016**	<0.010
	10/26/2007	<0.005	<0.050	<0.050	<0.005	<0.005	**0.029**	<0.005	**1.600**	<0.005	**0.023**	<0.010
	8/18/2008	<0.005	<0.050	<0.050	<0.005	**0.0074**	**0.022**	<0.005	**0.700**	<0.005	**0.023**	<0.010
	11/11/2008	<0.005	<0.050	<0.050	<0.005	<0.005	**0.020**	<0.005	**1.700**	<0.005	**0.025**	<0.010
	2/13/2009	<0.005	<0.050	<0.050	<0.005	<0.005	**0.020**	<0.005	**0.190**	<0.005	<0.005	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	**0.018**	<0.005	<0.005	<0.005	**0.0059**	<0.010
	3/2/2011	<0.005	<0.050	<0.050	<0.005	<0.005	**0.012**	<0.005	<0.005	<0.005	<0.005	<0.010
	9/15/2011	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0081**	<0.005	**0.048**	<0.005	<0.005	<0.010
	3/12/2012	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0062**	<0.005	**0.041**	<0.005	<0.005	<0.010
	9/13/2012	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0067**	<0.005	**0.050**	<0.005	<0.005	<0.010
	3/18/2014	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0060**	<0.005	**0.0027**	<0.005	**0.0019**	<0.010
MW-21S	2/28/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/15/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/16/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.035**	<0.005	<0.005	<0.010
	9/13/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.0053**	<0.005	<0.005	<0.010
	3/19/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0048**	<0.005	<0.001	<0.010
MW-1D	3/15/2004	NA	NA	NA	NA	<0.005	<0.005	NA	<0.005	NA	<0.005	NA
	3/24/2004	NA	NA	NA	NA	<0.005	<0.005	NA	<0.005	NA	<0.005	NA
	3/7/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/7/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.0064**	<0.005	<0.005	<0.010
	5/31/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/23/2010	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/2/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/14/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/14/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/12/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/18/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0012**	<0.005	<0.001	<0.010
Type I & 3 Risk Reduction Standard		**0.005**	**2.000**	**4.000**	**0.005**	**0.100**	**0.070**	**Not Applicable**	**0.005**	**1.000**	**0.005**	**10.000**

All concentrations listed in mg/L
HIGHLIGHTED RESULTS EXCEED TYPE 1 RRS
Sampling: 2000 by Rindt-McDuff; 2002-2003 by Pyramid;
2004-2010 by Peachtree Environmental
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Norcross, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
Historic Groundwater Analytical Results Summary

Location	Date Sampled	1,1,2-Trichloroethane	2-Butonone	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Methyl tert-butyl ether	Tetrachloroethene	Toluene	Trichloroethene	Total Xylenes
SW-1	3/2/2004	NA	NA	NA	NA	<0.005	**0.022**	NA	**0.050**	NA	**0.012**	NA
	3/7/2005	<0.005	<0.010	<0.020	<0.005	<0.005	**0.011**	<0.005	**0.031**	<0.005	**0.0059**	<0.005
	6/21/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.056**	<0.005	**0.030**	<0.005	**0.014**	<0.010
	7/28/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.059**	<0.005	**0.020**	<0.005	**0.012**	<0.010
	8/31/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.090**	<0.005	**0.019**	<0.005	**0.011**	<0.010
	9/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.077**	<0.005	<0.005	<0.005	<0.005	<0.010
	11/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.075**	<0.005	**0.018**	<0.005	**0.0095**	<0.010
	2/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.028**	<0.005	**0.031**	<0.005	**0.0089**	<0.010
	3/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.029**	<0.005	**0.032**	<0.005	**0.010**	<0.010
	1/23/2007	<0.005	<0.050	<0.050	<0.005	<0.005	**0.014**	<0.005	**0.041**	<0.005	**0.0083**	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	**0.017**	<0.005	**0.092**	<0.005	**0.0086**	<0.010
	2/25/2011		DRY									
	9/12/2011		DRY									
	3/12/2012		DRY									
	9/10/2012		DRY									
	3/20/2014		DRY									
SW-2	3/5/2004	NA	NA	NA	NA	<0.005	**0.0071**	NA	**0.013**	NA	<0.005	NA
	3/7/2005	<0.005	<0.010	<0.020	<0.005	<0.005	<0.005	<0.005	**0.010**	<0.005	<0.005	<0.005
	6/21/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.020**	<0.005	**0.0092**	<0.005	<0.005	<0.010
	7/28/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.023**	<0.005	**0.0063**	<0.005	<0.005	<0.010
	8/31/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.042**	<0.005	**0.0072**	<0.005	<0.005	<0.010
	9/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.027**	<0.005	<0.005	<0.005	<0.005	<0.010
	11/29/2005	<0.005	<0.050	<0.050	<0.005	<0.005	**0.044**	<0.005	**0.0077**	<0.005	<0.005	<0.010
	2/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.019**	<0.005	**0.018**	<0.005	**0.0050**	<0.010
	3/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	**0.020**	<0.005	**0.016**	<0.005	<0.005	<0.010
	1/23/2007	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0088**	<0.005	**0.022**	<0.005	**0.0051**	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	**0.011**	<0.005	**0.045**	<0.005	**0.0054**	<0.010
	2/25/2011	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0068**	<0.005	**0.014**	<0.005	<0.005	<0.010
	9/12/2011		DRY									
	3/16/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/10/2012		DRY									
	3/20/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0043**	<0.005	<0.001	<0.010
SW-3	3/5/2004	NA	NA	NA	NA	<0.005	<0.005	NA	<0.005	NA	<0.005	NA
	6/21/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	7/28/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	8/31/2005	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	2/1/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/31/2006	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	1/23/2007	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	**0.0072**	<0.005	<0.005	<0.010
	3/24/2010	<0.005	<0.050	<0.050	<0.005	<0.005	**0.0052**	<0.005	**0.019**	<0.005	<0.005	<0.010
	2/25/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/12/2011		DRY									
	3/16/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/10/2012		DRY									
	3/20/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	**0.0015**	<0.005	<0.001	<0.010
SW-4	3/3/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/12/2011		DRY									
	3/12/2012		DRY									
	9/10/2012		DRY									
	3/20/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.001	<0.010
SW-5	2/25/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/16/2011	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	3/19/2012	<0.005	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010
	9/10/2012		DRY									
	3/20/2014	<0.005	<0.050	<0.050	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.001	<0.010
Type I & 3 Risk Reduction Standard		**0.005**	**2.000**	**4.000**	**0.005**	**0.100**	**0.070**	**Not Applicable**	**0.005**	**1.000**	**0.005**	**10.000**

All concentrations listed in mg/L
HIGHLIGHTED RESULTS EXCEED TYPE 1 RRS
Sampling: 2000 by Rindt-McDuff; 2002-2003 by Pyramid;
2004-2010 by Peachtree Environmental
2011-current by SEA

TABLE 3
Spalding Corners Shopping Center
Norcross Park, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
HISTORIC GROUNDWATER ELEVATION SUMMARY

WELL NO.	DATE SAMPLED	GROUND ELEVATION	TOP OF CASING ELEVATION	SCREENED INTERVAL	STATIC WATER LEVEL	GROUND WATER ELEVATION
MW-1S	6/24/2003	not measured	996.93	30-40	not measured	
	3/9/2004				31.16	965.77
	5/30/2006				30.52	966.41
	11/29/2006				34.57	962.36
	5/30/2007				33.29	963.64
	3/22/2010				30.55	966.38
	2/24/2011				33.19	963.74
	9/12/2011				34.03	962.90
	3/12/2012				34.41	962.52
	9/10/2012				35.61	961.32
	3/18/2014				31.35	965.58
MW-2S	6/24/2003	not measured	998.49	35-40	32.60	965.89
	3/9/2004				33.48	965.01
	5/30/2006				32.91	965.58
	11/29/2006				35.92	962.57
	5/31/2007				35.63	962.86
	3/22/2010				32.67	965.82
	2/24/2011				35.53	962.96
	9/12/2011				36.18	962.31
	3/12/2012				36.87	961.62
	9/10/2012				37.88	960.61
	3/18/2014				33.92	964.57
MW-3S	6/24/2003	not measured	990.89	15-25	23.30	967.59
	3/9/2004				25.11	965.78
	5/30/2006				24.33	966.56
	11/29/2006				30.17	960.72
	5/31/2007				28.48	962.41
	3/22/2010				22.44	968.45
	2/24/2011				29.83	961.06
	9/12/2011				30.73	960.16
	3/12/2012				32.52	958.37
	9/10/2012				34.61	956.28
	3/18/2014				25.30	965.59
MW-4S	6/24/2003	not measured	975.94	20-35	19.35	956.59
	3/9/2004				20.97	954.97
	5/30/2006				20.91	955.03
	11/29/2006				25.91	950.03
	6/1/2007				24.54	951.40
	3/22/2010				18.79	957.15
	2/24/2011				24.55	951.39
	9/12/2011				27.42	948.52
	3/12/2012				27.19	948.75
	9/10/2012				27.45	948.49
	3/18/2014				21.89	954.05
MW-5S	6/24/2003	not measured	965.95	25-35	12.80	953.15
	3/9/2004				12.78	953.17
	5/30/2006				13.49	952.46
	11/29/2006				16.94	949.01
	6/21/2007				16.94	949.01
	8/21/2007				18.81	947.14
	10/26/2007				20.21	945.74
	3/22/2010				11.25	954.70
	2/24/2011				15.54	950.41
	9/12/2011	963.34			20.33	945.62
	3/12/2012				17.93	948.02
	9/10/2012				22.05	943.90
	3/18/2014				13.98	951.97

Static water level taken from top of casing (TOC).
Elevations based on March 2004 survey
by Grant Shepherd Associates, Inc.

TABLE 3
Spalding Corners Shopping Center
Norcross Park, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
HISTORIC GROUNDWATER ELEVATION SUMMARY

WELL NO.	DATE SAMPLED	GROUND ELEVATION	TOP OF CASING ELEVATION	SCREENED INTERVAL	STATIC WATER LEVEL	GROUND WATER ELEVATION
MW-6S	6/24/2003	not measured	959.38	5.0-15.0	10.83	948.55
	3/9/2004				11.53	947.85
	5/30/2006				12.52	946.86
	11/29/2006				14.40	944.98
	6/1/2007				14.10	945.28
	3/22/2010				10.71	948.67
	2/24/2011				12.27	947.11
	9/12/2011				18.56	940.82
	3/12/2012				14.31	945.07
	9/10/2012				DRY	
	3/18/2014				12.51	946.87
MW-7S	3/22/2010	not measured	949.56	3.0-8.0	4.55	945.01
	2/24/2011				4.93	944.63
	9/12/2011				DRY	
	3/12/2012				4.92	944.64
	9/10/2012				DRY	
	3/18/2014				4.40	945.16
MW-8S	2/18/2004	not measured	969.45	20-30	24.60	944.85
	3/25/2004				24.30	945.15
	5/30/2006				24.70	944.75
	11/29/2006				26.67	942.78
	5/29/2007				26.10	943.35
	3/22/2010				22.72	946.73
	2/24/2011				25.85	943.60
	9/12/2011				DRY	
	3/12/2012				26.60	942.85
	9/10/2012				29.02	940.43
	3/18/2014				24.59	944.86
MW-9S	6/24/2003	not measured	976.17	31.5-41.5	16.60	959.57
	3/9/2004				16.68	959.49
	5/30/2006				17.39	958.78
	11/29/2006				20.64	955.53
	5/29/2007				20.08	956.09
	3/22/2010				15.53	960.64
	2/24/2011				19.45	956.72
	9/12/2011				22.55	953.62
	3/12/2012				21.29	954.88
	9/10/2012				24.34	951.83
	3/18/2014				17.75	958.42
MW-10S	6/24/2003	not measured	987.32	30-40	not measured	
	3/9/2004				25.77	961.55
	5/30/2006				27.73	959.59
	11/29/2006				28.91	958.41
	6/1/2007				28.45	958.87
	3/22/2010				25.01	962.31
	2/24/2011				28.13	959.19
	9/12/2011				29.83	957.49
	3/12/2012				29.90	957.42
	9/10/2012				31.82	955.50
	3/18/2014				27.02	960.30

Static water level taken from top of casing (TOC).
Elevations based on March 2004 survey
by Grant Shepherd Associates, Inc.

TABLE 3
Spalding Corners Shopping Center
Norcross Park, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
HISTORIC GROUNDWATER ELEVATION SUMMARY

WELL NO.	DATE SAMPLED	GROUND ELEVATION	TOP OF CASING ELEVATION	SCREENED INTERVAL	STATIC WATER LEVEL	GROUND WATER ELEVATION
MW-11S	6/24/2003	not measured	991.13	40-50	27.20	963.93
	3/9/2004				27.06	964.07
	5/30/2006				26.83	964.30
	11/29/2006				29.41	961.72
	5/30/2007				29.38	961.75
	3/22/2010				28.01	963.12
	2/24/2011				29.14	961.99
	9/12/2011				29.76	961.37
	3/12/2012				35.50	955.63
	9/10/2012				31.62	959.51
	3/18/2014				28.39	962.74
MW-12S	6/24/2003	not measured	999.27	41.5-51.5	34.00	965.27
	3/9/2004				34.53	964.74
	5/30/2006				34.15	965.12
	11/29/2006				36.60	962.67
	5/30/2007				36.56	962.71
	3/22/2010				35.00	964.27
	2/24/2011				36.37	962.90
	9/12/2011				36.70	962.57
	3/12/2012				37.82	961.45
	9/10/2012				38.60	960.67
	3/18/2014				35.74	963.53
MW-13S	6/24/2003	not measured	997.91	40-50	32.10	965.81
	3/9/2004				32.48	965.43
	5/30/2006				32.56	965.35
	11/29/2006				34.35	963.56
	5/30/2007				34.48	963.43
	3/22/2010				33.13	964.78
	2/24/2011	998.54			34.22	963.69
	9/12/2011				34.40	963.51
	3/12/2012				35.90	962.01
	9/10/2012				36.26	961.65
	3/18/2014				33.63	964.28
MW-14S	6/24/2003	not measured	999.73	35-45	34.00	965.73
	3/9/2004				34.10	965.63
	5/30/2006				33.58	966.15
	11/29/2006				35.94	963.79
	5/30/2007				35.89	963.84
	3/22/2010				34.38	965.35
	2/24/2011	1000.22			35.78	963.95
	9/12/2011				36.03	963.70
	3/12/2012				37.00	962.73
	9/10/2012				37.69	962.04
	3/18/2014				34.71	965.02
MW-15S	6/24/2003	not measured	999.00	35-55	34.50	964.50
	3/9/2004				34.50	964.50
	11/29/2005				35.33	963.67
	5/30/2006				34.58	964.42
	11/29/2006				37.27	961.73
	5/31/2007				37.10	961.90
	3/22/2010				35.28	963.72
	2/24/2011	999.42			37.05	961.95
	9/12/2011				37.44	961.56
	3/12/2012				38.57	960.43
	9/10/2012				39.35	959.65
	3/18/2014				36.14	962.86

Static water level taken from top of casing (TOC).
Elevations based on March 2004 survey
by Grant Shepherd Associates, Inc.

TABLE 3
Spalding Corners Shopping Center
Norcross Park, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
HISTORIC GROUNDWATER ELEVATION SUMMARY

WELL NO.	DATE SAMPLED	GROUND ELEVATION	TOP OF CASING ELEVATION	SCREENED INTERVAL	STATIC WATER LEVEL	GROUND WATER ELEVATION
MW-16S	6/24/2003	not measured	991.90	38-43	30.10	961.80
	3/10/2004				29.29	962.61
	6/21/2005				28.31	963.59
	7/28/2005				28.71	963.19
	8/11/2005				28.55	963.35
	8/31/2005				28.95	962.95
	9/29/2005				29.39	962.51
	11/29/2005				30.46	961.44
	5/30/2006				29.16	962.74
	11/29/2006				32.20	959.70
	6/1/2007				31.84	960.06
	8/21/2007				32.93	958.97
	10/26/2007				33.63	958.27
	3/22/2010				29.23	962.67
	2/24/2011				31.61	960.29
	9/12/2011				32.74	959.16
	3/12/2012				33.34	958.56
	9/10/2012				34.78	957.12
	3/18/2014				30.72	961.18
MW-17S	6/24/2003	not measured	988.61	36-46	26.34	962.27
	3/10/2004				29.96	958.65
	6/21/2005				30.18	958.43
	7/28/2005				26.22	962.39
	8/11/2005				26.18	962.43
	8/31/2005				26.52	962.09
	9/29/2005				27.06	961.55
	11/29/2005				27.86	960.75
	5/30/2006				26.72	961.89
	11/29/2006				31.01	957.60
	5/31/2007				29.49	959.12
	8/21/2007				30.88	957.73
	10/26/2007				31.76	956.85
	3/22/2010				26.51	962.10
	2/24/2011				29.34	959.27
	9/12/2011				30.91	957.70
	3/12/2012				31.22	957.39
	9/10/2012				33.04	955.57
	3/18/2014				28.28	960.33
MW-18S	6/24/2003	not measured	983.52	23.5-33.5	19.65	963.87
	3/9/2004				20.66	962.86
	3/25/2003				23.27	960.25
	6/21/2005				22.69	960.83
	7/28/2005				23.14	960.38
	8/11/2005				23.23	960.29
	8/31/2005				23.44	960.08
	9/29/2005				24.17	959.35
	11/29/2005				24.82	958.70
	5/30/2006				23.50	960.02
	11/29/2006				27.03	956.49
	6/1/2007				26.26	957.26
	8/21/2007				28.03	955.49
	10/26/2007				29.11	954.41
	3/22/2010				21.81	961.71
	2/24/2011				25.52	958.00
	9/12/2011				28.18	955.34
	3/12/2012				27.19	956.33
	9/10/2012				30.17	953.35
	3/18/2014				23.65	959.87

Static water level taken from top of casing (TOC).
Elevations based on March 2004 survey
by Grant Shepherd Associates, Inc.

TABLE 3
Spalding Corners Shopping Center
Norcross Park, Fulton County, Georgia
HSI No. 10639
SEA Job#102-063
HISTORIC GROUNDWATER ELEVATION SUMMARY

WELL NO.	DATE SAMPLED	GROUND ELEVATION	TOP OF CASING ELEVATION	SCREENED INTERVAL	STATIC WATER LEVEL	GROUND WATER ELEVATION
MW-19S	6/24/2003	not measured	970.84	23-33	12.60	958.24
	3/9/2004				13.23	957.61
	6/21/2005				13.20	957.64
	7/28/2005				13.47	957.37
	8/11/2005				13.25	957.59
	8/31/2005				13.78	957.06
	9/29/2005				14.65	956.19
	10/31/2005				14.92	955.92
	11/29/2005				15.06	955.78
	5/30/2006				14.04	956.80
	11/29/2006				17.07	953.77
	6/1/2007				16.62	954.22
	8/21/2007				18.78	952.06
	10/26/2007				19.92	950.92
	3/22/2010				11.98	958.86
	2/24/2011				15.68	955.16
	9/12/2011				19.44	951.40
	3/12/2012				17.17	953.67
	9/10/2012				21.13	949.71
	3/18/2014				13.28	957.56
MW-20S	3/24/2003	not measured	968.82	15-25	not measured	
	3/9/2004				11.68	957.14
	6/21/2005				11.82	957.00
	7/28/2005				12.00	956.82
	8/11/2005				11.96	956.86
	8/31/2005				12.33	956.49
	9/29/2005				13.22	955.60
	10/31/2005				13.37	955.45
	11/29/2005				13.43	955.39
	5/30/2006				12.60	956.22
	11/29/2006				15.31	953.51
	6/1/2007				15.03	953.79
	8/21/2007				17.12	951.70
	10/26/2007				18.24	950.58
	3/22/2010				10.60	958.22
	2/24/2011				14.04	954.78
	9/12/2011				17.83	950.99
	3/12/2012				15.40	953.42
	9/10/2012				19.48	949.34
	3/18/2014				11.60	957.22
MW-21S	2/7/2011	963.86	964.00	14-29	15.52	948.48
	2/24/2011				18.33	945.67
*	9/12/2011	963.86	967.41		26.81	940.60
	3/12/2012				26.23	941.18
	9/10/2012				29.00	938.41
	3/18/2014				23.11	944.30
MW-1D	5/15/2002	not measured	not measured	98-108	not measured	
	10/22/2003				not measured	
	10/31/2005				not measured	
	3/22/2010				33.56	964.68
	2/24/2011	998.78	998.24		34.67	963.57
	9/12/2011				35.40	962.84
	3/12/2012				36.89	961.35
	9/10/2012				36.58	961.66
	3/18/2014				34.08	964.16

* Elevations of MW-21S measured 9-15-11 based on MW-5S TOC elevation
Revised MW-21S February 2011 ground elevation (970.58) and TOC elevation (970.72) to 9-15-11 ground elevation (963.86).

Static water level taken from top of casing (TOC).
Elevations based on March 2004 survey
by Grant Shepherd Associates, Inc.

Table 4
Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI #10639
SEA Job #102-063
Current MNA Screening Laboratory Results Summary

Location		MW-5S	MW-6S	MW-7S	MW-10S	MW-14S	MW-15S	MW-16S	MW-17S	MW-18S	MW-19S	MW-20S	MW-21S	MW-1D
Sampling Date		3/19/2014	3/18/2014	3/20/2014	3/19/2014	3/19/2014	3/18/2014	3/19/2014	3/19/2014	3/19/2014	3/18/2014	3/18/2014	3/19/2014	3/18/2014
pH	mgL	6.68	5.23	2.28*	6.18	6.25	7.55	10.55	5.84	5.67	5.75	7.01	6.31	12.89*
Dissolved Oxygen	mg/L	3.33	0.92	0.34	3.95	3.83	9.10	5.05	5.99	3.11	0.66	0.34	3.44	0.93
Temperature	deg C	14.95	12.98	13.70	16.63	17.72	17.73	16.48	14.26	12.99	14.25	13.36	14.70	17.25
ORP	mV	41.5	27.7	33.1	73.2	40.5	46.4	-45.5	40	23.5	-2.2	-24.9	45.6	-89.3
DCE	mg/L	**0.0011**	**0.0018**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.0035**	**0.0060**	<0.001	<0.001
PCE	mg/L	**0.048**	**0.0019**	<0.001	**0.043**	**0.0019**	**0.025**	**0.170**	**0.110**	**0.0055**	**0.032**	**0.0027**	**0.0048**	**0.0012**
TCE	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.0014**	<0.001	<0.001	**0.0022**	**0.0019**	<0.001	<0.001
VC	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
TOC	mg/L		<1.00			<1.00	<1.00	<1.00		<1.00	<1.00	<1.00		
Sulfide	mgL		<2.00			<2.00	<2.00	<2.00		<2.00	<2.00	<2.00		
Chloride	mgL		3.8			5.5	6.1	6.2		2.5	5.1	3.0		
Nitrate	mgL		<0.25			3.1	2.7	2.8		0.39	0.39	<0.25		
Nitrite	mgL		<0.25			<0.25	<0.25	<0.25		<0.25	<0.25	<0.25		
Sulfate	mgL		44			<1.0	<1.0	20		<1.0	12	1.4		
Ethane	mgL		<0.009			<0.007	<0.007	<0.007		<0.007	<0.007	<0.007		
Ethene	mgL		<0.007			<0.009	<0.009	<0.009		<0.009	<0.009	<0.009		
Methane	mgL		0.360			<0.004	<0.004	<0.004		<0.004	0.006	0.019		
Iron II	mgL		<0.100			<0.100	<0.500	<0.100		<0.100	<0.100	<0.100		
Iron III	mg/L		3.79			0.850	10.7	0.485		<0.100	<0.100	<0.100		
Total Iron	mg/L		3.79			0.851	10.7	0.485		<0.100	<0.100	<0.100		
CO_2	mg/L													
Alkalinity	mgL													
COD	mg/L													
Sulfite	mg/L													
Natural Attenuation Screening Worksheet Score**			**5**			**3**	**0**	**-2**		**5**	**9**	**10**		

* pH sensor failed

** Natural Attenuation Screening Worksheet Scoring for evidence for anaerobic biodegradation of chlorinated organics: 0 to 5 = Inadequate evidence; 6 to 14 = Limited evidence; 15 to 20 Adequate evidence; >20 = Strong evidence

Table 5
Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI #10639
SEA Job #102-063
Historic MNA Screening Laboratory Results Summary

Location		MW-15S							MW-16S						
Sampling Date		3/9/2004	3/9/2005	3/2/2011**	9/13/2011	3/13/2012	9/12/2012	3/18/2014	3/9/2004	3/9/2005	3/2/2011	9/14/2011	3/12/2012	9/12/2012	3/19/2014
pH	mgL	6.49	Not Recorded	6.97	5.88	5.36	6.70	7.55	7.04	6.13	11.52	11.52	11.98	10.00	10.55
Dissolved Oxygen	mg/L	0.39	Not Recorded	5.71	9.81	5.58	5.35	9.10		6.34	15.80	15.80	10.03	7.05	5.05
Temperature	deg C	19.05	Not Recorded	17.70	21.26	19.60	20.70	17.73	16.82	15.14	16.81	16.81	17.10	18.79	16.48
ORP	mV	175	Not Recorded	15.5	88.0	-13.7	-135.5	46.4		236	-23.0	-23.0	-100.9	-198.5	-45.5
DCE	mg/L	**0.045**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	0.0050	<0.005	<0.001
PCE	mg/L	**4.300**	**0.500**	**0.490**	**0.450**	**0.290**	**0.340**	**0.025**	**0.440**	**0.230**	**0.390**	**0.390**	**0.560**	**0.280**	**0.170**
TCE	mg/L	**0.058**	**0.0083**	<0.005	<0.005	<0.005	<0.005	<0.001	**0.0051**	**0.0055**	<0.005	<0.005	**0.0072**	<0.005	**0.0014**
VC	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001
TOC	mg/L	1.5	<1.0	<1.0	<1.0	<1.0	1.09	<1.00		<1.0	<5.0	1.36	<1.00	<1.00	<1.00
Sulfide	mgL		<1.0		<2.00	<2.00	<2.00	<2.00		<1.0		<2.00	<2.00	<2.00	<2.00
Chloride	mgL				7.1	6.2	5.9	6.1				6.4	<10	6.4	6.2
Nitrate	mgL	1.59	3.3	3.02	3.0	2.6	2.7	2.7		3.6	<12.5	3.2	2.7	3.0	2.8
Nitrite	mgL	<0.250	<0.25		<0.25	<0.25	<0.25	<0.25		<0.25		<0.25	<0.25	<0.25	<0.25
Sulfate	mgL	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0		2.3	552	230	110	81	20
Ethane	mgL		<0.007	<0.007	<0.007	<0.007	<0.007	<0.007		<0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Ethene	mgL		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Methane	mgL	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron II	mgL		Dissolved Fe = <0.100	<1.00	<0.100	<0.100	<0.100	<0.500		Dissolved Fe = <0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Iron III	mg/L				0.955	1.05	5.72	10.7				0.60	0.240	0.187	0.485
Total Iron	mg/L	10.80			0.955	1.05	5.72	10.7				0.60	0.240	0.187	0.485
CO_2	mg/L		79.8							69.6					
Alkalinity	mgL		22.3							28.2					
COD	mg/L			40.0							15.4				
Sulfite	mg/L	<2.00													
Natural Attenuation Screening Worksheet Score ***		**12 (9*)**	**6**	**0**	**0**	**0**	**2**	**0**		**3**	**0**	**-4**	**2**	**-3**	**-2**

* If no Fe II present. Since only Total Fe was analyzed, it was assumed that >1 mg/L Fe II was present.
** Low-flow purging was conducted on 3-1-2011 and was resampled on 3-2-2011.
***Natural Attenuation Screening Worksheet Scoring for evidence for anaerobic biodegradation of chlorinated organics:
0 to 5 = Inadequate evidence; 6 to 14 = Limited evidence; 15 to 20 Adequate evidence; >20 = Strong evidence

Table 5
Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI #10639
SEA Job #102-063

Historic MNA Screening Laboratory Results Summary

Location		MW-17S							MW-18S						
Sampling Date		3/9/2004	3/7/2005	2/28/2011	9/15/2011	3/15/2012	9/11/2012	3/19/2014	3/9/2004	3/7/2005	3/3/2011	9/14/2011	3/15/2012	9/13/2012	3/19/2014
pH	mgL	7.07	6.35	6.78	5.63	5.81	6.87	5.84	6.63	5.79	9.41	9.41	8.19	7.41	5.67
Dissolved Oxygen	mg/L	0.25	8.8	6.50	3.68	4.72	4.90	5.99	0.44	6.93	3.31	3.31	3.72	4.20	3.11
Temperature	deg C	15.31	15.55	16.10	17.67	18.54	17.95	14.26	15.74	15.81	14.70	14.70	17.17	16.74	12.99
ORP	mV	229	242	52.0	71.6	0.8	-84.4	40.0	217	273	-17.1	-17.1	-49.0	-56.9	23.5
DCE	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	**0.011**	**0.012**	<0.005	<0.005	<0.005	<0.005	<0.001
PCE	mg/L	**0.190**	**0.071**	**0.086**	**0.140**	**0.150**	**0.140**	**0.110**	**0.870**	**1.000**	**0.310**	**0.280**	**0.140**	**0.370**	**0.0055**
TCE	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	**0.014**	**0.017**	<0.005	<0.005	<0.005	<0.005	<0.001
VC	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001
TOC	mg/L	<1.0	<1.0		1.89				1.9	<1.0	<5	<1.00	<10.0	<1.00	<1.00
Sulfide	mgL		<1.0		<2.00					<1.0		<2.00	<2.00	<2.00	<2.00
Chloride	mgL				8.3							5.3	7.1	7.3	7.3
Nitrate	mgL	2.41	1.4		1.7				2.24	1.8	<0.250	1.2	1.3	1.7	1.7
Nitrite	mgL	<0.250	<0.25		<0.25				<0.250	<0.25		<0.25	<0.25	<0.25	<0.25
Sulfate	mgL	<1.00	<1.00		1.5				<1.00	<1.0	3.63	1.4	8.8	<1.0	<1.0
Ethane	mgL		<0.007		<0.007					<0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Ethene	mgL		<0.009		<0.009					<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Methane	mgL	<0.004	<0.004		<0.004				<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Iron II	mgL		Dissolved Fe = <0.100		<0.100					Dissolved Fe = <0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Iron III	mg/L				1.11							0.832	0.382	0.320	<0.100
Total Iron	mg/L	9.20			1.11				2.86			0.832	0.382	0.320	<0.100
CO_2	mg/L		69.5							96.8					
Alkalinity	mgL		45.5							31.0					
COD	mg/L										15.4				
Sulfite	mg/L	<2.00							<2.00						
Natural Attenuation Screening Worksheet Score ***		**8 (5*)**	**1**		**2**				**12 (9*)**	**5**	**3**	**2**	**3**	**1**	**5**

* If no Fe II present. Since only Total Fe was analyzed, it was assumed that >1 mg/L Fe II was present.
** Low-flow purging was conducted on 3-1-2011 and was resampled on 3-2-2011.
***Natural Attenuation Screening Worksheet Scoring for evidence for anaerobic biodegradation of chlorinated organics:
0 to 5 = Inadequate evidence; 6 to 14 = Limited evidence; 15 to 20 Adequate evidence; >20 = Strong evidence

Table 5
Spalding Corners Shopping Center
Norcross, Fulton County, Georgia
HSI #10639
SEA Job #102-063

Historic MNA Screening Laboratory Results Summary

Location		MW-19S							MW-20S						
Sampling Date		3/9/2004	3/9/2005	3/2/2011	9/15/2011	3/14/2012	9/13/2012	3/18/2014	3/9/2004	3/9/2005	3/2/2011	9/15/2011	3/12/2012	9/13/2012	3/18/2014
pH	mgL	6.88	5.90	5.24	6.08	6.61	7.05	5.75		5.56	6.40	8.65	7.34	6.85	7.01
Dissolved Oxygen	mg/L	0.50	8.25	0.00	0.46	0.16	1.83	0.66		7.54	0.00	0.50	0.29	1.14	0.34
Temperature	deg C	15.34	15.29	16.11	17.10	17.43	16.94	14.25		14.70	15.32	16.60	15.68	18.46	13.36
ORP	mV	196	262	100.4	243.2	346	-89.8	-2.2		197	-120.7	56.8	41.8	18.0	-24.9
DCE	mg/L	**0.0082**	<0.005	**0.013**	<0.005	<0.005	<0.005	**0.0035**		<0.005	**0.012**	**0.0081**	**0.0062**	**0.0067**	**0.0060**
PCE	mg/L	**0.560**	**0.540**	**0.052**	<0.005	<0.005	<0.005	**0.032**		**0.330**	<0.005	**0.048**	**0.041**	**0.050**	**0.0027**
TCE	mg/L	**0.0059**	**0.0081**	**0.0051**	<0.005	<0.005	<0.005	**0.0022**		**0.0092**	<0.005	<0.005	<0.005	<0.005	**0.0019**
VC	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001		<0.002	<0.002	<0.002	<0.002	<0.002	<0.001
TOC	mg/L	1.8	<1.0	<1.0	<1.00	<5.00	1.48	<1.00		<1.0	<1.0	<1.00	<1.00	<1.00	<1.00
Sulfide	mgL		<1.0		<2.00	<2.00	<2.00	<2.00		<1.0		<2.00	<2.00	<2.00	<2.00
Chloride	mgL				6.2	3.0	3.7	5.1				3.8	4.9	6.3	3.0
Nitrate	mgL	1.52	2.21	0.259	<0.25	<0.25	0.76	0.39		2.0	<0.250	0.42	0.36	1.1	<0.25
Nitrite	mgL	<0.250	<0.25		<0.25	<0.25	<0.25	<0.25		<0.25		<0.25	<0.25	<0.25	<0.25
Sulfate	mgL	<1.00	<1.0	61.0	50	32	170	12		1.1	9.90	43	20	19	1.4
Ethane	mgL		<0.007	<0.007	<0.007	<0.007	<0.007	<0.007		<0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Ethene	mgL		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Methane	mgL	<0.004	<0.004	0.080	0.065	0.020	0.031	0.006		<0.004	0.350	0.140	0.018	0.013	0.019
Iron II	mgL		Dissolved Fe = <0.100	<0.100	<0.100	<0.100	<0.100	<0.100		Dissolved Fe = <0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Iron III	mg/L				<0.100	<0.100	<0.100	<0.100				0.137	0.173	<0.100	<0.100
Total Iron	mg/L	9.95			<0.100	<0.100	<0.100	<0.100				0.137	0.173	<0.100	<0.100
CO_2	mg/L		93.2							100.0					
Alkalinity	mgL		36.1							12.8					
COD	mg/L			15.4							<10.0				
Sulfite	mg/L	<2.00													
Natural Attenuation Screening Worksheet Score ***		**12 (9*)**	**3**	**9**	**5**	**3**	**3**	**9**		**3**	**12**	**7**	**8**	**5**	**10**

* If no Fe II present. Since only Total Fe was analyzed, it was assumed that >1 mg/L Fe II was present.
** Low-flow purging was conducted on 3-1-2011 and was resampled on 3-2-2011.
***Natural Attenuation Screening Worksheet Scoring for evidence for anaerobic biodegradation of chlorinated organics:
0 to 5 = Inadequate evidence; 6 to 14 = Limited evidence; 15 to 20 Adequate evidence; >20 = Strong evidence

APPENDIX 3

GROUNDWATER SAMPLING LOGS

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-55 Date: 3-19-2014

Well Depth: 37.61 TOC Screened Interval / Length: 25-35 / 10 Well Diameter: 2 Casing Type: PVC

Sampling Device (s): YSI 556 MPS/HANNA HI 9803 Turbidimeter Tubing Type: 0.17" poly Water Level: 13.78 ~~13.88~~

Pump Intake Depth: ~~35~~ TOC Pump Type: Geo Pump peristaltic Pumping Rate: 225 ml/min (570)

Other Information: (1520) 175, 18.08

(1527) 175

1500

Sampling Personnel: Rick Rudolph

	± 5%	0.2 mg/L or ± 10%	± 0.1		± 10		per USEPA Region 4 (10-28-2011)	
Time	Temperature (°C/~~°F~~)	Conductivity (~~mS/cm~~ or µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes
1515	14.71	79	3.57	6.61	42.6	10.1	16.77	0.25	
1525	14.79	80	3.41	6.66	41.6	10.6	18.55	0.75	
1530	14.75	79	3.39	6.68	41.6	13.5	19.00	1.1	
1535	14.98	79	3.35	6.70	41.4	12.5	19.95	1.4	
1540	14.94	79	3.35	6.69	41.5	10.1	20.33	1.6	
1545	14.95	79	3.33	6.68	41.5	17.3	20.75	1.75	
1550	Sampled								

Analyses & Time of Sampling: VOCs @ 1550

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Shady Corners

Project Manager: Rudolph Well No: MW-6S Date: 3-18-14

Well Depth: 15 Screen Length: 10 Well Diameter: 2 Casing Type: PVC

Sampling Device: YSI Hand Tubing Type: 0.17 ID Water Level: 12.55

Measuring Point: _____ Pump/Pumping Rate: 200ML Per Min

Other Information: Peristaltic

Sampling Personnel: _____

Time	pH (.10 ± 0.01)	Conductivity (µS/cm) (± 3%)	Turbidity (NTU) (.2 or ± 10%)	Dissolved Oxygen (mg/L) (± 10%)	Temperature (°C/°F)	ORP (mV) (~~± 10%~~)		Notes
								WT
0	5.64	172	49.8	1.60	12.81	-37	½ Gal	13:45
10	5.49	177	31.4	1.82	12.69	13.9	.75	13:50
20	5.42	181	30.5	1.55	12.65	30.4	1.25	13:60
30	5.32	189	28.7	1.58	12.75	41.9	1.75	13:65
40	5.43	188	26.2	1.42	12.78	38.0	2.25	13:70
45	5.23	187	25.4	.94	12.88	21.0	~~2.50~~	13:70
50	5.23	190	21.7	.92	12.98	27.7	~~2.75~~	13:75
Sampled @ 13:15								

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-7S Date: 3-20-2014

Well Depth: 11.14 TOC Screened Interval / Length: 3-8 / 5 Well Diameter: 2" Casing Type: PVC

Sampling Device (s): YSI 556 mps/Hanna HI 98703 turbidimeter Tubing Type: 0.17" ID poly Water Level: TOC 4.40 4.56

Pump Intake Depth: TOC 9.5 Pump Type: GeoTech Geopump Peristaltic Pumping Rate: 200 ml/min

Other Information:

Sampling Personnel: Rick Rudolph

Time	Temperature (°C/~~°F~~) ± 5%	Conductivity (~~mS/cm or~~ µS/cm) 0.2 mg/L or ± 10%	Dissolved Oxygen (mg/L) ± 0.1	pH*	ORP (mV) ± 10	Turbidity (NTU)	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes
1555	14.07	104	3.02↓	-1.55↑	43.0	16.1	4.76	0.25	
1600	13.82	93	~~[illegible]~~ ↓	0.22↑	36.5	9.05	4.77	0.5	
1605	13.86	91	0.84	1.26	34.2	8.41	4.77	0.7	
1610	13.71	90	0.58	1.76	33.1	7.24	4.77	1.0	
1615	13.71	90	0.45	1.96	33.1	8.14	4.78	1.25	
1620	13.64	90	0.38	2.16	32.9	8.00	4.78	1.50	
1625	13.70	89	0.34	2.28	33.1	7.91	4.77	1.75	
1630	Sampled							2.0	Total

per USEPA Region 4 (10-28-2011)

Analyses & Time of Sampling: VOCs @1630 *pH readings bad (bad sensor)

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-10S Date: 3-19-14

Well Depth: 40 Screen Length: 10' Well Diameter: 2" Casing Type: PVC

Sampling Device: YSI/Hanna Tubing Type: ~~1/4~~ ID Water Level: 26.97

Measuring Point: 38' Pump/Pumping Rate: 300 mL/min

Other Information: Bladder Pump

Sampling Personnel: _____

Time	pH	Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C/°F)	ORP (mV)	water level (TOC)	Gal Purged	Notes
	± 0.~~10~~	±~~5~~%	± 10	.2mg/L ± 10%		± 10%			
0	6.51	117	692	5.22	16.49	104.3	~~27~~.15	.25	
10	6.26	101	227	4.51	16.60	~~85~~.8	27.15	.75	
20	6.21	84	101	4.04	16.66	80.6	27.15	1.5	
30	6.25	85	80	~~4~~.00	16.72	~~75~~.5	27.15	2.0	
35	6.18	87	65	3.95	16.63	73.2	27.15	2.5	
Sampled:		15:~~4~~0							

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-13S Date: 3-19-14

Well Depth: 50 Screen Length: 10 Well Diameter: 2" Casing Type: PVC

Sampling Device: YSI / Hanna Tubing Type: ¼ I.D Water Level: 33.63

Measuring Point: _____ Pump/Pumping Rate: _____

Other Information: Bladder Pump

Sampling Personnel: _____

Time	pH (± 0.10)	Conductivity (µS/cm) (±5%)	Turbidity (NTU) (± 10)	Dissolved Oxygen (mg/L) (±0.2mg/L or ± 10%)	Temperature (°C/°F)	ORP (mV) (± 10%)	water level (TOC)	Gal Purged	Notes
0	7.97	223	~~test~~	5.58	20.5	43.7	34.11	2.5	
10	7.65	199	~~test~~	6.11	20.24	23.4	34.16	3.5	
15	7.50	190	—	6.36	20.21	21.2	34.14	4.5	
20	7.49	188		6.36	20.40	17.0	34.18	5.0	
25	7.49	186		6.36	20.29	10.1	34.19	5.5	
Sampled	17:45								

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-145 Date: 3-19-2014

Well Depth: 45 Screened Interval / Length: 35-45 / 10 Well Diameter: 2" Casing Type: PVC

Sampling Device (s): YSI 556 MPS / Hanna HI 98703 Tubing Type: 3/8" poly Water Level: ~~34.71~~ 34.68

Pump Intake Depth: 40.5' Pump Type: GeoTech GeoControl Pro Bladder Pumping Rate: 300 ml/min 39.9

Other Information: 930

Sampling Personnel: RICK RUDOLPH

	± 5%	0.2 mg/L or ± 10%	± 0.1		± 10		per USEPA Region 4 (10-28-2011)	
Time	Temperature (°C/°F)	Conductivity ~~(mS/cm or~~ µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes
945	17.34	93	4.76	7.64	43.3	106	35.0+	0.85	
955	17.61	89	3.92	6.83	38.3	55.8	35.10	1.6	
1000	17.74	87	3.85	6.52	38.0	37.5	35.10	2.0	
1005	17.76	86	3.84	6.35	39.4	26.4	35.14	2.4	
1010	17.76	85	3.82	6.30	39.9	26.3	35.15	2.8	
1015	17.72	84	3.83	6.25	40.5	21.9	35.15	3.2	
1020	sampled								

Analyses & Time of Sampling: VOCs + NA Parameters @ 1020

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: SPALDING CORNERS

Project Manager: [signature] Well No: MW-15S Date: 3-18-2014

Well Depth: 55 Screened Interval / Length: 35-55 / 20 Well Diameter: 2" Casing Type: PVC

Sampling Device (s): YSI 556 MPS / Hanna HI 98703 turbidimeter Tubing Type: 3/8" poly Water Level: 36.14 TOC 3611

Pump Intake Depth: 45 Pump Type: Geotech GeoControl Pro Bladder Pumping Rate: 240 ml/min

Other Information: 1519 300ml/m 1 gal 36.5

1455 begin

Sampling Personnel: RICK RUDOLPH

Time	Temperature (°C/°F)	Conductivity (mS/cm or µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes
		± 5%	0.2 mg/L or ± 10%	± 0.1		± 10			per USEPA Region 4 (10-28-2011)
1525	17.67	88	4.61	8.23	46.7	957	36.7	1.5	
1535	17.49	85	8.54	7.74	42.6	584	36.2	2.0	
1545	17.77	85	8.68	7.57	44.2	423	36.2	2.5	
1550	17.72	85	8.68	7.52	45.1	334	36.2	3.0	
1555	17.66	85	9.17	7.56	46.4	317	36.2	3.25	
1600	17.67	85	9.08	7.54	46.4	314	36.2	3.5	
1605	17.73	85	9.10	7.55	46.4	339	36.2	3.75	
1610	sampled								

Analyses & Time of Sampling: VOCs + NA parameters @ 1610

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-16S Date: 3-19-14

Well Depth: 43 Screen Length: 5 Well Diameter: 2" Casing Type: PVC

Sampling Device: YSI/Horiba Tubing Type: 1/4 OD Water Level: _____

Measuring Point: 41 Pump/Pumping Rate: 275 mL/MIN

Other Information: _____

Sampling Personnel: _____

Time	pH (± 0.1)	Conductivity (µS/cm) (± 3%)	Turbidity (NTU) (± 10)	Dissolved Oxygen (mg/L) (± 10%)	Temperature (°C/°F)	ORP (mV) (± 10%)	WT	Notes Gal
0	10.44	556	60.2	4.86	16.26	-29.1	34.65	1
10	10.44	534	34.5	5.03	16.44	-35.6	34.70	1.5
20	10.51	518	21.6	5.00	16.47	-42	34.85	2.0
30	10.55	512	20.7	5.05	16.48	-45.5	34.90	2.5
Sampled		14.00						

Sailors Engineering Associates, Inc
Groundwater Sampling Log

Project No: 182-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-17S Date: 3-19-14

Well Depth: 48.55 Screen Length: 10' Well Diameter: 2" Casing Type: PVC

Sampling Device: YSI/Horiba Tubing Type: .17" ID Water Level: 29.81

Measuring Point: _____ Pump/Pumping Rate: _____

Other Information: _____

Time	±.1 pH	5% Conductivity (µS/cm)	10% Turbidity (NTU)	10% Dissolved Oxygen (mg/L)	Temperature (°C/°F)	ORP (mV)	WT	Notes (Gal)
0	6.02	113	25.40	5.86	14.88	80.5	29.75	.25
10	6.23	108	18.1	6.91	13.05	53.4	29.80	.5
20	6.01	108	14.2	7.16	13.23	52.4	29.80	.75
30	5.96	108	12.7	6.13	12.65	49.1	29.75	1.0
40	5.88	109	18.5	5.89	13.87	42.2	29.75	1.25
45	5.84	109	18.8	5.99	14.26	40.0	29.75	
Sampled	11:50							

Sampling Personnel: _____

+/_ 0.1 3% 10% 10% 10%

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-18S Date: 3-19-14

Well Depth: 33.5 Screen Length: 10' Well Diameter: 2" Casing Type: PVC

Sampling Device: YSI / Hanna Tubing Type: .17' Water Level: 23.75

Measuring Point: Pump/Pumping Rate: 250mL/min

Other Information:

Sampling Personnel:

	± 0.01	± 3%	± 10	± 10%		± 10%			
Time	pH	Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C/°F)	ORP (mV)	WT	Gal	Notes
0	5.29	63	1.21	5.96	13.25	86.5	23.75	.5	
10	4.96	74	2.11	4.86	13.23	81.0	23.75	1.0	
20	6.36	83	1.65	4.52	12.85	618	23.75	1.75	
30	6.36	84	1.11	4.99	12.85	504	23.75	2.25	
40	5.28	94	1.10	4.56	12.99	50.1	23.75	2.65	
45	5.60	92	.95	3.13	12.91	30.9	23.75	3.0	
50	5.67	98	.96	3.11	12.99	23.5	23.75	3.15	
Sampled	10:15								

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 162-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-19S Date: 3-18-14

Well Depth: 33 Screen Length: 10 Well Diameter: 2 Casing Type: PVC

Sampling Device: YSI / Hanna Tubing Type: .17 ID Water Level: 13.28

Measuring Point: Pump/Pumping Rate: 200mL/min

Other Information:

Sampling Personnel:

	± 0.10	±5%	± 10	.2mg/L ± 10%		± 10%			
Time	pH	Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C/°F)	ORP (mV)	water Level (TOC)	Gal Purged	Notes
0	5.90	138	12.5	.69	14.19	1.1	13.45	.75	
10	5.80	141	10.4	.71	14.22	-1.8	13.50	1.5	
20	5.75	141	9.7	.68	14:25	-3.4	13.50	2.0	
25	5.75	141	10.2	.66	14:25	-2.2	13.50	2.5	
Sampled		15:00							

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 162-063 Project Name: Spalding Corners

Project Manager: Rudolph Well No: MW-20S Date: 3-18-14

Well Depth: 28 Screen Length: 15-25 Well Diameter: 2 Casing Type: PVC

Sampling Device: YSI/Hanna Tubing Type: .17ID Water Level: 11.6

Measuring Point: TOC Pump/Pumping Rate: 225ml/min

Other Information: Peristaltic

Sampling Personnel:

	± ~~0.1~~ 0.10	±~~3~~5%	± 10	.20r ~~± 10%~~		± 10%		
Time	pH	Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C/°F)	ORP (mV)	wt Gal Purged	Notes
0	7.18	334	7.8	.35	13.10	-19.0	11.75	1.0
5	7.16	335	5.4	.36	13.24	-25.6	11.75	1.25
10	7.03	333	4.8	.36	13.37	-24.6	11.78	1.65
15	7.01	333	4.75	.34	13.36	-24.9	11.77	1.85
Sampled -	16:00							

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: SPALDING CORNERS

Project Manager: Rudolph Well No: MW-21S Date: 3-19-2014

Well Depth: 29 Screened Interval / Length: 14-29 / 15 Well Diameter: 2" Casing Type: PVC

Sampling Device (s): YSI 556 MPS / Hanna HI 98703 Turbidimeter Tubing Type: 0.17" poly Water Level: 23.11 23.82

Pump Intake Depth: 28 TOC Pump Type: Geopump Pumping Rate: 210 ml/min

Other Information: 1350 / 175 ml/min

1335 1405 / 150 ml/min

Sampling Personnel: Rick Rudolph

± 5% 0.2 mg/L or ± 10% ± 0.1 ± 10 per USEPA Region 4 (10-28-2011)

Time	Temperature (°C/°F)	Conductivity (mS/cm or µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes
1340	15.03	69	4.95	5.63	57.2	6.72	23.49	0.25	
1345	14.88	67	4.03	6.05	52.7	5.40	23.56	0.5	
1350	14.65	67	3.83	6.17	51.1	5.89	23.59	0.75	V
1355	15.15	66	3.67	6.24	49.3	4.53	23.63	1.0	
1400	14.80	67	3.73	6.22	48.2	4.81	23.66	1.2	V
1405	14.86	67	3.66	6.26	47.3	5.54	23.67	1.3	
1410	14.75	68	3.58	6.32	46.4	4.85	23.68	1.5	
1415	14.55	68	3.55	6.37	45.8	4.65	23.69	1.75	
1420	14.70	69	3.44	6.31	45.6	3.90	23.67	1.9	
1425	sampled							2.1	

Analyses & Time of Sampling: VOCs @ 1425

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-0603 Project Name: SPALDING CORNERS

Project Manager: Judge Well No: MW-1D Date: 3-18-20A

Well Depth: 108 Screened Interval / Length: 98-108 / 10 Well Diameter: 2" Casing Type: PVC

Sampling Device (s): YSI 556 MPS / Hanna HI 98703 turbidimeter Tubing Type: 3/8" poly Water Level: 34.08 / 32.49

Pump Intake Depth: 65 Pump Type: GeoTech GeoControl Pro Bladder Pumping Rate: 1821 39.5 375 mL/m 1.5

Other Information: 1800

Sampling Personnel: RICK RUDOLPH

	± 5%	0.2 mg/L or ± 10%	± 0.1		± 10		per USEPA Region 4 (10-28-2011)	
Time	Temperature (°C/°F)	Conductivity (mS/cm or µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes
1830	17.40	370	0.82	16.75	-94.7	2.50	42.2	1.5	
1840	17.35	370	0.65	14.56	-95.2	1.82	45.8	2.5	
1850	17.30	369	0.66	13.87	-95.2	—	47.2	3.0	
1900	17.20	366	0.78	13.40	-93.6	—	49.6	3.5	
1905	17.31	366	0.85	13.26	-93.1	—	50.8	3.75	
1910	17.23	361	0.90	12.98	-90.4	—	52.5	4.25	
1915	17.25	360	0.93	12.89	-89.3	—	53.0	4.50	
sampled @ 1920									

Analyses & Time of Sampling: VOCs @ 1720 * had sensor

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Spalding Corners

Project Manager: Rudolf Well No: SW-2 Date: 3-20-2014

Well Depth: N/A Screened Interval / Length: NA / NA Well Diameter: NA Casing Type: NA

Sampling Device (s): YSI 556 MPS / Hanna HI 98703 Turbidimeter Tubing Type: 0.17" poly Water Level: NA

Pump Intake Depth: NA Pump Type: GeoTech Geopump Peristaltic Pumping Rate: 200 ml/min

Other Information: SURFACE WATER

1707

Sampling Personnel: RICK RUDOLF

± 5% 0.2 mg/L or ± 10% ± 0.1 ± 10 per USEPA Region 4 (10-28-2011)

Time	Temperature (°C/°F)	Conductivity (mS/cm or µS/cm)	Dissolved Oxygen (mg/L)	pH*	ORP (mV)	Turbidity (NTU)	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes
1710	14.49	192	2.96	6.85	45.9	10.1	NA	0.1	
1715	14.20	191	2.88	6.57	47.0	8.95	—	0.3	
1720	14.42	193	2.87	6.21	45.6	10.1	—	0.5	
1725	Sampled							0.7	TOTAL

Analyses & Time of Sampling: VOCs @ 1725 *pH readings bad (bad sensor)

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-068 Project Name: SPALDING CORNERS

Project Manager: [signature] Well No: SW-3 Date: 3-20-2014

Well Depth: N/A Screened Interval / Length: N/A / N/A Well Diameter: N/A Casing Type: N/A

Sampling Device (s): YSI 556MPS / Hanna HI geostu[illegible] Tubing Type: 0.17" in poly Water Level: N/A

Pump Intake Depth: N/A Pump Type: GeoTech Geopump Peristaltic Pumping Rate: 225 ml/min

Other Information: SURFACE WATER

1347

Sampling Personnel: RICK RUDAPH

Time	Temperature (°C/°F) ± 5%	Conductivity (mS/cm or µS/cm) 0.2 mg/L or ± 10%	Dissolved Oxygen (mg/L) ± 0.1	pH*	ORP (mV)	Turbidity (NTU) ± 10	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes per USEPA Region 4 (10-28-2011)
1350	13.41	183	2.92	0.30	57.4	7.63	N/A	0.1	
1355	13.39	183	3.08	1.08	49.9	7.76	—	0.3	
1400	13.34	183	3.21	1.41	49.7	7.53	—	0.6	
1405	SAMPLED								

Analyses & Time of Sampling: VOCs @ 1405, *pH readings bad (bad sensor)

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: SPALDING CORNERS

Project Manager: Rudolph Well No: SW-4 Date: 3-20-2014

Well Depth: 10.31 TOC Screened Interval / Length: 4 - 9 / 5 Well Diameter: 2" Casing Type: PVC

Sampling Device (s): YSI 556 MPS/Horiba U-52 w/ 3 turbidity Tubing Type: 0.17" ID poly Water Level: 8.11 TOC

Pump Intake Depth: 9.5 Pump Type: GeoTech GeoPump Peristaltic Pumping Rate: 95 mL/min

Other Information:

1237

Sampling Personnel: RICK RUDOLPH

	± 5%	0.2 mg/L or ± 10%	± 0.1		± 10		per USEPA Region 4 (10-28-2011)	
Time	Temperature (°C/°F)	Conductivity (~~mS/cm~~ or µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes
1245	14.40	156	2.21	-0.02	46.4	4.90	9.0	~~0~~ 0.1	
1250	14.93	158	2.24	0.51	46.3	21.3	9.71	0.25	
1255	"recharge"		pump off				9.85		
1300	15.33	154	2.49	0.80	46.5	—	9.96	~~0~~ 0.40	
1300	Sampled							0.5	TOTAL

Analyses & Time of Sampling: VOCs @ 1300 * pH readings bad * bad sensor

Sailors Engineering Associates, Inc
Low Flow Groundwater Sampling Log

Project No: 102-063 Project Name: Spalding Corners
Project Manager: Judy Well No: SW-5 Date: 3-20-2014
Well Depth: 8.30 TOC Screened Interval / Length: 1-6 / 5 Well Diameter: 2" Casing Type: PVC
Sampling Device (s): YSI 556 MPS / Hanna HI 9828 turbidimeter Tubing Type: poly 0.17" Water Level: 2.48 TOC 2.52
Pump Intake Depth: 5' TOC Pump Type: Geotech GeoPump Peristaltic Pumping Rate: 95 ml/min
Other Information:
1055
Sampling Personnel: RICK RUDOCKY

± 5% 0.2 mg/L or ± 10% ± 0.1 ± 10 per USEPA Region 4 (10-28-2011)

Time	Temperature (°C/°F)	Conductivity (~~mS/cm~~ or µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Water Level [TOC] (feet)	Cumulative Volume Purged (gallons)	Notes
1100	11.69	107	0.96	3.95	55.5	15.6	2.56	<0.1	
1105	11.80	111	0.75	5.00	45.6	8.07	2.56	0.1	
1110	11.82	112	0.67	5.21	+2.8	6.60	2.56	0.2	
1115	11.83	115	0.59	5.34	40.1	7.10	2.56	0.3	
1120	11.83	117	0.54	5.37	38.5	5.48	2.57	0.5	
1125	11.80	119	0.50	5.54	36.0	4.70	2.57	0.7	
1130	11.74	120	0.48	5.58	34.8	4.40	2.57	0.9	
1135	sampled							1.0	TOTAL

Analyses & Time of Sampling: VOCs @ 1135

APPENDIX 4

MONITORED NATURAL ATTENUATION SCREENING PROTOCOL WORKSHEETS

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

Score: 5

Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	○	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	○	
Chloride*	>2x background	Daughter product of organic chlorine	○	◉	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE a/	○	◉	0
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE a/; 1,1-DCE can be a chem. reaction product of TCA	◉	○	2
VC*		Daughter product of DCE a/	○	◉	0
1,1,1-Trichloroethane*		Material released	○	○	
DCA		Daughter product of TCA under reducing conditions	○	○	
Carbon Tetrachloride		Material released	○	○	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	○	
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	○	
Dichloromethane		Daughter product of Chloroform	○	○	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE Reset

End of Form

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

* reductive dechlorination

Score: 3

Scroll to End of Table

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	○	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	○	
Chloride*	>2x background	Daughter product of organic chlorine	○	◉	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE a/	○	◉	0
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE a/; 1,1-DCE can be a chem. reaction product of TCA	○	◉	0
VC*		Daughter product of DCE a/	○	◉	0
1,1,1-Trichloroethane*		Material released	○	○	
DCA		Daughter product of TCA under reducing conditions	○	○	
Carbon Tetrachloride		Material released	○	○	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	○	
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	○	
Dichloromethane		Daughter product of Chloroform	○	○	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE Reset

End of Form

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

Score: 0

Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	◉	○	-3
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	○	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	○	
Chloride*	>2x background	Daughter product of organic chlorine	○	◉	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE a/	○	◉	0
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE a/; 1,1-DCE can be a chem. reaction product of TCA	○	◉	0
VC*		Daughter product of DCE a/	○	◉	0
1,1,1-Trichloroethane*		Material released	○	○	
DCA		Daughter product of TCA under reducing conditions	○	○	
Carbon Tetrachloride		Material released	○	○	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	○	
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	○	
Dichloromethane		Daughter product of Chloroform	○	○	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE Reset

End of Form

Spalding Corners Shopping Center
HSI #10639
SEA Job #102-063

MW-16S

NA Parameters
5th Semi-Annual, April 2014
Low-Flow Purged and Sampled 3-19-2014

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

Score: -2

Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	◉	○	-3
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	○	◉	-2
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	○	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	○	
Chloride*	>2x background	Daughter product of organic chlorine	○	◉	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE [a/]	◉	○	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE[a/]; 1,1-DCE can be a chem. reaction product of TCA	○	◉	0
VC*		Daughter product of DCE[a/]	○	◉	0
1,1,1-Trichloroethane*		Material released	○	○	
DCA		Daughter product of TCA under reducing conditions	○	○	
Carbon Tetrachloride		Material released	○	○	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	○	
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	○	
Dichloromethane		Daughter product of Chloroform	○	○	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE | Reset

End of Form

Spalding Corners Shopping Center
HSI #10639
SEA Job #102-063

MW-18S

NA Parameters
5th Semi-Annual, April 2014
Low-Flow Purged and Sampled 3-19-2014

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

Score: 5

Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	○	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	○	
Chloride*	>2x background	Daughter product of organic chlorine	○	◉	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE a/	○	◉	0
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE a/; 1,1-DCE can be a chem. reaction product of TCA	○	◉	0
VC*		Daughter product of DCE a/	○	◉	0
1,1,1-Trichloroethane*		Material released	○	○	
DCA		Daughter product of TCA under reducing conditions	○	○	
Carbon Tetrachloride		Material released	○	○	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	○	
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	○	
Dichloromethane		Daughter product of Chloroform	○	○	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE | Reset

End of Form

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

Score: 9

Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	○	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	○	
Chloride*	>2x background	Daughter product of organic chlorine	○	○	
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	◉	0
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE a/	◉	○	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE a/; 1,1-DCE can be a chem. reaction product of TCA	◉	○	2
VC*		Daughter product of DCE a/	○	◉	0
1,1,1-Trichloroethane*		Material released	○	○	
DCA		Daughter product of TCA under reducing conditions	○	○	
Carbon Tetrachloride		Material released	○	○	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	○	
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	○	
Dichloromethane		Daughter product of Chloroform	○	○	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE | Reset

End of Form

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

Score: 10

Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	◉	○	3
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	○	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	○	
Chloride*	>2x background	Daughter product of organic chlorine	○	◉	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE a/	◉	○	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE a/; 1,1-DCE can be a chem. reaction product of TCA	◉	○	2
VC*		Daughter product of DCE a/	○	◉	0
1,1,1-Trichloroethane*		Material released	○	○	
DCA		Daughter product of TCA under reducing conditions	○	○	
Carbon Tetrachloride		Material released	○	○	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	○	
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	○	
Dichloromethane		Daughter product of Chloroform	○	○	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE | Reset

End of Form

APPENDIX 5

LABORATORY DATA SHEETS - GROUNDWATER

AND LABORATORY CERTIFICATION

State of Florida

Department of Health, Bureau of Public Health Laboratories

This is to certify that

E87582

ANALYTICAL ENVIRONMENTAL SERVICES, INC.
3785 PRESIDENTIAL PARKWAY
ATLANTA, GA 30340

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2013 Expiration Date: June 30, 2014

Victor Johnson, Director
Division of Emergency Preparedness and Community Support
DH Form 1697, 7/04
NON-TRANSFERABLE E87582-20-07/01/2013
Supersedes all previously issued certificates

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

April 02, 2014

Rick Rudolph
Sailors Engineering Associates
1675 Spectrum Drive
Lawrenceville GA 30043

TEL: (770) 962-5922
FAX: (770) 962-7964

RE: Spalding Corner

Dear Rick Rudolph: Order No: 1403G09

Analytical Environmental Services, Inc. received 5 samples on 3/18/2014 5:37:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Dorothy deBruyn
Project Manager

Revision 4/2/2014

AES ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1403609
Date: 3-18-2014 Page 1 of 2

COMPANY: SAILORS ENGINEERING ASSOCIATES, INC
ADDRESS: 1675 Spectrum Drive Lawrenceville, GA 30043
PHONE: 770-962-5922
FAX: 770-962-5922
SAMPLED BY: Steve Lazzari / Rick Rudolph
SIGNATURE: [signature] / Richard Rudolph

Visit our website **www.aesatlanta.com** to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	DATE	TIME	Grab	Composite	Matrix (See codes)	VOCs	TOC	Sulfide	Ferrous Iron	Mee	Ion Scan	Total Fe						REMARKS	No # of Containers
	PRESERVATION (See codes)						H+I	S+I	O	I	H+I	I	N+I							
1	MW-6 S	3-18-14	13:15	X		GW	X	X	X	X	X	X	X							9
2	MW-14 S	|	15:00	X		|	X	X	X	X	X	X	X							9
3	MW-20S	|	16:00	X		|	X	X	X	X	X	X	X							9
4	MW-15S	|	16:10	X		|	X	X	X	X	X	X	X							9
5	TRIP BLANK	|	LAB			W	X													2
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: [signature]	3/18/14 17:35	1: Latoya R	3/18/14 5:37p
2:		2:	
3:		3:	

PROJECT INFORMATION
PROJECT NAME: SPALDING CORNER
PROJECT #: 102-063
SITE ADDRESS: Spalding Drive, Sandy Springs, GA
SEND REPORT TO: RICK RUDOLPH
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 38

Turnaround Time Request
- [X] Standard 5 Business Days
- [ ] 2 Business Day Rush
- [ ] Next Business Day Rush
- [ ] Same Day Rush (auth req.)
- [ ] Other

STATE PROGRAM (if any): HSRP
E-mail? (Y) N; Fax? Y (N)
DATA PACKAGE: I (II) III IV

SPECIAL INSTRUCTIONS/COMMENTS: 1 ug/L detection limit on PCE, TCE, cDCE, tDCE, DCE & VC

SHIPMENT METHOD
OUT / / VIA:
IN VIA:
(CLIENT) FedEx UPS MAIL COURIER
GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 2-Apr-14

Client: Sailors Engineering Associates
Project: Spalding Corner
Lab ID: 1403G09

Case Narrative

Ferrous Iron Analysis by Method SM3500FE D:

Due to sample matrix, sample 1403G09-004E required dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-6S
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014 1:15:00 PM
Lab ID:	1403G09-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R263613	1	03/19/2014 11:39	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
2-Butanone	BRL	50		ug/L	188560	1	03/19/2014 19:28	GK
2-Hexanone	BRL	10		ug/L	188560	1	03/19/2014 19:28	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188560	1	03/19/2014 19:28	GK
Acetone	BRL	50		ug/L	188560	1	03/19/2014 19:28	GK
Benzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Bromodichloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Bromoform	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Bromomethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Carbon disulfide	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Carbon tetrachloride	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Chlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Chloroethane	BRL	10		ug/L	188560	1	03/19/2014 19:28	GK
Chloroform	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Chloromethane	BRL	10		ug/L	188560	1	03/19/2014 19:28	GK
cis-1,2-Dichloroethene	1.8	1.0		ug/L	188560	1	03/19/2014 19:28	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Cyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Dibromochloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Dichlorodifluoromethane	BRL	10		ug/L	188560	1	03/19/2014 19:28	GK
Ethylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Freon-113	BRL	10		ug/L	188560	1	03/19/2014 19:28	GK
Isopropylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
m,p-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Methyl acetate	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-6S
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014 1:15:00 PM
Lab ID:	1403G09-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Methylene chloride	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
o-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Styrene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Tetrachloroethene	1.9	1.0		ug/L	188560	1	03/19/2014 19:28	GK
Toluene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 19:28	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Trichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 19:28	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:28	GK
Vinyl chloride	BRL	1.0		ug/L	188560	1	03/19/2014 19:28	GK
Surr: 4-Bromofluorobenzene	95.8	66.2-120		%REC	188560	1	03/19/2014 19:28	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	188560	1	03/19/2014 19:28	GK
Surr: Toluene-d8	96.5	77-117		%REC	188560	1	03/19/2014 19:28	GK
Sulfide by SW9030B/9034				**(SW9030B)**				
Sulfide	BRL	2.00		mg/L	188712	1	03/22/2014 12:50	EH
ION SCAN SW9056A								
Chloride	3.8	1.0		mg/L	R263682	1	03/19/2014 09:14	GR
Nitrate	BRL	0.25		mg/L	R263682	1	03/19/2014 09:14	GR
Nitrite	BRL	0.25		mg/L	R263682	1	03/19/2014 09:14	GR
Sulfate	44	1.0		mg/L	R263682	1	03/19/2014 09:14	GR
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9		ug/L	188628	1	03/21/2014 13:01	SH
Ethylene	BRL	7		ug/L	188628	1	03/21/2014 13:01	SH
Methane	360	20		ug/L	188628	5	03/21/2014 13:25	SH
Ferrous Iron SM3500-Fe-B								
Iron, as Ferric (Fe+3)	3.79	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
METALS, TOTAL SW6010C				**(SW3010A)**				
Iron	3.79	0.100		mg/L	188530	1	03/20/2014 10:17	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-19S
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014 3:00:00 PM
Lab ID:	1403G09-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R263613	1	03/19/2014 12:09	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
2-Butanone	BRL	50		ug/L	188560	1	03/19/2014 20:49	GK
2-Hexanone	BRL	10		ug/L	188560	1	03/19/2014 20:49	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188560	1	03/19/2014 20:49	GK
Acetone	BRL	50		ug/L	188560	1	03/19/2014 20:49	GK
Benzene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Bromodichloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Bromoform	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Bromomethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Carbon disulfide	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Carbon tetrachloride	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Chlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Chloroethane	BRL	10		ug/L	188560	1	03/19/2014 20:49	GK
Chloroform	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Chloromethane	BRL	10		ug/L	188560	1	03/19/2014 20:49	GK
cis-1,2-Dichloroethene	3.5	1.0		ug/L	188560	1	03/19/2014 20:49	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Cyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Dibromochloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Dichlorodifluoromethane	BRL	10		ug/L	188560	1	03/19/2014 20:49	GK
Ethylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Freon-113	BRL	10		ug/L	188560	1	03/19/2014 20:49	GK
Isopropylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
m,p-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Methyl acetate	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-19S
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014 3:00:00 PM
Lab ID:	1403G09-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Methylene chloride	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
o-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Styrene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Tetrachloroethene	32	1.0		ug/L	188560	1	03/19/2014 20:49	GK
Toluene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 20:49	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Trichloroethene	2.2	1.0		ug/L	188560	1	03/19/2014 20:49	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188560	1	03/19/2014 20:49	GK
Vinyl chloride	BRL	1.0		ug/L	188560	1	03/19/2014 20:49	GK
Surr: 4-Bromofluorobenzene	95.3	66.2-120		%REC	188560	1	03/19/2014 20:49	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	188560	1	03/19/2014 20:49	GK
Surr: Toluene-d8	97.6	77-117		%REC	188560	1	03/19/2014 20:49	GK
Sulfide by SW9030B/9034				**(SW9030B)**				
Sulfide	BRL	2.00		mg/L	188712	1	03/22/2014 12:50	EH
ION SCAN SW9056A								
Chloride	5.1	1.0		mg/L	R263682	1	03/19/2014 09:29	GR
Nitrate	0.39	0.25		mg/L	R263682	1	03/19/2014 09:29	GR
Nitrite	BRL	0.25		mg/L	R263682	1	03/19/2014 09:29	GR
Sulfate	12	1.0		mg/L	R263682	1	03/19/2014 09:29	GR
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9		ug/L	188628	1	03/21/2014 13:07	SH
Ethylene	BRL	7		ug/L	188628	1	03/21/2014 13:07	SH
Methane	6	4		ug/L	188628	1	03/21/2014 13:07	SH
Ferrous Iron SM3500-Fe-B								
Iron, as Ferric (Fe+3)	BRL	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
METALS, TOTAL SW6010C				**(SW3010A)**				
Iron	BRL	0.100		mg/L	188530	1	03/20/2014 14:17	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-20S
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014 4:00:00 PM
Lab ID:	1403G09-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R263613	1	03/19/2014 12:37	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
2-Butanone	BRL	50		ug/L	188560	1	03/19/2014 21:16	GK
2-Hexanone	BRL	10		ug/L	188560	1	03/19/2014 21:16	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188560	1	03/19/2014 21:16	GK
Acetone	BRL	50		ug/L	188560	1	03/19/2014 21:16	GK
Benzene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Bromodichloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Bromoform	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Bromomethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Carbon disulfide	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Carbon tetrachloride	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Chlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Chloroethane	BRL	10		ug/L	188560	1	03/19/2014 21:16	GK
Chloroform	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Chloromethane	BRL	10		ug/L	188560	1	03/19/2014 21:16	GK
cis-1,2-Dichloroethene	6.0	1.0		ug/L	188560	1	03/19/2014 21:16	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Cyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Dibromochloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Dichlorodifluoromethane	BRL	10		ug/L	188560	1	03/19/2014 21:16	GK
Ethylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Freon-113	BRL	10		ug/L	188560	1	03/19/2014 21:16	GK
Isopropylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
m,p-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Methyl acetate	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-20S
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014 4:00:00 PM
Lab ID:	1403G09-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Methylene chloride	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
o-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Styrene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Tetrachloroethene	2.7	1.0		ug/L	188560	1	03/19/2014 21:16	GK
Toluene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 21:16	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Trichloroethene	1.9	1.0		ug/L	188560	1	03/19/2014 21:16	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188560	1	03/19/2014 21:16	GK
Vinyl chloride	BRL	1.0		ug/L	188560	1	03/19/2014 21:16	GK
Surr: 4-Bromofluorobenzene	97	66.2-120		%REC	188560	1	03/19/2014 21:16	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	188560	1	03/19/2014 21:16	GK
Surr: Toluene-d8	96.1	77-117		%REC	188560	1	03/19/2014 21:16	GK
Sulfide by SW9030B/9034				**(SW9030B)**				
Sulfide	BRL	2.00		mg/L	188712	1	03/22/2014 12:50	EH
ION SCAN SW9056A								
Chloride	3.0	1.0		mg/L	R263682	1	03/19/2014 12:30	GR
Nitrate	BRL	0.25		mg/L	R263682	1	03/19/2014 12:30	GR
Nitrite	BRL	0.25		mg/L	R263682	1	03/19/2014 12:30	GR
Sulfate	1.4	1.0		mg/L	R263682	1	03/19/2014 12:30	GR
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9		ug/L	188628	1	03/21/2014 13:13	SH
Ethylene	BRL	7		ug/L	188628	1	03/21/2014 13:13	SH
Methane	19	4		ug/L	188628	1	03/21/2014 13:13	SH
Ferrous Iron SM3500-Fe-B								
Iron, as Ferric (Fe+3)	BRL	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
METALS, TOTAL SW6010C				**(SW3010A)**				
Iron	BRL	0.100		mg/L	188530	1	03/20/2014 14:21	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-15S
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014 4:10:00 PM
Lab ID:	1403G09-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R263613	1	03/19/2014 13:02	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
2-Butanone	BRL	50		ug/L	188560	1	03/19/2014 22:10	GK
2-Hexanone	BRL	10		ug/L	188560	1	03/19/2014 22:10	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188560	1	03/19/2014 22:10	GK
Acetone	BRL	50		ug/L	188560	1	03/19/2014 22:10	GK
Benzene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Bromodichloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Bromoform	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Bromomethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Carbon disulfide	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Carbon tetrachloride	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Chlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Chloroethane	BRL	10		ug/L	188560	1	03/19/2014 22:10	GK
Chloroform	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Chloromethane	BRL	10		ug/L	188560	1	03/19/2014 22:10	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 22:10	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Cyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Dibromochloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Dichlorodifluoromethane	BRL	10		ug/L	188560	1	03/19/2014 22:10	GK
Ethylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Freon-113	BRL	10		ug/L	188560	1	03/19/2014 22:10	GK
Isopropylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
m,p-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Methyl acetate	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-15S
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014 4:10:00 PM
Lab ID:	1403G09-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Methylene chloride	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
o-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Styrene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Tetrachloroethene	25	1.0		ug/L	188560	1	03/19/2014 22:10	GK
Toluene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 22:10	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Trichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 22:10	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188560	1	03/19/2014 22:10	GK
Vinyl chloride	BRL	1.0		ug/L	188560	1	03/19/2014 22:10	GK
Surr: 4-Bromofluorobenzene	95.9	66.2-120		%REC	188560	1	03/19/2014 22:10	GK
Surr: Dibromofluoromethane	105	79.5-121		%REC	188560	1	03/19/2014 22:10	GK
Surr: Toluene-d8	98.1	77-117		%REC	188560	1	03/19/2014 22:10	GK
Sulfide by SW9030B/9034				**(SW9030B)**				
Sulfide	BRL	2.00		mg/L	188712	1	03/22/2014 12:50	EH
ION SCAN SW9056A								
Chloride	6.1	1.0		mg/L	R263682	1	03/19/2014 12:45	GR
Nitrate	2.7	0.25		mg/L	R263682	1	03/19/2014 12:45	GR
Nitrite	BRL	0.25		mg/L	R263682	1	03/19/2014 12:45	GR
Sulfate	BRL	1.0		mg/L	R263682	1	03/19/2014 12:45	GR
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9		ug/L	188628	1	03/21/2014 13:30	SH
Ethylene	BRL	7		ug/L	188628	1	03/21/2014 13:30	SH
Methane	BRL	4		ug/L	188628	1	03/21/2014 13:30	SH
Ferrous Iron SM3500-Fe-B								
Iron, as Ferric (Fe+3)	10.7	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
Iron, as Ferrous (Fe+2)	BRL	0.500		mg/L	R263996	5	03/19/2014 12:15	AB
METALS, TOTAL SW6010C				**(SW3010A)**				
Iron	10.7	0.100		mg/L	188530	1	03/20/2014 14:25	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	TRIP BLANK
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014
Lab ID:	1403G09-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
2-Butanone	BRL	50		ug/L	188560	1	03/19/2014 19:01	GK
2-Hexanone	BRL	10		ug/L	188560	1	03/19/2014 19:01	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188560	1	03/19/2014 19:01	GK
Acetone	BRL	50		ug/L	188560	1	03/19/2014 19:01	GK
Benzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Bromodichloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Bromoform	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Bromomethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Carbon disulfide	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Carbon tetrachloride	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Chlorobenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Chloroethane	BRL	10		ug/L	188560	1	03/19/2014 19:01	GK
Chloroform	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Chloromethane	BRL	10		ug/L	188560	1	03/19/2014 19:01	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 19:01	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Cyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Dibromochloromethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Dichlorodifluoromethane	BRL	10		ug/L	188560	1	03/19/2014 19:01	GK
Ethylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Freon-113	BRL	10		ug/L	188560	1	03/19/2014 19:01	GK
Isopropylbenzene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
m,p-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Methyl acetate	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Methylcyclohexane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Methylene chloride	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
o-Xylene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	TRIP BLANK
Project Name:	Spalding Corner	**Collection Date:**	3/18/2014
Lab ID:	1403G09-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Tetrachloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 19:01	GK
Toluene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 19:01	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Trichloroethene	BRL	1.0		ug/L	188560	1	03/19/2014 19:01	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188560	1	03/19/2014 19:01	GK
Vinyl chloride	BRL	1.0		ug/L	188560	1	03/19/2014 19:01	GK
Surr: 4-Bromofluorobenzene	97.4	66.2-120		%REC	188560	1	03/19/2014 19:01	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	188560	1	03/19/2014 19:01	GK
Surr: Toluene-d8	95.9	77-117		%REC	188560	1	03/19/2014 19:01	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Tech Work Order Number 1405609

Checklist completed by MJ 3/8/14
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.1 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by MJ

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Sailors Engineering Associates
Project: Spalding Corner
Lab Order: 1403G09

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403G09-001A	MW-6S	3/18/2014 1:15:00PM	Groundwater	TCL VOLATILE ORGANICS		03/19/2014	03/19/2014
1403G09-001B	MW-6S	3/18/2014 1:15:00PM	Groundwater	GC Analysis of Gaseous Samples		03/21/2014	03/21/2014
1403G09-001C	MW-6S	3/18/2014 1:15:00PM	Groundwater	Total Organic Carbon (TOC)			03/19/2014
1403G09-001D	MW-6S	3/18/2014 1:15:00PM	Groundwater	Sulfide by SW9030/9034		03/22/2014	03/22/2014
1403G09-001E	MW-6S	3/18/2014 1:15:00PM	Groundwater	Ferrous Iron			03/19/2014
1403G09-001F	MW-6S	3/18/2014 1:15:00PM	Groundwater	ION SCAN			03/19/2014
1403G09-001G	MW-6S	3/18/2014 1:15:00PM	Groundwater	TOTAL METALS BY ICP		03/19/2014	03/20/2014
1403G09-002A	MW-19S	3/18/2014 3:00:00PM	Groundwater	TCL VOLATILE ORGANICS		03/19/2014	03/19/2014
1403G09-002B	MW-19S	3/18/2014 3:00:00PM	Groundwater	GC Analysis of Gaseous Samples		03/21/2014	03/21/2014
1403G09-002C	MW-19S	3/18/2014 3:00:00PM	Groundwater	Total Organic Carbon (TOC)			03/19/2014
1403G09-002D	MW-19S	3/18/2014 3:00:00PM	Groundwater	Sulfide by SW9030/9034		03/22/2014	03/22/2014
1403G09-002E	MW-19S	3/18/2014 3:00:00PM	Groundwater	Ferrous Iron			03/19/2014
1403G09-002F	MW-19S	3/18/2014 3:00:00PM	Groundwater	Inorganic Anions by IC			03/19/2014
1403G09-002F	MW-19S	3/18/2014 3:00:00PM	Groundwater	ION SCAN			03/19/2014
1403G09-002G	MW-19S	3/18/2014 3:00:00PM	Groundwater	TOTAL METALS BY ICP		03/19/2014	03/20/2014
1403G09-003A	MW-20S	3/18/2014 4:00:00PM	Groundwater	TCL VOLATILE ORGANICS		03/19/2014	03/19/2014
1403G09-003B	MW-20S	3/18/2014 4:00:00PM	Groundwater	GC Analysis of Gaseous Samples		03/21/2014	03/21/2014
1403G09-003C	MW-20S	3/18/2014 4:00:00PM	Groundwater	Total Organic Carbon (TOC)			03/19/2014
1403G09-003D	MW-20S	3/18/2014 4:00:00PM	Groundwater	Sulfide by SW9030/9034		03/22/2014	03/22/2014
1403G09-003E	MW-20S	3/18/2014 4:00:00PM	Groundwater	Ferrous Iron			03/19/2014
1403G09-003F	MW-20S	3/18/2014 4:00:00PM	Groundwater	ION SCAN			03/19/2014
1403G09-003G	MW-20S	3/18/2014 4:00:00PM	Groundwater	TOTAL METALS BY ICP		03/19/2014	03/20/2014
1403G09-004A	MW-15S	3/18/2014 4:10:00PM	Groundwater	TCL VOLATILE ORGANICS		03/19/2014	03/19/2014
1403G09-004B	MW-15S	3/18/2014 4:10:00PM	Groundwater	GC Analysis of Gaseous Samples		03/21/2014	03/21/2014
1403G09-004C	MW-15S	3/18/2014 4:10:00PM	Groundwater	Total Organic Carbon (TOC)			03/19/2014
1403G09-004D	MW-15S	3/18/2014 4:10:00PM	Groundwater	Sulfide by SW9030/9034		03/22/2014	03/22/2014
1403G09-004E	MW-15S	3/18/2014 4:10:00PM	Groundwater	Ferrous Iron			03/19/2014
1403G09-004F	MW-15S	3/18/2014 4:10:00PM	Groundwater	ION SCAN			03/19/2014
1403G09-004G	MW-15S	3/18/2014 4:10:00PM	Groundwater	TOTAL METALS BY ICP		03/19/2014	03/20/2014

Client: Sailors Engineering Associates
Project: Spalding Corner
Lab Order: 1403G09

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403G09-005A	TRIP BLANK	3/18/2014 12:00:00AM	Aqueous	TCL VOLATILE ORGANICS		03/19/2014	03/19/2014

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: 188530

Sample ID: **MB-188530** Client ID: Units: **mg/L** Prep Date: **03/19/2014** Run No: **263712**
SampleType: **MBLK** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **188530** Analysis Date: **03/20/2014** Seq No: **5548118**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron	BRL	0.100									

Sample ID: **LCS-188530** Client ID: Units: **mg/L** Prep Date: **03/19/2014** Run No: **263712**
SampleType: **LCS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **188530** Analysis Date: **03/20/2014** Seq No: **5548117**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron	9.712	0.100	10.00		97.1	80	120				

Sample ID: **1403G09-001GMS** Client ID: **MW-6S** Units: **mg/L** Prep Date: **03/19/2014** Run No: **263712**
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **188530** Analysis Date: **03/20/2014** Seq No: **5548120**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron	13.36	0.100	10.00	3.787	95.7	75	125				

Sample ID: **1403G09-001GMSD** Client ID: **MW-6S** Units: **mg/L** Prep Date: **03/19/2014** Run No: **263712**
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C** BatchID: **188530** Analysis Date: **03/20/2014** Seq No: **5548121**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron	13.36	0.100	10.00	3.787	95.7	75	125	13.36	0.029	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: 188560

Sample ID: **MB-188560** Client ID: Units: **ug/L** Prep Date: **03/19/2014** Run No: **263559**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188560** Analysis Date: **03/19/2014** Seq No: **5546726**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: 188560

Sample ID: **MB-188560** Client ID: Units: **ug/L** Prep Date: **03/19/2014** Run No: **263559**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188560** Analysis Date: **03/19/2014** Seq No: **5546726**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	48.77	0	50.00		97.5	66.2	120				
Surr: Dibromofluoromethane	51.25	0	50.00		102	79.5	121				
Surr: Toluene-d8	48.36	0	50.00		96.7	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: 188560

Sample ID: **LCS-188560** Client ID: Units: **ug/L** Prep Date: **03/19/2014** Run No: **263559**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188560** Analysis Date: **03/19/2014** Seq No: **5546727**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	40.49	5.0	50.00		81.0	63.1	140				
Benzene	46.19	5.0	50.00		92.4	74.2	129				
Chlorobenzene	46.56	5.0	50.00		93.1	70	129				
Toluene	47.41	5.0	50.00		94.8	74.2	129				
Trichloroethene	48.64	5.0	50.00		97.3	71.2	135				
Surr: 4-Bromofluorobenzene	49.71	0	50.00		99.4	66.2	120				
Surr: Dibromofluoromethane	52.16	0	50.00		104	79.5	121				
Surr: Toluene-d8	49.50	0	50.00		99.0	77	117				

Sample ID: **1403G09-001AMS** Client ID: **MW-6S** Units: **ug/L** Prep Date: **03/19/2014** Run No: **263559**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188560** Analysis Date: **03/19/2014** Seq No: **5547057**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	49.06	5.0	50.00		98.1	60.2	159				
Benzene	48.54	5.0	50.00		97.1	70.2	138				
Chlorobenzene	47.76	5.0	50.00		95.5	70.1	133				
Toluene	47.94	5.0	50.00		95.9	70	139				
Trichloroethene	53.16	5.0	50.00		106	70.1	144				
Surr: 4-Bromofluorobenzene	49.74	0	50.00		99.5	66.2	120				
Surr: Dibromofluoromethane	53.84	0	50.00		108	79.5	121				
Surr: Toluene-d8	49.64	0	50.00		99.3	77	117				

Sample ID: **1403G09-001AMSD** Client ID: **MW-6S** Units: **ug/L** Prep Date: **03/19/2014** Run No: **263559**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188560** Analysis Date: **03/19/2014** Seq No: **5547058**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	49.38	5.0	50.00		98.8	60.2	159	49.06	0.650	19.2	
Benzene	48.50	5.0	50.00		97.0	70.2	138	48.54	0.082	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: 188560

Sample ID: **1403G09-001AMSD** Client ID: **MW-6S** Units: **ug/L** Prep Date: **03/19/2014** Run No: **263559**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188560** Analysis Date: **03/19/2014** Seq No: **5547058**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	48.50	5.0	50.00		97.0	70.1	133	47.76	1.54	20	
Toluene	48.00	5.0	50.00		96.0	70	139	47.94	0.125	20	
Trichloroethene	52.65	5.0	50.00		105	70.1	144	53.16	0.964	20	
Surr: 4-Bromofluorobenzene	51.28	0	50.00		103	66.2	120	49.74	0	0	
Surr: Dibromofluoromethane	53.42	0	50.00		107	79.5	121	53.84	0	0	
Surr: Toluene-d8	49.06	0	50.00		98.1	77	117	49.64	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: 188628

Sample ID: **MB-188628** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263837**
SampleType: **MBLK** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **188628** Analysis Date: **03/21/2014** Seq No: **5551279**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	BRL	9									
Ethylene	BRL	7									
Methane	BRL	4									

Sample ID: **LCS-188628** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263837**
SampleType: **LCS** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **188628** Analysis Date: **03/21/2014** Seq No: **5551290**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	125.0	9	200.0		62.5	41.6	115				
Ethylene	84.31	7	200.0		42.2	26.9	115				
Methane	135.2	4	200.0		67.6	45.2	115				

Sample ID: **LCSD-188628** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263837**
SampleType: **LCSD** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **188628** Analysis Date: **03/21/2014** Seq No: **5551294**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	126.5	9	200.0		63.2	41.6	115	125.0	1.17	20	
Ethylene	85.11	7	200.0		42.6	26.9	115	84.31	0.951	20	
Methane	136.9	4	200.0		68.5	45.2	115	135.2	1.31	20	

Sample ID: **1403G98-028FMS** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263837**
SampleType: **MS** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **188628** Analysis Date: **03/21/2014** Seq No: **5551340**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	112.5	9	200.0		56.3	40.1	115				
Ethylene	74.92	7	200.0		37.5	24.5	115				
Methane	121.2	4	200.0		60.6	41.1	115				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: 188628

Sample ID: **1403G98-028FMSD** Client ID:
SampleType: **MSD** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**
Units: **ug/L** BatchID: **188628**
Prep Date: **03/21/2014** Analysis Date: **03/21/2014**
Run No: **263837** Seq No: **5551341**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	117.3	9	200.0		58.6	40.1	115	112.5	4.14	20	
Ethylene	78.10	7	200.0		39.1	24.5	115	74.92	4.16	20	
Methane	126.2	4	200.0		63.1	41.1	115	121.2	4.06	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: 188712

Sample ID: **MB-188712** Client ID: Units: **mg/L** Prep Date: **03/22/2014** Run No: **263904**
SampleType: **MBLK** TestCode: **Sulfide by SW9030B/9034** BatchID: **188712** Analysis Date: **03/22/2014** Seq No: **5552824**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	BRL	2.00									

Sample ID: **LCS-188712** Client ID: Units: **mg/L** Prep Date: **03/22/2014** Run No: **263904**
SampleType: **LCS** TestCode: **Sulfide by SW9030B/9034** BatchID: **188712** Analysis Date: **03/22/2014** Seq No: **5552825**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	312.0	2.00	312.0		100	40	120				

Sample ID: **1403G09-002DMS** Client ID: **MW-19S** Units: **mg/L** Prep Date: **03/22/2014** Run No: **263904**
SampleType: **MS** TestCode: **Sulfide by SW9030B/9034** BatchID: **188712** Analysis Date: **03/22/2014** Seq No: **5552829**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	32.40	2.00	31.20		104	76.7	120				

Sample ID: **1403G09-002DMSD** Client ID: **MW-19S** Units: **mg/L** Prep Date: **03/22/2014** Run No: **263904**
SampleType: **MSD** TestCode: **Sulfide by SW9030B/9034** BatchID: **188712** Analysis Date: **03/22/2014** Seq No: **5552834**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	30.80	2.00	31.20		98.7	76.7	120	32.40	5.06	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: R263613

Sample ID: **MB-R263613**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **263613**
SampleType: **MBLK**	TestCode: **Total Organic Carbon (TOC) SW9060A**			BatchID: **R263613**	Analysis Date: **03/19/2014**	Seq No: **5545949**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	BRL	1.00									

Sample ID: **LCS-R263613**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **263613**
SampleType: **LCS**	TestCode: **Total Organic Carbon (TOC) SW9060A**			BatchID: **R263613**	Analysis Date: **03/19/2014**	Seq No: **5545945**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	25.56	1.00	25.00		102	90	110				

Sample ID: **1403G09-001CMS**	Client ID: **MW-6S**			Units: **mg/L**	Prep Date:	Run No: **263613**
SampleType: **MS**	TestCode: **Total Organic Carbon (TOC) SW9060A**			BatchID: **R263613**	Analysis Date: **03/19/2014**	Seq No: **5545985**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	23.75	1.00	25.00		95.0	80	120				

Sample ID: **1403G09-001CMSD**	Client ID: **MW-6S**			Units: **mg/L**	Prep Date:	Run No: **263613**
SampleType: **MSD**	TestCode: **Total Organic Carbon (TOC) SW9060A**			BatchID: **R263613**	Analysis Date: **03/19/2014**	Seq No: **5545990**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	23.79	1.00	25.00		95.2	80	120	23.75	0.168	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: R263682

Sample ID: **MB-R263682** Client ID: Units: **mg/L** Prep Date: Run No: **263682**
SampleType: **MBLK** TestCode: **ION SCAN SW9056A** BatchID: **R263682** Analysis Date: **03/19/2014** Seq No: **5547435**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	BRL	1.0									
Nitrate	BRL	0.25									
Nitrite	BRL	0.25									
Sulfate	BRL	1.0									

Sample ID: **LCS-R263682** Client ID: Units: **mg/L** Prep Date: Run No: **263682**
SampleType: **LCS** TestCode: **ION SCAN SW9056A** BatchID: **R263682** Analysis Date: **03/19/2014** Seq No: **5547431**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	4.865	1.0	5.000		97.3	90	110				
Nitrate	5.402	0.25	5.000		108	90	110				
Nitrite	5.395	0.25	5.000		108	90	110				
Sulfate	23.32	1.0	25.00		93.3	90	110				

Sample ID: **1403G09-002FMS** Client ID: **MW-19S** Units: **mg/L** Prep Date: Run No: **263682**
SampleType: **MS** TestCode: **ION SCAN SW9056A** BatchID: **R263682** Analysis Date: **03/19/2014** Seq No: **5547443**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	28.00	5.0	25.00	5.112	91.6	90	110				
Nitrate	26.04	1.2	25.00	0.3870	103	90	110				
Nitrite	26.24	1.2	25.00		105	90	110				
Sulfate	129.1	5.0	125.0	12.30	93.4	90	110				

Sample ID: **1403G09-003FMS** Client ID: **MW-20S** Units: **mg/L** Prep Date: Run No: **263682**
SampleType: **MS** TestCode: **ION SCAN SW9056A** BatchID: **R263682** Analysis Date: **03/19/2014** Seq No: **5547457**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	7.535	1.0	5.000	3.021	90.3	90	110				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: R263682

Sample ID: **1403G09-003FMS** Client ID: **MW-20S** Units: **mg/L** Prep Date: Run No: **263682**
SampleType: **MS** TestCode: **ION SCAN SW9056A** BatchID: **R263682** Analysis Date: **03/19/2014** Seq No: **5547457**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrate	4.922	0.25	5.000		98.4	90	110				
Nitrite	5.225	0.25	5.000		105	90	110				
Sulfate	23.81	1.0	25.00	1.380	89.7	90	110				S

Sample ID: **1403G09-002FMSD** Client ID: **MW-19S** Units: **mg/L** Prep Date: Run No: **263682**
SampleType: **MSD** TestCode: **ION SCAN SW9056A** BatchID: **R263682** Analysis Date: **03/19/2014** Seq No: **5547446**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	27.91	5.0	25.00	5.112	91.2	90	110	28.00	0.347	20	
Nitrate	25.97	1.2	25.00	0.3870	102	90	110	26.04	0.265	20	
Nitrite	26.03	1.2	25.00		104	90	110	26.24	0.777	20	
Sulfate	128.1	5.0	125.0	12.30	92.6	90	110	129.1	0.744	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corner
Workorder: 1403G09

ANALYTICAL QC SUMMARY REPORT

BatchID: R263996

Sample ID: **MB-R263996**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **263996**
SampleType: **MBLK**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**		BatchID: **R263996**	Analysis Date: **03/19/2014**	Seq No: **5555011**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	BRL	0.100									

Sample ID: **LCS-R263996**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **263996**
SampleType: **LCS**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**		BatchID: **R263996**	Analysis Date: **03/19/2014**	Seq No: **5555012**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.4803	0.100	0.5000		96.1	85	115				

Sample ID: **1403G09-002EMS**	Client ID: **MW-19S**			Units: **mg/L**	Prep Date:	Run No: **263996**
SampleType: **MS**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**		BatchID: **R263996**	Analysis Date: **03/19/2014**	Seq No: **5555024**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.5321	0.100	0.5000		106	80	120				

Sample ID: **1403G09-002EMSD**	Client ID: **MW-19S**			Units: **mg/L**	Prep Date:	Run No: **263996**
SampleType: **MSD**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**		BatchID: **R263996**	Analysis Date: **03/19/2014**	Seq No: **5555029**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.5292	0.100	0.5000		106	80	120	0.5321	0.546	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

April 07, 2014

Rick Rudolph
Sailors Engineering Associates
1675 Spectrum Drive
Lawrenceville GA 30043

TEL: (770) 962-5922
FAX: (770) 962-7964

RE: Spalding Corners

Dear Rick Rudolph: Order No: 1403H27

Analytical Environmental Services, Inc. received 9 samples on 3/19/2014 5:24:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Dorothy deBruyn
Project Manager

Revision 4/7/2014

AES **ANALYTICAL ENVIRONMENTAL SERVICES, INC**
3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1403H27

Date: 3-19-2014 Page 1 of 1

COMPANY: Sailors Engineering Associates, Inc

ADDRESS: 1675 Spectrum Drive Lawrenceville, GA 30043

PHONE: 770 962 5922

FAX: 770-962-8969

SAMPLED BY: Steve Lazzari / Rick Rudolph

SIGNATURE: [signature]

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

ANALYSIS REQUESTED / PRESERVATION (See codes)

#	SAMPLE ID	DATE	TIME	Grab	Composite	Matrix (See codes)	DOC (H+I)	TOTAL Fe (H+I)	TOC (S+I)	Sulfide (O)	Mee (H+I)	Ferrous Iron (I)	Ion Scan (I)	REMARKS	No # of Containers
1	MW-1D	3-18-2014	1920	X		GW	X								2
2	MW-14S	3-19-2014	1020	X		GW	X	X	X	X	X	X	X		2
3	MW-18S	↓	1015	X		GW	X	X	X	X	X	X	X		9
4	MW-17S	↓	1150	X		GW	X								2
5	MW-16S	↓	1400	X		GW	X	X	X	X	X	X	X		9
6	MW-21S	↓	1425	X		GW	X								2
7	MW-5S	↓	1550	X		GW	X								2
8	MW-10S	↓	1540	X		GW	X								2
9															
10															
11															
12															
13															
14															

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: [signature] Richard McRudolph	3-19-2014 / 1723	1: Latoya R	3/19/14 5:24p
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
(CLIENT) FedEx UPS MAIL COURIER
GREYHOUND OTHER ______

PROJECT INFORMATION
PROJECT NAME: Spalding Corners, ~~Sandy Springs, GA~~
PROJECT #: 102063
SITE ADDRESS: Spalding Drive Sandy Springs, GA
SEND REPORT TO: Rick Rudolph
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: ______ PO#: ______

RECEIPT
Total # of Containers

Turnaround Time Request
- [X] Standard 5 Business Days
- [ ] 2 Business Day Rush
- [ ] Next Business Day Rush
- [ ] Same Day Rush (auth req.)
- [ ] Other

STATE PROGRAM (if any): HSRA
E-mail? (Y)/N; Fax? Y/(N)
DATA PACKAGE: I (II) III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-1D
Project Name:	Spalding Corners	**Collection Date:**	3/18/2014 7:20:00 PM
Lab ID:	1403H27-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
2-Butanone	BRL	50		ug/L	188643	1	03/21/2014 19:59	GK
2-Hexanone	BRL	10		ug/L	188643	1	03/21/2014 19:59	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188643	1	03/21/2014 19:59	GK
Acetone	BRL	50		ug/L	188643	1	03/21/2014 19:59	GK
Benzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Bromodichloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Bromoform	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Bromomethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Carbon disulfide	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Carbon tetrachloride	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Chlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Chloroethane	BRL	10		ug/L	188643	1	03/21/2014 19:59	GK
Chloroform	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Chloromethane	BRL	10		ug/L	188643	1	03/21/2014 19:59	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 19:59	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Cyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Dibromochloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Dichlorodifluoromethane	BRL	10		ug/L	188643	1	03/21/2014 19:59	GK
Ethylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Freon-113	BRL	10		ug/L	188643	1	03/21/2014 19:59	GK
Isopropylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
m,p-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Methyl acetate	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Methylcyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Methylene chloride	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
o-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-1D
Project Name:	Spalding Corners	**Collection Date:**	3/18/2014 7:20:00 PM
Lab ID:	1403H27-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Tetrachloroethene	1.2	1.0		ug/L	188643	1	03/21/2014 19:59	GK
Toluene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 19:59	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Trichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 19:59	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:59	GK
Vinyl chloride	BRL	1.0		ug/L	188643	1	03/21/2014 19:59	GK
Surr: 4-Bromofluorobenzene	98.1	66.2-120		%REC	188643	1	03/21/2014 19:59	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	188643	1	03/21/2014 19:59	GK
Surr: Toluene-d8	96.8	77-117		%REC	188643	1	03/21/2014 19:59	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-14S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 10:20:00 AM
Lab ID:	1403H27-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R263853	1	03/20/2014 18:27	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
2-Butanone	BRL	50		ug/L	188643	1	03/21/2014 20:26	GK
2-Hexanone	BRL	10		ug/L	188643	1	03/21/2014 20:26	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188643	1	03/21/2014 20:26	GK
Acetone	BRL	50		ug/L	188643	1	03/21/2014 20:26	GK
Benzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Bromodichloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Bromoform	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Bromomethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Carbon disulfide	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Carbon tetrachloride	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Chlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Chloroethane	BRL	10		ug/L	188643	1	03/21/2014 20:26	GK
Chloroform	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Chloromethane	BRL	10		ug/L	188643	1	03/21/2014 20:26	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 20:26	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Cyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Dibromochloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Dichlorodifluoromethane	BRL	10		ug/L	188643	1	03/21/2014 20:26	GK
Ethylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Freon-113	BRL	10		ug/L	188643	1	03/21/2014 20:26	GK
Isopropylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
m,p-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Methyl acetate	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-14S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 10:20:00 AM
Lab ID:	1403H27-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Methylene chloride	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
o-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Styrene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Tetrachloroethene	1.9	1.0		ug/L	188643	1	03/21/2014 20:26	GK
Toluene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 20:26	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Trichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 20:26	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:26	GK
Vinyl chloride	BRL	1.0		ug/L	188643	1	03/21/2014 20:26	GK
Surr: 4-Bromofluorobenzene	95.7	66.2-120		%REC	188643	1	03/21/2014 20:26	GK
Surr: Dibromofluoromethane	105	79.5-121		%REC	188643	1	03/21/2014 20:26	GK
Surr: Toluene-d8	94.1	77-117		%REC	188643	1	03/21/2014 20:26	GK
Sulfide by SW9030B/9034				**(SW9030B)**				
Sulfide	BRL	2.00		mg/L	188792	1	03/25/2014 16:45	EH
ION SCAN SW9056A								
Chloride	5.5	1.0		mg/L	R263791	1	03/20/2014 16:49	GR
Nitrate	3.1	0.25		mg/L	R263791	1	03/20/2014 16:49	GR
Nitrite	BRL	0.25		mg/L	R263791	1	03/20/2014 16:49	GR
Sulfate	BRL	1.0		mg/L	R263791	1	03/20/2014 16:49	GR
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9		ug/L	188628	1	03/21/2014 15:29	SH
Ethylene	BRL	7		ug/L	188628	1	03/21/2014 15:29	SH
Methane	BRL	4		ug/L	188628	1	03/21/2014 15:29	SH
Ferrous Iron SM3500-Fe-B								
Iron, as Ferric (Fe+3)	0.850	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
METALS, TOTAL SW6010C				**(SW3010A)**				
Iron	0.851	0.100		mg/L	188615	1	03/21/2014 18:01	TA

Qualifiers:

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BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-18S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 10:15:00 AM
Lab ID:	1403H27-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R263853	1	03/20/2014 18:52	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
2-Butanone	BRL	50		ug/L	188643	1	03/21/2014 20:53	GK
2-Hexanone	BRL	10		ug/L	188643	1	03/21/2014 20:53	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188643	1	03/21/2014 20:53	GK
Acetone	BRL	50		ug/L	188643	1	03/21/2014 20:53	GK
Benzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Bromodichloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Bromoform	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Bromomethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Carbon disulfide	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Carbon tetrachloride	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Chlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Chloroethane	BRL	10		ug/L	188643	1	03/21/2014 20:53	GK
Chloroform	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Chloromethane	BRL	10		ug/L	188643	1	03/21/2014 20:53	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 20:53	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Cyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Dibromochloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Dichlorodifluoromethane	BRL	10		ug/L	188643	1	03/21/2014 20:53	GK
Ethylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Freon-113	BRL	10		ug/L	188643	1	03/21/2014 20:53	GK
Isopropylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
m,p-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Methyl acetate	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-18S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 10:15:00 AM
Lab ID:	1403H27-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Methylene chloride	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
o-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Styrene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Tetrachloroethene	5.5	1.0		ug/L	188643	1	03/21/2014 20:53	GK
Toluene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 20:53	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Trichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 20:53	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188643	1	03/21/2014 20:53	GK
Vinyl chloride	BRL	1.0		ug/L	188643	1	03/21/2014 20:53	GK
Surr: 4-Bromofluorobenzene	95.5	66.2-120		%REC	188643	1	03/21/2014 20:53	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	188643	1	03/21/2014 20:53	GK
Surr: Toluene-d8	97.4	77-117		%REC	188643	1	03/21/2014 20:53	GK
Sulfide by SW9030B/9034				**(SW9030B)**				
Sulfide	BRL	2.00		mg/L	188792	1	03/25/2014 16:45	EH
ION SCAN SW9056A								
Chloride	2.5	1.0		mg/L	R263791	1	03/20/2014 17:04	GR
Nitrate	0.39	0.25		mg/L	R263791	1	03/20/2014 17:04	GR
Nitrite	BRL	0.25		mg/L	R263791	1	03/20/2014 17:04	GR
Sulfate	BRL	1.0		mg/L	R263791	1	03/20/2014 17:04	GR
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9		ug/L	188628	1	03/21/2014 15:34	SH
Ethylene	BRL	7		ug/L	188628	1	03/21/2014 15:34	SH
Methane	BRL	4		ug/L	188628	1	03/21/2014 15:34	SH
Ferrous Iron SM3500-Fe-B								
Iron, as Ferric (Fe+3)	BRL	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
METALS, TOTAL SW6010C				**(SW3010A)**				
Iron	BRL	0.100		mg/L	188615	1	03/21/2014 18:05	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-17S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 11:50:00 AM
Lab ID:	1403H27-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
2-Butanone	BRL	50		ug/L	188643	1	03/21/2014 21:47	GK
2-Hexanone	BRL	10		ug/L	188643	1	03/21/2014 21:47	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188643	1	03/21/2014 21:47	GK
Acetone	BRL	50		ug/L	188643	1	03/21/2014 21:47	GK
Benzene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Bromodichloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Bromoform	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Bromomethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Carbon disulfide	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Carbon tetrachloride	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Chlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Chloroethane	BRL	10		ug/L	188643	1	03/21/2014 21:47	GK
Chloroform	10	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Chloromethane	BRL	10		ug/L	188643	1	03/21/2014 21:47	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 21:47	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Cyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Dibromochloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Dichlorodifluoromethane	BRL	10		ug/L	188643	1	03/21/2014 21:47	GK
Ethylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Freon-113	BRL	10		ug/L	188643	1	03/21/2014 21:47	GK
Isopropylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
m,p-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Methyl acetate	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Methylcyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Methylene chloride	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
o-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-17S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 11:50:00 AM
Lab ID:	1403H27-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Tetrachloroethene	110	1.0		ug/L	188643	1	03/21/2014 21:47	GK
Toluene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 21:47	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Trichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 21:47	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188643	1	03/21/2014 21:47	GK
Vinyl chloride	BRL	1.0		ug/L	188643	1	03/21/2014 21:47	GK
Surr: 4-Bromofluorobenzene	94	66.2-120		%REC	188643	1	03/21/2014 21:47	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	188643	1	03/21/2014 21:47	GK
Surr: Toluene-d8	96.5	77-117		%REC	188643	1	03/21/2014 21:47	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-16S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 2:00:00 PM
Lab ID:	1403H27-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) SW9060A								
Organic Carbon, Total	BRL	1.00		mg/L	R263853	1	03/20/2014 19:18	GR
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
2-Butanone	BRL	50		ug/L	188643	1	03/21/2014 22:14	GK
2-Hexanone	BRL	10		ug/L	188643	1	03/21/2014 22:14	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188643	1	03/21/2014 22:14	GK
Acetone	BRL	50		ug/L	188643	1	03/21/2014 22:14	GK
Benzene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Bromodichloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Bromoform	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Bromomethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Carbon disulfide	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Carbon tetrachloride	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Chlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Chloroethane	BRL	10		ug/L	188643	1	03/21/2014 22:14	GK
Chloroform	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Chloromethane	BRL	10		ug/L	188643	1	03/21/2014 22:14	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 22:14	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Cyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Dibromochloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Dichlorodifluoromethane	BRL	10		ug/L	188643	1	03/21/2014 22:14	GK
Ethylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Freon-113	BRL	10		ug/L	188643	1	03/21/2014 22:14	GK
Isopropylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
m,p-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Methyl acetate	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-16S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 2:00:00 PM
Lab ID:	1403H27-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylcyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Methylene chloride	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
o-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Styrene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Tetrachloroethene	170	1.0		ug/L	188643	1	03/21/2014 22:14	GK
Toluene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 22:14	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Trichloroethene	1.4	1.0		ug/L	188643	1	03/21/2014 22:14	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188643	1	03/21/2014 22:14	GK
Vinyl chloride	BRL	1.0		ug/L	188643	1	03/21/2014 22:14	GK
Surr: 4-Bromofluorobenzene	94.6	66.2-120		%REC	188643	1	03/21/2014 22:14	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	188643	1	03/21/2014 22:14	GK
Surr: Toluene-d8	95.5	77-117		%REC	188643	1	03/21/2014 22:14	GK
Sulfide by SW9030B/9034				**(SW9030B)**				
Sulfide	BRL	2.00		mg/L	188792	1	03/25/2014 16:45	EH
ION SCAN SW9056A								
Chloride	6.2	1.0		mg/L	R263791	1	03/20/2014 17:19	GR
Nitrate	2.8	0.25		mg/L	R263791	1	03/20/2014 17:19	GR
Nitrite	BRL	0.25		mg/L	R263791	1	03/20/2014 17:19	GR
Sulfate	20	1.0		mg/L	R263791	1	03/20/2014 17:19	GR
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Ethane	BRL	9		ug/L	188628	1	03/21/2014 15:45	SH
Ethylene	BRL	7		ug/L	188628	1	03/21/2014 15:45	SH
Methane	BRL	4		ug/L	188628	1	03/21/2014 15:45	SH
Ferrous Iron SM3500-Fe-B								
Iron, as Ferric (Fe+3)	0.485	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R263996	1	03/19/2014 12:15	AB
METALS, TOTAL SW6010C				**(SW3010A)**				
Iron	0.485	0.100		mg/L	188615	1	03/21/2014 18:09	TA

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-21S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 2:25:00 PM
Lab ID:	1403H27-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
2-Butanone	BRL	50		ug/L	188643	1	03/21/2014 23:09	GK
2-Hexanone	BRL	10		ug/L	188643	1	03/21/2014 23:09	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188643	1	03/21/2014 23:09	GK
Acetone	BRL	50		ug/L	188643	1	03/21/2014 23:09	GK
Benzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Bromodichloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Bromoform	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Bromomethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Carbon disulfide	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Carbon tetrachloride	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Chlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Chloroethane	BRL	10		ug/L	188643	1	03/21/2014 23:09	GK
Chloroform	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Chloromethane	BRL	10		ug/L	188643	1	03/21/2014 23:09	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 23:09	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Cyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Dibromochloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Dichlorodifluoromethane	BRL	10		ug/L	188643	1	03/21/2014 23:09	GK
Ethylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Freon-113	BRL	10		ug/L	188643	1	03/21/2014 23:09	GK
Isopropylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
m,p-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Methyl acetate	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Methylcyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Methylene chloride	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
o-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-21S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 2:25:00 PM
Lab ID:	1403H27-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Tetrachloroethene	4.8	1.0		ug/L	188643	1	03/21/2014 23:09	GK
Toluene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 23:09	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Trichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 23:09	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:09	GK
Vinyl chloride	BRL	1.0		ug/L	188643	1	03/21/2014 23:09	GK
Surr: 4-Bromofluorobenzene	94.6	66.2-120		%REC	188643	1	03/21/2014 23:09	GK
Surr: Dibromofluoromethane	102	79.5-121		%REC	188643	1	03/21/2014 23:09	GK
Surr: Toluene-d8	96.9	77-117		%REC	188643	1	03/21/2014 23:09	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-5S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 3:50:00 PM
Lab ID:	1403H27-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
2-Butanone	BRL	50		ug/L	188643	1	03/21/2014 23:36	GK
2-Hexanone	BRL	10		ug/L	188643	1	03/21/2014 23:36	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188643	1	03/21/2014 23:36	GK
Acetone	BRL	50		ug/L	188643	1	03/21/2014 23:36	GK
Benzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Bromodichloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Bromoform	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Bromomethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Carbon disulfide	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Carbon tetrachloride	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Chlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Chloroethane	BRL	10		ug/L	188643	1	03/21/2014 23:36	GK
Chloroform	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Chloromethane	BRL	10		ug/L	188643	1	03/21/2014 23:36	GK
cis-1,2-Dichloroethene	1.1	1.0		ug/L	188643	1	03/21/2014 23:36	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Cyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Dibromochloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Dichlorodifluoromethane	BRL	10		ug/L	188643	1	03/21/2014 23:36	GK
Ethylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Freon-113	BRL	10		ug/L	188643	1	03/21/2014 23:36	GK
Isopropylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
m,p-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Methyl acetate	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Methylcyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Methylene chloride	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
o-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-5S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 3:50:00 PM
Lab ID:	1403H27-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Tetrachloroethene	48	1.0		ug/L	188643	1	03/21/2014 23:36	GK
Toluene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 23:36	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Trichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 23:36	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188643	1	03/21/2014 23:36	GK
Vinyl chloride	BRL	1.0		ug/L	188643	1	03/21/2014 23:36	GK
Surr: 4-Bromofluorobenzene	94.1	66.2-120		%REC	188643	1	03/21/2014 23:36	GK
Surr: Dibromofluoromethane	102	79.5-121		%REC	188643	1	03/21/2014 23:36	GK
Surr: Toluene-d8	97.5	77-117		%REC	188643	1	03/21/2014 23:36	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-10S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 3:40:00 PM
Lab ID:	1403H27-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
2-Butanone	BRL	50		ug/L	188643	1	03/22/2014 00:03	GK
2-Hexanone	BRL	10		ug/L	188643	1	03/22/2014 00:03	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188643	1	03/22/2014 00:03	GK
Acetone	BRL	50		ug/L	188643	1	03/22/2014 00:03	GK
Benzene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Bromodichloromethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Bromoform	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Bromomethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Carbon disulfide	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Carbon tetrachloride	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Chlorobenzene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Chloroethane	BRL	10		ug/L	188643	1	03/22/2014 00:03	GK
Chloroform	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Chloromethane	BRL	10		ug/L	188643	1	03/22/2014 00:03	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/22/2014 00:03	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Cyclohexane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Dibromochloromethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Dichlorodifluoromethane	BRL	10		ug/L	188643	1	03/22/2014 00:03	GK
Ethylbenzene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Freon-113	BRL	10		ug/L	188643	1	03/22/2014 00:03	GK
Isopropylbenzene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
m,p-Xylene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Methyl acetate	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Methylcyclohexane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Methylene chloride	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
o-Xylene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-10S
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014 3:40:00 PM
Lab ID:	1403H27-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Tetrachloroethene	43	1.0		ug/L	188643	1	03/22/2014 00:03	GK
Toluene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/22/2014 00:03	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Trichloroethene	BRL	1.0		ug/L	188643	1	03/22/2014 00:03	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188643	1	03/22/2014 00:03	GK
Vinyl chloride	BRL	1.0		ug/L	188643	1	03/22/2014 00:03	GK
Surr: 4-Bromofluorobenzene	94.5	66.2-120		%REC	188643	1	03/22/2014 00:03	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	188643	1	03/22/2014 00:03	GK
Surr: Toluene-d8	97.3	77-117		%REC	188643	1	03/22/2014 00:03	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	TRIP BLANK
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014
Lab ID:	1403H27-009	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
2-Butanone	BRL	50		ug/L	188643	1	03/21/2014 19:32	GK
2-Hexanone	BRL	10		ug/L	188643	1	03/21/2014 19:32	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188643	1	03/21/2014 19:32	GK
Acetone	BRL	50		ug/L	188643	1	03/21/2014 19:32	GK
Benzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Bromodichloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Bromoform	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Bromomethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Carbon disulfide	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Carbon tetrachloride	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Chlorobenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Chloroethane	BRL	10		ug/L	188643	1	03/21/2014 19:32	GK
Chloroform	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Chloromethane	BRL	10		ug/L	188643	1	03/21/2014 19:32	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 19:32	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Cyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Dibromochloromethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Dichlorodifluoromethane	BRL	10		ug/L	188643	1	03/21/2014 19:32	GK
Ethylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Freon-113	BRL	10		ug/L	188643	1	03/21/2014 19:32	GK
Isopropylbenzene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
m,p-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Methyl acetate	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Methylcyclohexane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Methylene chloride	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
o-Xylene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 7-Apr-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	TRIP BLANK
Project Name:	Spalding Corners	**Collection Date:**	3/19/2014
Lab ID:	1403H27-009	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Tetrachloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 19:32	GK
Toluene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 19:32	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Trichloroethene	BRL	1.0		ug/L	188643	1	03/21/2014 19:32	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188643	1	03/21/2014 19:32	GK
Vinyl chloride	BRL	1.0		ug/L	188643	1	03/21/2014 19:32	GK
Surr: 4-Bromofluorobenzene	99.2	66.2-120		%REC	188643	1	03/21/2014 19:32	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	188643	1	03/21/2014 19:32	GK
Surr: Toluene-d8	98.5	77-117		%REC	188643	1	03/21/2014 19:32	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Sub Work Order Number 1403427

Checklist completed by _____ 3/19/14
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.1° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by AT

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Sailors Engineering Associates
Project: Spalding Corners
Lab Order: 1403H27

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403H27-001A	MW-1D	3/18/2014 7:20:00PM	Groundwater	TCL VOLATILE ORGANICS		03/21/2014	03/21/2014
1403H27-002A	MW-14S	3/19/2014 10:20:00AM	Groundwater	TCL VOLATILE ORGANICS		03/21/2014	03/21/2014
1403H27-002B	MW-14S	3/19/2014 10:20:00AM	Groundwater	GC Analysis of Gaseous Samples		03/21/2014	03/21/2014
1403H27-002C	MW-14S	3/19/2014 10:20:00AM	Groundwater	Total Organic Carbon (TOC)			03/20/2014
1403H27-002D	MW-14S	3/19/2014 10:20:00AM	Groundwater	Sulfide by SW9030/9034		03/25/2014	03/25/2014
1403H27-002E	MW-14S	3/19/2014 10:20:00AM	Groundwater	Ferrous Iron			03/19/2014
1403H27-002F	MW-14S	3/19/2014 10:20:00AM	Groundwater	ION SCAN			03/20/2014
1403H27-002G	MW-14S	3/19/2014 10:20:00AM	Groundwater	TOTAL METALS BY ICP		03/21/2014	03/21/2014
1403H27-003A	MW-18S	3/19/2014 10:15:00AM	Groundwater	TCL VOLATILE ORGANICS		03/21/2014	03/21/2014
1403H27-003B	MW-18S	3/19/2014 10:15:00AM	Groundwater	GC Analysis of Gaseous Samples		03/21/2014	03/21/2014
1403H27-003C	MW-18S	3/19/2014 10:15:00AM	Groundwater	Total Organic Carbon (TOC)			03/20/2014
1403H27-003D	MW-18S	3/19/2014 10:15:00AM	Groundwater	Sulfide by SW9030/9034		03/25/2014	03/25/2014
1403H27-003E	MW-18S	3/19/2014 10:15:00AM	Groundwater	Ferrous Iron			03/19/2014
1403H27-003F	MW-18S	3/19/2014 10:15:00AM	Groundwater	ION SCAN			03/20/2014
1403H27-003G	MW-18S	3/19/2014 10:15:00AM	Groundwater	TOTAL METALS BY ICP		03/21/2014	03/21/2014
1403H27-004A	MW-17S	3/19/2014 11:50:00AM	Groundwater	TCL VOLATILE ORGANICS		03/21/2014	03/21/2014
1403H27-005A	MW-16S	3/19/2014 2:00:00PM	Groundwater	TCL VOLATILE ORGANICS		03/21/2014	03/21/2014
1403H27-005B	MW-16S	3/19/2014 2:00:00PM	Groundwater	GC Analysis of Gaseous Samples		03/21/2014	03/21/2014
1403H27-005C	MW-16S	3/19/2014 2:00:00PM	Groundwater	Total Organic Carbon (TOC)			03/20/2014
1403H27-005D	MW-16S	3/19/2014 2:00:00PM	Groundwater	Sulfide by SW9030/9034		03/25/2014	03/25/2014
1403H27-005E	MW-16S	3/19/2014 2:00:00PM	Groundwater	Ferrous Iron			03/19/2014
1403H27-005F	MW-16S	3/19/2014 2:00:00PM	Groundwater	ION SCAN			03/20/2014
1403H27-005G	MW-16S	3/19/2014 2:00:00PM	Groundwater	TOTAL METALS BY ICP		03/21/2014	03/21/2014
1403H27-006A	MW-21S	3/19/2014 2:25:00PM	Groundwater	TCL VOLATILE ORGANICS		03/21/2014	03/21/2014
1403H27-007A	MW-5S	3/19/2014 3:50:00PM	Groundwater	TCL VOLATILE ORGANICS		03/21/2014	03/21/2014
1403H27-008A	MW-10S	3/19/2014 3:40:00PM	Groundwater	TCL VOLATILE ORGANICS		03/21/2014	03/22/2014
1403H27-009A	TRIP BLANK	3/19/2014 12:00:00AM	Aqueous	TCL VOLATILE ORGANICS		03/21/2014	03/21/2014

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: 188615

Sample ID: **MB-188615**	Client ID:				Units: **mg/L**		Prep Date: **03/21/2014**		Run No: **263818**
SampleType: **MBLK**	TestCode: **METALS, TOTAL**	**SW6010C**			BatchID: **188615**		Analysis Date: **03/21/2014**		Seq No: **5551066**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron	BRL	0.100									

Sample ID: **LCS-188615**	Client ID:				Units: **mg/L**		Prep Date: **03/21/2014**		Run No: **263818**
SampleType: **LCS**	TestCode: **METALS, TOTAL**	**SW6010C**			BatchID: **188615**		Analysis Date: **03/21/2014**		Seq No: **5551065**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron	10.62	0.100	10.00	0.06120	106	80	120				

Sample ID: **1403I67-007AMS**	Client ID:				Units: **mg/L**		Prep Date: **03/21/2014**		Run No: **263818**
SampleType: **MS**	TestCode: **METALS, TOTAL**	**SW6010C**			BatchID: **188615**		Analysis Date: **03/21/2014**		Seq No: **5551069**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron	10.50	0.100	10.00	0.1707	103	75	125				

Sample ID: **1403I67-007AMSD**	Client ID:				Units: **mg/L**		Prep Date: **03/21/2014**		Run No: **263818**
SampleType: **MSD**	TestCode: **METALS, TOTAL**	**SW6010C**			BatchID: **188615**		Analysis Date: **03/21/2014**		Seq No: **5551070**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron	10.65	0.100	10.00	0.1707	105	75	125	10.50	1.42	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: 188628

Sample ID: **MB-188628** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263837**
SampleType: **MBLK** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **188628** Analysis Date: **03/21/2014** Seq No: **5551279**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	BRL	9									
Ethylene	BRL	7									
Methane	BRL	4									

Sample ID: **LCS-188628** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263837**
SampleType: **LCS** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **188628** Analysis Date: **03/21/2014** Seq No: **5551290**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	125.0	9	200.0		62.5	41.6	115				
Ethylene	84.31	7	200.0		42.2	26.9	115				
Methane	135.2	4	200.0		67.6	45.2	115				

Sample ID: **LCSD-188628** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263837**
SampleType: **LCSD** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **188628** Analysis Date: **03/21/2014** Seq No: **5551294**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	126.5	9	200.0		63.2	41.6	115	125.0	1.17	20	
Ethylene	85.11	7	200.0		42.6	26.9	115	84.31	0.951	20	
Methane	136.9	4	200.0		68.5	45.2	115	135.2	1.31	20	

Sample ID: **1403G98-028FMS** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263837**
SampleType: **MS** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175** BatchID: **188628** Analysis Date: **03/21/2014** Seq No: **5551340**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	112.5	9	200.0		56.3	40.1	115				
Ethylene	74.92	7	200.0		37.5	24.5	115				
Methane	121.2	4	200.0		60.6	41.1	115				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: 188628

Sample ID: **1403G98-028FMSD** Client ID:
SampleType: **MSD** TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**
Units: **ug/L** BatchID: **188628**
Prep Date: **03/21/2014** Analysis Date: **03/21/2014**
Run No: **263837** Seq No: **5551341**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Ethane	117.3	9	200.0		58.6	40.1	115	112.5	4.14	20	
Ethylene	78.10	7	200.0		39.1	24.5	115	74.92	4.16	20	
Methane	126.2	4	200.0		63.1	41.1	115	121.2	4.06	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: 188643

Sample ID: **MB-188643** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263782**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188643** Analysis Date: **03/21/2014** Seq No: **5550633**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: 188643

Sample ID: **MB-188643** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263782**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188643** Analysis Date: **03/21/2014** Seq No: **5550633**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	46.99	0	50.00		94.0	66.2	120				
Surr: Dibromofluoromethane	51.28	0	50.00		103	79.5	121				
Surr: Toluene-d8	49.10	0	50.00		98.2	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: 188643

Sample ID: **LCS-188643** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263782**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188643** Analysis Date: **03/21/2014** Seq No: **5550628**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	42.35	5.0	50.00		84.7	63.1	140				
Benzene	48.31	5.0	50.00		96.6	74.2	129				
Chlorobenzene	47.14	5.0	50.00		94.3	70	129				
Toluene	48.89	5.0	50.00		97.8	74.2	129				
Trichloroethene	50.52	5.0	50.00		101	71.2	135				
Surr: 4-Bromofluorobenzene	47.96	0	50.00		95.9	66.2	120				
Surr: Dibromofluoromethane	51.61	0	50.00		103	79.5	121				
Surr: Toluene-d8	49.81	0	50.00		99.6	77	117				

Sample ID: **1403H28-001AMS** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263782**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188643** Analysis Date: **03/21/2014** Seq No: **5550715**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	53.17	5.0	50.00		106	60.2	159				
Benzene	52.29	5.0	50.00		105	70.2	138				
Chlorobenzene	50.86	5.0	50.00		102	70.1	133				
Toluene	51.91	5.0	50.00		104	70	139				
Trichloroethene	56.01	5.0	50.00		112	70.1	144				
Surr: 4-Bromofluorobenzene	49.28	0	50.00		98.6	66.2	120				
Surr: Dibromofluoromethane	53.27	0	50.00		107	79.5	121				
Surr: Toluene-d8	50.10	0	50.00		100	77	117				

Sample ID: **1403H28-001AMSD** Client ID: Units: **ug/L** Prep Date: **03/21/2014** Run No: **263782**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188643** Analysis Date: **03/21/2014** Seq No: **5550716**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	48.21	5.0	50.00		96.4	60.2	159	53.17	9.78	19.2	
Benzene	49.36	5.0	50.00		98.7	70.2	138	52.29	5.76	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: 188643

Sample ID: **1403H28-001AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/L** Prep Date: **03/21/2014** Run No: **263782**
BatchID: **188643** Analysis Date: **03/21/2014** Seq No: **5550716**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	47.53	5.0	50.00		95.1	70.1	133	50.86	6.77	20	
Toluene	50.56	5.0	50.00		101	70	139	51.91	2.63	20	
Trichloroethene	53.02	5.0	50.00		106	70.1	144	56.01	5.48	20	
Surr: 4-Bromofluorobenzene	50.36	0	50.00		101	66.2	120	49.28	0	0	
Surr: Dibromofluoromethane	52.72	0	50.00		105	79.5	121	53.27	0	0	
Surr: Toluene-d8	49.88	0	50.00		99.8	77	117	50.10	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: 188792

Sample ID: **MB-188792**	Client ID:				Units: **mg/L**		Prep Date: **03/25/2014**		Run No: **264043**
SampleType: **MBLK**	TestCode: **Sulfide by SW9030B/9034**				BatchID: **188792**		Analysis Date: **03/25/2014**		Seq No: **5556274**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	BRL	2.00									

Sample ID: **LCS-188792**	Client ID:				Units: **mg/L**		Prep Date: **03/25/2014**		Run No: **264043**
SampleType: **LCS**	TestCode: **Sulfide by SW9030B/9034**				BatchID: **188792**		Analysis Date: **03/25/2014**		Seq No: **5556275**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	384.0	2.00	384.0		100	40	120				

Sample ID: **1403H27-002DMS**	Client ID: **MW-14S**				Units: **mg/L**		Prep Date: **03/25/2014**		Run No: **264043**
SampleType: **MS**	TestCode: **Sulfide by SW9030B/9034**				BatchID: **188792**		Analysis Date: **03/25/2014**		Seq No: **5556277**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	39.20	2.00	38.40		102	76.7	120				

Sample ID: **1403H27-002DMSD**	Client ID: **MW-14S**				Units: **mg/L**		Prep Date: **03/25/2014**		Run No: **264043**
SampleType: **MSD**	TestCode: **Sulfide by SW9030B/9034**				BatchID: **188792**		Analysis Date: **03/25/2014**		Seq No: **5556280**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	39.60	2.00	38.40		103	76.7	120	39.20	1.02	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: R263791

Sample ID: **MB-R263791** Client ID: Units: **mg/L** Prep Date: Run No: **263791**
SampleType: **MBLK** TestCode: **ION SCAN SW9056A** BatchID: **R263791** Analysis Date: **03/20/2014** Seq No: **5549842**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	BRL	1.0									
Nitrate	BRL	0.25									
Nitrite	BRL	0.25									
Sulfate	BRL	1.0									

Sample ID: **LCS-R263791** Client ID: Units: **mg/L** Prep Date: Run No: **263791**
SampleType: **LCS** TestCode: **ION SCAN SW9056A** BatchID: **R263791** Analysis Date: **03/20/2014** Seq No: **5549838**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	4.746	1.0	5.000		94.9	90	110				
Nitrate	5.173	0.25	5.000		103	90	110				
Nitrite	5.434	0.25	5.000		109	90	110				
Sulfate	23.21	1.0	25.00		92.8	90	110				

Sample ID: **1403H27-003FMS** Client ID: **MW-18S** Units: **mg/L** Prep Date: Run No: **263791**
SampleType: **MS** TestCode: **ION SCAN SW9056A** BatchID: **R263791** Analysis Date: **03/20/2014** Seq No: **5549890**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	6.584	1.0	5.000	2.489	81.9	90	110				S
Nitrate	5.398	0.25	5.000	0.3913	100	90	110				
Nitrite	5.191	0.25	5.000		104	90	110				
Sulfate	23.18	1.0	25.00		92.7	90	110				

Sample ID: **1403H69-004AMS** Client ID: Units: **mg/L** Prep Date: Run No: **263791**
SampleType: **MS** TestCode: **ION SCAN SW9056A** BatchID: **R263791** Analysis Date: **03/20/2014** Seq No: **5549859**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	34.04	5.0	25.00	10.17	95.5	90	110				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: R263791

Sample ID: **1403H69-004AMS** Client ID: Units: **mg/L** Prep Date: Run No: **263791**
SampleType: **MS** TestCode: **ION SCAN SW9056A** BatchID: **R263791** Analysis Date: **03/20/2014** Seq No: **5549859**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrate	30.07	1.2	25.00	4.107	104	90	110				
Nitrite	26.44	1.2	25.00	0.1385	105	90	110				
Sulfate	114.6	5.0	125.0	0.3379	91.4	90	110				

Sample ID: **1403H69-004AMSD** Client ID: Units: **mg/L** Prep Date: Run No: **263791**
SampleType: **MSD** TestCode: **ION SCAN SW9056A** BatchID: **R263791** Analysis Date: **03/20/2014** Seq No: **5549862**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chloride	33.69	5.0	25.00	10.17	94.1	90	110	34.04	1.06	20	
Nitrate	30.21	1.2	25.00	4.107	104	90	110	30.07	0.456	20	
Nitrite	26.38	1.2	25.00	0.1385	105	90	110	26.44	0.238	20	
Sulfate	116.4	5.0	125.0	0.3379	92.9	90	110	114.6	1.58	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: R263853

Sample ID: **MB-R263853** Client ID: Units: **mg/L** Prep Date: Run No: **263853**
SampleType: **MBLK** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R263853** Analysis Date: **03/20/2014** Seq No: **5551641**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	BRL	1.00									

Sample ID: **LCS-R263853** Client ID: Units: **mg/L** Prep Date: Run No: **263853**
SampleType: **LCS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R263853** Analysis Date: **03/20/2014** Seq No: **5551639**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	24.80	1.00	25.00		99.2	90	110				

Sample ID: **1403G98-032CMS** Client ID: Units: **mg/L** Prep Date: Run No: **263853**
SampleType: **MS** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R263853** Analysis Date: **03/20/2014** Seq No: **5551666**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	25.21	1.00	25.00	1.402	95.2	80	120				

Sample ID: **1403G98-032CMSD** Client ID: Units: **mg/L** Prep Date: Run No: **263853**
SampleType: **MSD** TestCode: **Total Organic Carbon (TOC) SW9060A** BatchID: **R263853** Analysis Date: **03/20/2014** Seq No: **5551669**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Organic Carbon, Total	25.27	1.00	25.00	1.402	95.5	80	120	25.21	0.238	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spalding Corners
Workorder: 1403H27

ANALYTICAL QC SUMMARY REPORT

BatchID: R263996

Sample ID: **MB-R263996**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **263996**	
SampleType: **MBLK**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**			BatchID: **R263996**		Analysis Date: **03/19/2014**		Seq No: **5555011**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	BRL	0.100									

Sample ID: **LCS-R263996**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **263996**	
SampleType: **LCS**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**			BatchID: **R263996**		Analysis Date: **03/19/2014**		Seq No: **5555012**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.4803	0.100	0.5000		96.1	85	115				

Sample ID: **1403G09-002EMS**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **263996**	
SampleType: **MS**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**			BatchID: **R263996**		Analysis Date: **03/19/2014**		Seq No: **5555024**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.5321	0.100	0.5000		106	80	120				

Sample ID: **1403G09-002EMSD**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **263996**	
SampleType: **MSD**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**			BatchID: **R263996**		Analysis Date: **03/19/2014**		Seq No: **5555029**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.5292	0.100	0.5000		106	80	120	0.5321	0.546	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

March 25, 2014

Rick Rudolph
Sailors Engineering Associates
1675 Spectrum Drive
Lawrenceville GA 30043

TEL: (770) 962-5922
FAX: (770) 962-7964

RE: Spaulding Corners

Dear Rick Rudolph: Order No: 1403J71

Analytical Environmental Services, Inc. received 7 samples on 3/20/2014 6:30:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Dorothy deBruyn
Project Manager

3080 Presidential Drive • Atlanta, Georgia 30340 • Tel: 770.457.8177 • Fax: 770.457.8188 • Toll Free: 800.972.4889
www.aesatlanta.com

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1403371 MJ 3/6 1403371

Date: 3-20-2014 Page 1 of 1

COMPANY: SAILORS ENGINEERING ASSOCIATES, INC	ADDRESS: 1675 SPECTRUM DRIVE LAWRENCEVILLE, GA 30043
PHONE: 770-962-5922	FAX: 770-962-7964
SAMPLED BY: RICK RUDOLPH	SIGNATURE: Richard M Rudolph

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes) #1	VOCs	REMARKS	No # of Containers
1	MW-13S	3-19-2014	1745	X		GW	X	X		2
2	SW-5	3-20-2014	1135	X		GW	X	X		2
3	SW-4		1300	X		GW	X	X		2
4	SW-3		1405	X	SW	GW	X	X		2
5	MW-7S		1630	X		GW	X	X		2
6	SW-2		1725	X		SW	X	X		2
7	TRIP BLANK		LAB	—		W	X	X		2
8										
9										
10										
11										
12										
13										
14										

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Richard M Rudolph	3-20-2014 1830	1: MJ	3/20/14 6:30
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: SPALDING CORNERS
PROJECT #: 102-063
SITE ADDRESS: SPALDING DRIVE SANDY SPRINGS, GA
SEND REPORT TO: RICK RUDOLPH
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT

Total # of Containers: 14

Turnaround Time Request
- (X) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other

STATE PROGRAM (if any): HSRP
E-mail (Y) / N; Fax? Y (N)
DATA PACKAGE: I (II) III IV

SPECIAL INSTRUCTIONS/COMMENTS: 1 ug/L detection limit for PCE, TCE, DCE, CDCE, EDCE & VC

SHIPMENT METHOD
OUT / /
IN / /
VIA:
(CLIENT) FedEx UPS MAIL COURIER
GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-13S
Project Name:	Spaulding Corners	**Collection Date:**	3/19/2014 5:45:00 PM
Lab ID:	1403J71-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
2-Butanone	BRL	50		ug/L	188726	1	03/24/2014 21:55	GK
2-Hexanone	BRL	10		ug/L	188726	1	03/24/2014 21:55	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188726	1	03/24/2014 21:55	GK
Acetone	BRL	50		ug/L	188726	1	03/24/2014 21:55	GK
Benzene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Bromodichloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Bromoform	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Bromomethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Carbon disulfide	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Carbon tetrachloride	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Chlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Chloroethane	BRL	10		ug/L	188726	1	03/24/2014 21:55	GK
Chloroform	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Chloromethane	BRL	10		ug/L	188726	1	03/24/2014 21:55	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 21:55	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Cyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Dibromochloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Dichlorodifluoromethane	BRL	10		ug/L	188726	1	03/24/2014 21:55	GK
Ethylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Freon-113	BRL	10		ug/L	188726	1	03/24/2014 21:55	GK
Isopropylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
m,p-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Methyl acetate	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Methyl tert-butyl ether	5.1	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Methylcyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Methylene chloride	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
o-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-13S
Project Name:	Spaulding Corners	**Collection Date:**	3/19/2014 5:45:00 PM
Lab ID:	1403J71-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Tetrachloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 21:55	GK
Toluene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 21:55	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Trichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 21:55	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188726	1	03/24/2014 21:55	GK
Vinyl chloride	BRL	1.0		ug/L	188726	1	03/24/2014 21:55	GK
Surr: 4-Bromofluorobenzene	88.6	66.2-120		%REC	188726	1	03/24/2014 21:55	GK
Surr: Dibromofluoromethane	102	79.5-121		%REC	188726	1	03/24/2014 21:55	GK
Surr: Toluene-d8	101	77-117		%REC	188726	1	03/24/2014 21:55	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	SW-5
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 11:35:00 AM
Lab ID:	1403J71-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
2-Butanone	BRL	50		ug/L	188726	1	03/24/2014 20:31	GK
2-Hexanone	BRL	10		ug/L	188726	1	03/24/2014 20:31	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188726	1	03/24/2014 20:31	GK
Acetone	BRL	50		ug/L	188726	1	03/24/2014 20:31	GK
Benzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Bromodichloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Bromoform	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Bromomethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Carbon disulfide	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Carbon tetrachloride	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Chlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Chloroethane	BRL	10		ug/L	188726	1	03/24/2014 20:31	GK
Chloroform	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Chloromethane	BRL	10		ug/L	188726	1	03/24/2014 20:31	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 20:31	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Cyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Dibromochloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Dichlorodifluoromethane	BRL	10		ug/L	188726	1	03/24/2014 20:31	GK
Ethylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Freon-113	BRL	10		ug/L	188726	1	03/24/2014 20:31	GK
Isopropylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
m,p-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Methyl acetate	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Methylcyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Methylene chloride	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
o-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	SW-5
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 11:35:00 AM
Lab ID:	1403J71-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Tetrachloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 20:31	GK
Toluene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 20:31	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Trichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 20:31	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:31	GK
Vinyl chloride	BRL	1.0		ug/L	188726	1	03/24/2014 20:31	GK
Surr: 4-Bromofluorobenzene	88.7	66.2-120		%REC	188726	1	03/24/2014 20:31	GK
Surr: Dibromofluoromethane	101	79.5-121		%REC	188726	1	03/24/2014 20:31	GK
Surr: Toluene-d8	99.6	77-117		%REC	188726	1	03/24/2014 20:31	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	SW-4
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 1:00:00 PM
Lab ID:	1403J71-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
2-Butanone	BRL	50		ug/L	188726	1	03/24/2014 22:23	GK
2-Hexanone	BRL	10		ug/L	188726	1	03/24/2014 22:23	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188726	1	03/24/2014 22:23	GK
Acetone	BRL	50		ug/L	188726	1	03/24/2014 22:23	GK
Benzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Bromodichloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Bromoform	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Bromomethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Carbon disulfide	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Carbon tetrachloride	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Chlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Chloroethane	BRL	10		ug/L	188726	1	03/24/2014 22:23	GK
Chloroform	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Chloromethane	BRL	10		ug/L	188726	1	03/24/2014 22:23	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 22:23	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Cyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Dibromochloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Dichlorodifluoromethane	BRL	10		ug/L	188726	1	03/24/2014 22:23	GK
Ethylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Freon-113	BRL	10		ug/L	188726	1	03/24/2014 22:23	GK
Isopropylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
m,p-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Methyl acetate	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Methylcyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Methylene chloride	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
o-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	SW-4
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 1:00:00 PM
Lab ID:	1403J71-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Tetrachloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 22:23	GK
Toluene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 22:23	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Trichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 22:23	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:23	GK
Vinyl chloride	BRL	1.0		ug/L	188726	1	03/24/2014 22:23	GK
Surr: 4-Bromofluorobenzene	89.2	66.2-120		%REC	188726	1	03/24/2014 22:23	GK
Surr: Dibromofluoromethane	105	79.5-121		%REC	188726	1	03/24/2014 22:23	GK
Surr: Toluene-d8	102	77-117		%REC	188726	1	03/24/2014 22:23	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	SW-3
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 2:05:00 PM
Lab ID:	1403J71-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
2-Butanone	BRL	50		ug/L	188726	1	03/24/2014 22:51	GK
2-Hexanone	BRL	10		ug/L	188726	1	03/24/2014 22:51	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188726	1	03/24/2014 22:51	GK
Acetone	BRL	50		ug/L	188726	1	03/24/2014 22:51	GK
Benzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Bromodichloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Bromoform	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Bromomethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Carbon disulfide	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Carbon tetrachloride	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Chlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Chloroethane	BRL	10		ug/L	188726	1	03/24/2014 22:51	GK
Chloroform	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Chloromethane	BRL	10		ug/L	188726	1	03/24/2014 22:51	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 22:51	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Cyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Dibromochloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Dichlorodifluoromethane	BRL	10		ug/L	188726	1	03/24/2014 22:51	GK
Ethylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Freon-113	BRL	10		ug/L	188726	1	03/24/2014 22:51	GK
Isopropylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
m,p-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Methyl acetate	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Methylcyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Methylene chloride	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
o-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	SW-3
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 2:05:00 PM
Lab ID:	1403J71-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Tetrachloroethene	1.5	1.0		ug/L	188726	1	03/24/2014 22:51	GK
Toluene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 22:51	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Trichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 22:51	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188726	1	03/24/2014 22:51	GK
Vinyl chloride	BRL	1.0		ug/L	188726	1	03/24/2014 22:51	GK
Surr: 4-Bromofluorobenzene	88.2	66.2-120		%REC	188726	1	03/24/2014 22:51	GK
Surr: Dibromofluoromethane	102	79.5-121		%REC	188726	1	03/24/2014 22:51	GK
Surr: Toluene-d8	99.5	77-117		%REC	188726	1	03/24/2014 22:51	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-75
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 4:30:00 PM
Lab ID:	1403J71-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
2-Butanone	BRL	50		ug/L	188726	1	03/24/2014 23:18	GK
2-Hexanone	BRL	10		ug/L	188726	1	03/24/2014 23:18	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188726	1	03/24/2014 23:18	GK
Acetone	BRL	50		ug/L	188726	1	03/24/2014 23:18	GK
Benzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Bromodichloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Bromoform	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Bromomethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Carbon disulfide	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Carbon tetrachloride	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Chlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Chloroethane	BRL	10		ug/L	188726	1	03/24/2014 23:18	GK
Chloroform	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Chloromethane	BRL	10		ug/L	188726	1	03/24/2014 23:18	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 23:18	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Cyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Dibromochloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Dichlorodifluoromethane	BRL	10		ug/L	188726	1	03/24/2014 23:18	GK
Ethylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Freon-113	BRL	10		ug/L	188726	1	03/24/2014 23:18	GK
Isopropylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
m,p-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Methyl acetate	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Methylcyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Methylene chloride	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
o-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	MW-75
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 4:30:00 PM
Lab ID:	1403J71-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Tetrachloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 23:18	GK
Toluene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 23:18	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Trichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 23:18	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:18	GK
Vinyl chloride	BRL	1.0		ug/L	188726	1	03/24/2014 23:18	GK
Surr: 4-Bromofluorobenzene	89.3	66.2-120		%REC	188726	1	03/24/2014 23:18	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	188726	1	03/24/2014 23:18	GK
Surr: Toluene-d8	99.6	77-117		%REC	188726	1	03/24/2014 23:18	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	SW-2
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 5:25:00 PM
Lab ID:	1403J71-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
2-Butanone	BRL	50		ug/L	188726	1	03/24/2014 23:46	GK
2-Hexanone	BRL	10		ug/L	188726	1	03/24/2014 23:46	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188726	1	03/24/2014 23:46	GK
Acetone	BRL	50		ug/L	188726	1	03/24/2014 23:46	GK
Benzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Bromodichloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Bromoform	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Bromomethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Carbon disulfide	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Carbon tetrachloride	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Chlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Chloroethane	BRL	10		ug/L	188726	1	03/24/2014 23:46	GK
Chloroform	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Chloromethane	BRL	10		ug/L	188726	1	03/24/2014 23:46	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 23:46	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Cyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Dibromochloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Dichlorodifluoromethane	BRL	10		ug/L	188726	1	03/24/2014 23:46	GK
Ethylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Freon-113	BRL	10		ug/L	188726	1	03/24/2014 23:46	GK
Isopropylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
m,p-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Methyl acetate	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Methylcyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Methylene chloride	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
o-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	SW-2
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014 5:25:00 PM
Lab ID:	1403J71-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Tetrachloroethene	4.3	1.0		ug/L	188726	1	03/24/2014 23:46	GK
Toluene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 23:46	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Trichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 23:46	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188726	1	03/24/2014 23:46	GK
Vinyl chloride	BRL	1.0		ug/L	188726	1	03/24/2014 23:46	GK
Surr: 4-Bromofluorobenzene	88.7	66.2-120		%REC	188726	1	03/24/2014 23:46	GK
Surr: Dibromofluoromethane	105	79.5-121		%REC	188726	1	03/24/2014 23:46	GK
Surr: Toluene-d8	98.9	77-117		%REC	188726	1	03/24/2014 23:46	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	TRIP BLANK
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014
Lab ID:	1403J71-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,1-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,1-Dichloroethene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,2-Dibromoethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,2-Dichloroethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,2-Dichloropropane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
2-Butanone	BRL	50		ug/L	188726	1	03/24/2014 20:03	GK
2-Hexanone	BRL	10		ug/L	188726	1	03/24/2014 20:03	GK
4-Methyl-2-pentanone	BRL	10		ug/L	188726	1	03/24/2014 20:03	GK
Acetone	BRL	50		ug/L	188726	1	03/24/2014 20:03	GK
Benzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Bromodichloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Bromoform	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Bromomethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Carbon disulfide	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Carbon tetrachloride	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Chlorobenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Chloroethane	BRL	10		ug/L	188726	1	03/24/2014 20:03	GK
Chloroform	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Chloromethane	BRL	10		ug/L	188726	1	03/24/2014 20:03	GK
cis-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 20:03	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Cyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Dibromochloromethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Dichlorodifluoromethane	BRL	10		ug/L	188726	1	03/24/2014 20:03	GK
Ethylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Freon-113	BRL	10		ug/L	188726	1	03/24/2014 20:03	GK
Isopropylbenzene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
m,p-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Methyl acetate	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Methyl tert-butyl ether	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Methylcyclohexane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Methylene chloride	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
o-Xylene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Mar-14

Client:	Sailors Engineering Associates	**Client Sample ID:**	TRIP BLANK
Project Name:	Spaulding Corners	**Collection Date:**	3/20/2014
Lab ID:	1403J71-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Styrene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Tetrachloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 20:03	GK
Toluene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
trans-1,2-Dichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 20:03	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Trichloroethene	BRL	1.0		ug/L	188726	1	03/24/2014 20:03	GK
Trichlorofluoromethane	BRL	5.0		ug/L	188726	1	03/24/2014 20:03	GK
Vinyl chloride	BRL	1.0		ug/L	188726	1	03/24/2014 20:03	GK
Surr: 4-Bromofluorobenzene	87.9	66.2-120		%REC	188726	1	03/24/2014 20:03	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	188726	1	03/24/2014 20:03	GK
Surr: Toluene-d8	98.4	77-117		%REC	188726	1	03/24/2014 20:03	GK

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Spalding Work Order Number 1903371

Checklist completed by MJ 3/20/19
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.6° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Sailors Engineering Associates
Project Name: Spaulding Corners
Workorder: 1403J71

ANALYTICAL QC SUMMARY REPORT

BatchID: 188726

Sample ID: **MB-188726** Client ID: Units: **ug/L** Prep Date: **03/24/2014** Run No: **263937**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188726** Analysis Date: **03/24/2014** Seq No: **5554026**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spaulding Corners
Workorder: 1403J71

ANALYTICAL QC SUMMARY REPORT

BatchID: 188726

Sample ID: **MB-188726** Client ID: Units: **ug/L** Prep Date: **03/24/2014** Run No: **263937**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188726** Analysis Date: **03/24/2014** Seq No: **5554026**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	44.95	0	50.00		89.9	66.2	120				
Surr: Dibromofluoromethane	49.59	0	50.00		99.2	79.5	121				
Surr: Toluene-d8	48.73	0	50.00		97.5	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spaulding Corners
Workorder: 1403J71

ANALYTICAL QC SUMMARY REPORT

BatchID: 188726

Sample ID: **LCS-188726** Client ID: Units: **ug/L** Prep Date: **03/24/2014** Run No: **263937**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188726** Analysis Date: **03/24/2014** Seq No: **5553855**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	48.69	5.0	50.00		97.4	63.1	140				
Benzene	50.51	5.0	50.00		101	74.2	129				
Chlorobenzene	46.76	5.0	50.00		93.5	70	129				
Toluene	50.15	5.0	50.00		100	74.2	129				
Trichloroethene	48.95	5.0	50.00		97.9	71.2	135				
Surr: 4-Bromofluorobenzene	48.68	0	50.00		97.4	66.2	120				
Surr: Dibromofluoromethane	50.63	0	50.00		101	79.5	121				
Surr: Toluene-d8	49.41	0	50.00		98.8	77	117				

Sample ID: **1403J71-002AMS** Client ID: **SW-5** Units: **ug/L** Prep Date: **03/24/2014** Run No: **263937**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188726** Analysis Date: **03/24/2014** Seq No: **5554032**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	57.94	5.0	50.00		116	60.2	159				
Benzene	57.92	5.0	50.00		116	70.2	138				
Chlorobenzene	50.72	5.0	50.00		101	70.1	133				
Toluene	58.16	5.0	50.00		116	70	139				
Trichloroethene	56.78	5.0	50.00		114	70.1	144				
Surr: 4-Bromofluorobenzene	48.64	0	50.00		97.3	66.2	120				
Surr: Dibromofluoromethane	53.72	0	50.00		107	79.5	121				
Surr: Toluene-d8	51.10	0	50.00		102	77	117				

Sample ID: **1403J71-002AMSD** Client ID: **SW-5** Units: **ug/L** Prep Date: **03/24/2014** Run No: **263937**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188726** Analysis Date: **03/24/2014** Seq No: **5554033**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	56.13	5.0	50.00		112	60.2	159	57.94	3.17	19.2	
Benzene	56.37	5.0	50.00		113	70.2	138	57.92	2.71	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Sailors Engineering Associates
Project Name: Spaulding Corners
Workorder: 1403J71

ANALYTICAL QC SUMMARY REPORT

BatchID: 188726

Sample ID: **1403J71-002AMSD** Client ID: **SW-5** Units: **ug/L** Prep Date: **03/24/2014** Run No: **263937**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **188726** Analysis Date: **03/24/2014** Seq No: **5554033**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	51.39	5.0	50.00		103	70.1	133	50.72	1.31	20	
Toluene	55.50	5.0	50.00		111	70	139	58.16	4.68	20	
Trichloroethene	55.29	5.0	50.00		111	70.1	144	56.78	2.66	20	
Surr: 4-Bromofluorobenzene	49.62	0	50.00		99.2	66.2	120	48.64	0	0	
Surr: Dibromofluoromethane	53.06	0	50.00		106	79.5	121	53.72	0	0	
Surr: Toluene-d8	49.84	0	50.00		99.7	77	117	51.10	0	0	

Qualifiers:

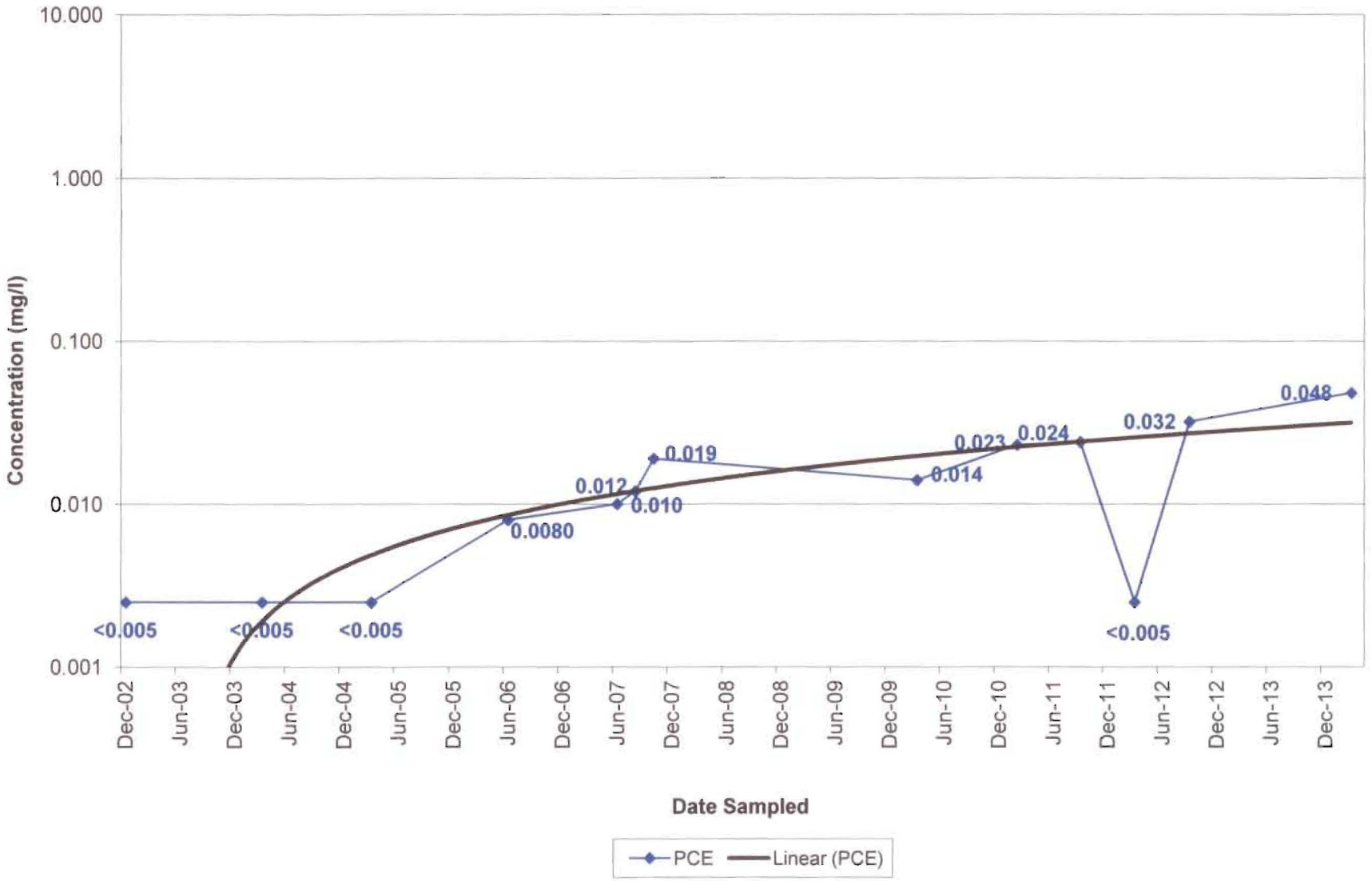
>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

APPENDIX 6

HISTORIC GROUNDWATER AND SEEP WATER PCE TREND GRAPHS

MW-5S

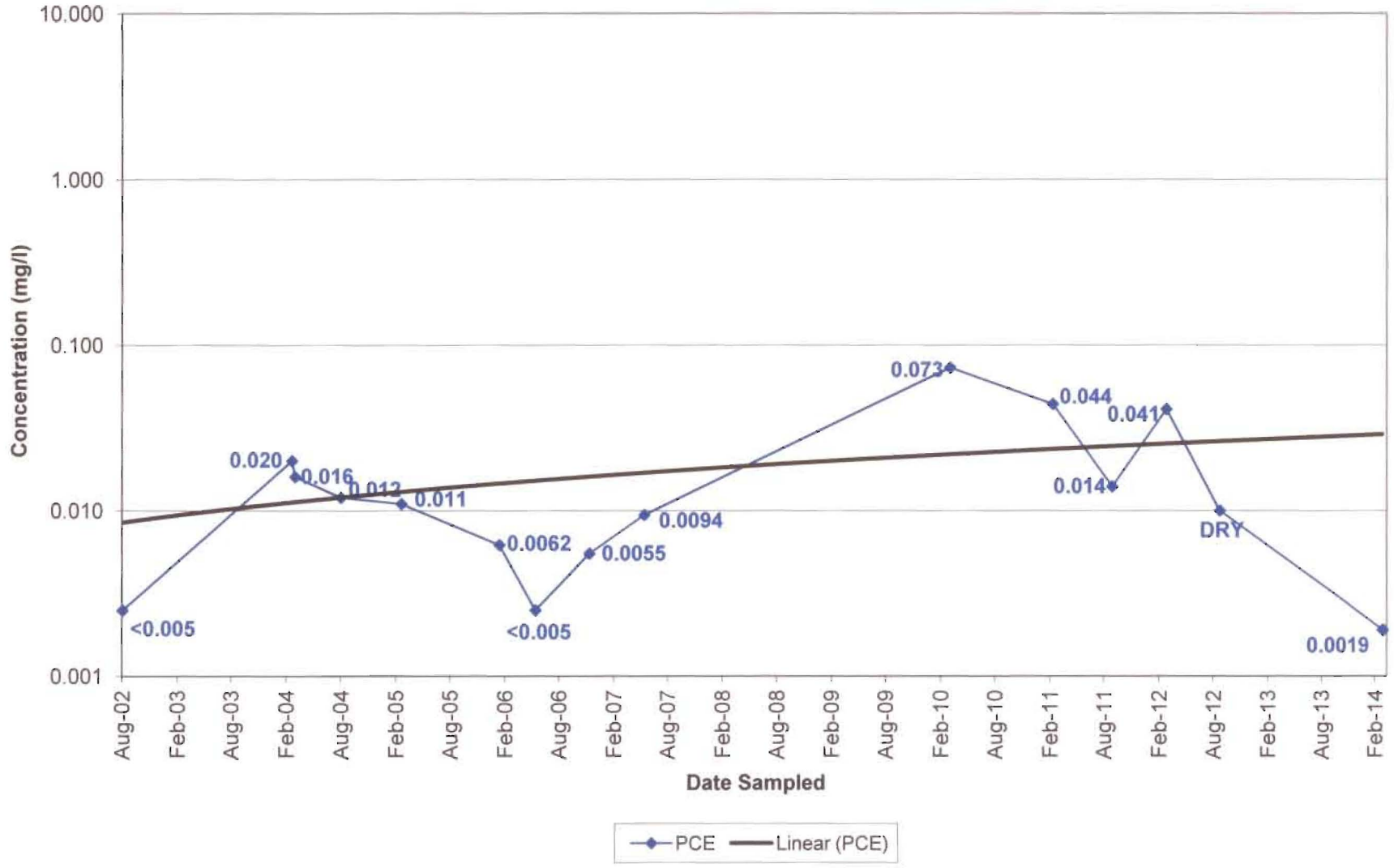
Tetrachlorethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

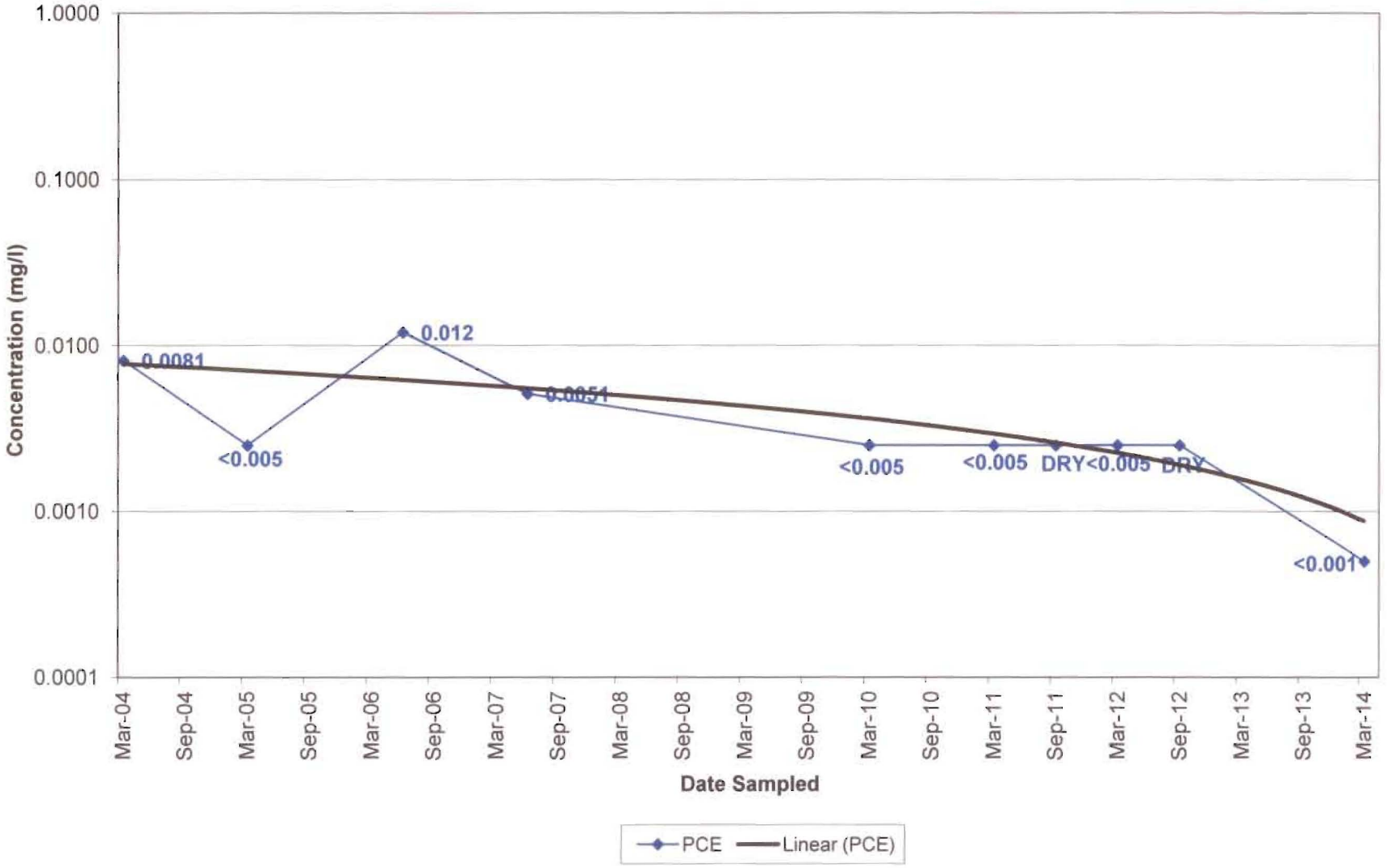
MW-6S
Tetrachloroethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

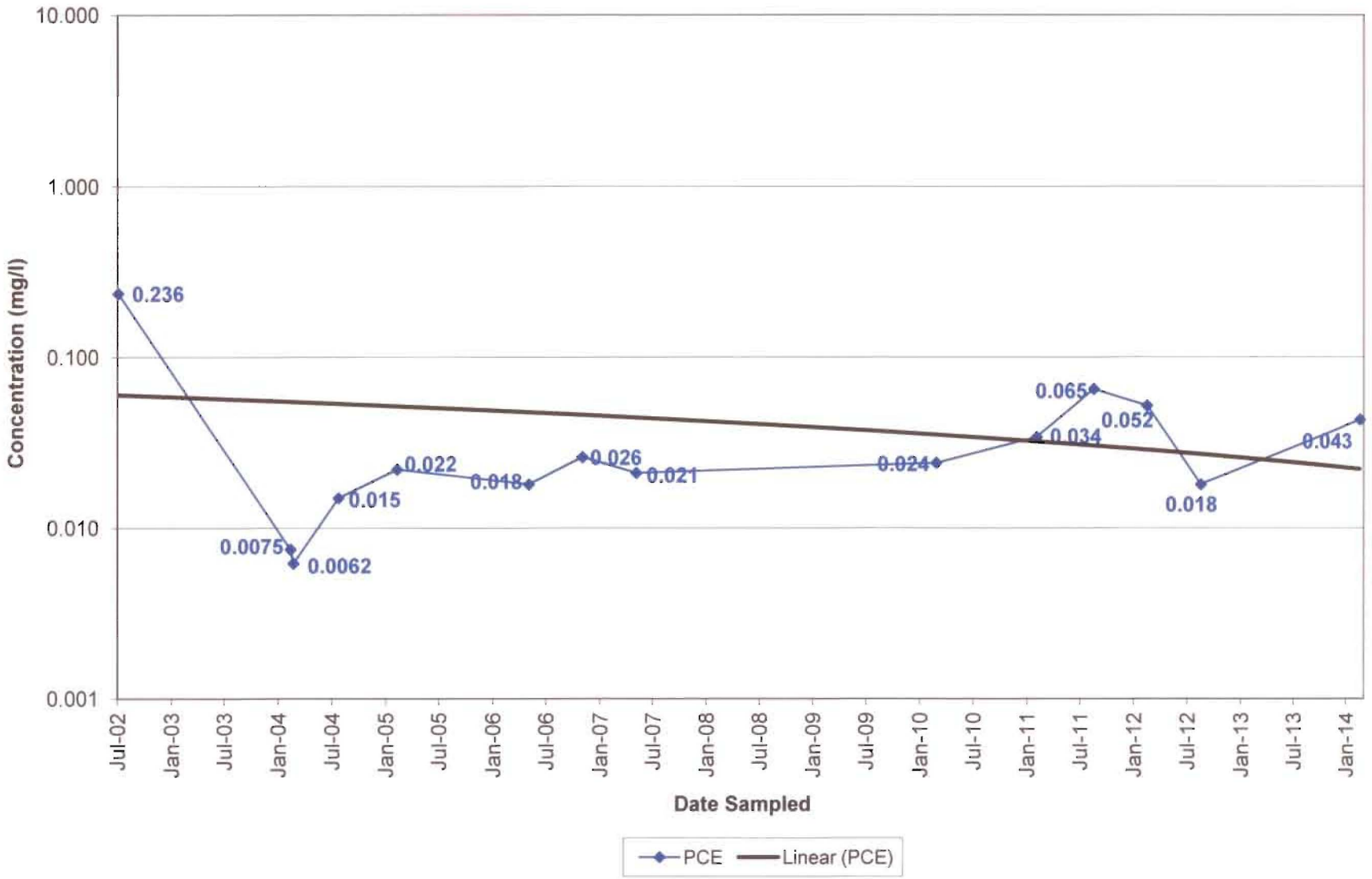
MW-7S
Tetrachloroethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job 3102-063

MW-10S
Tetrachloroethene (PCE) Concentrations

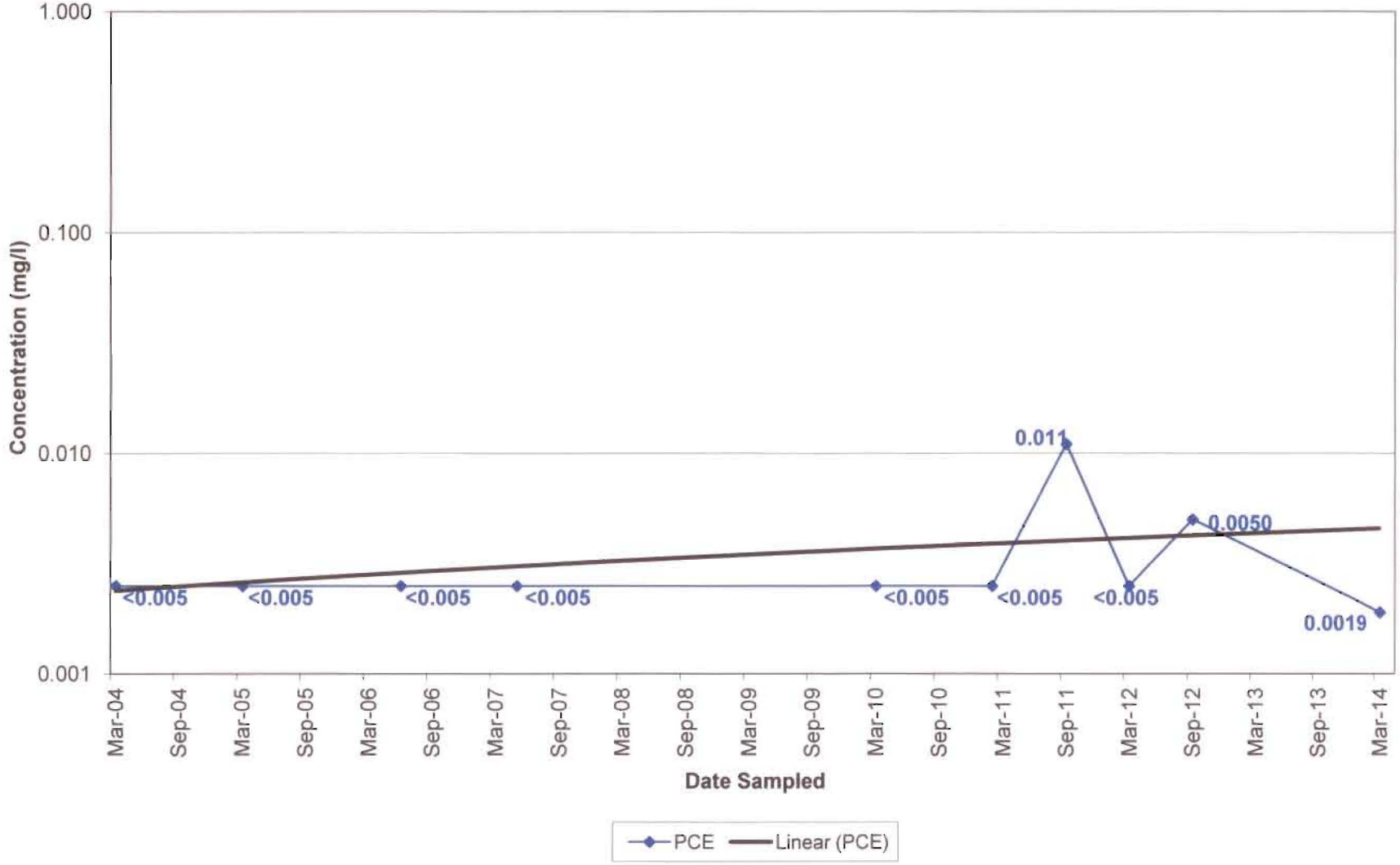


Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

MW-14S

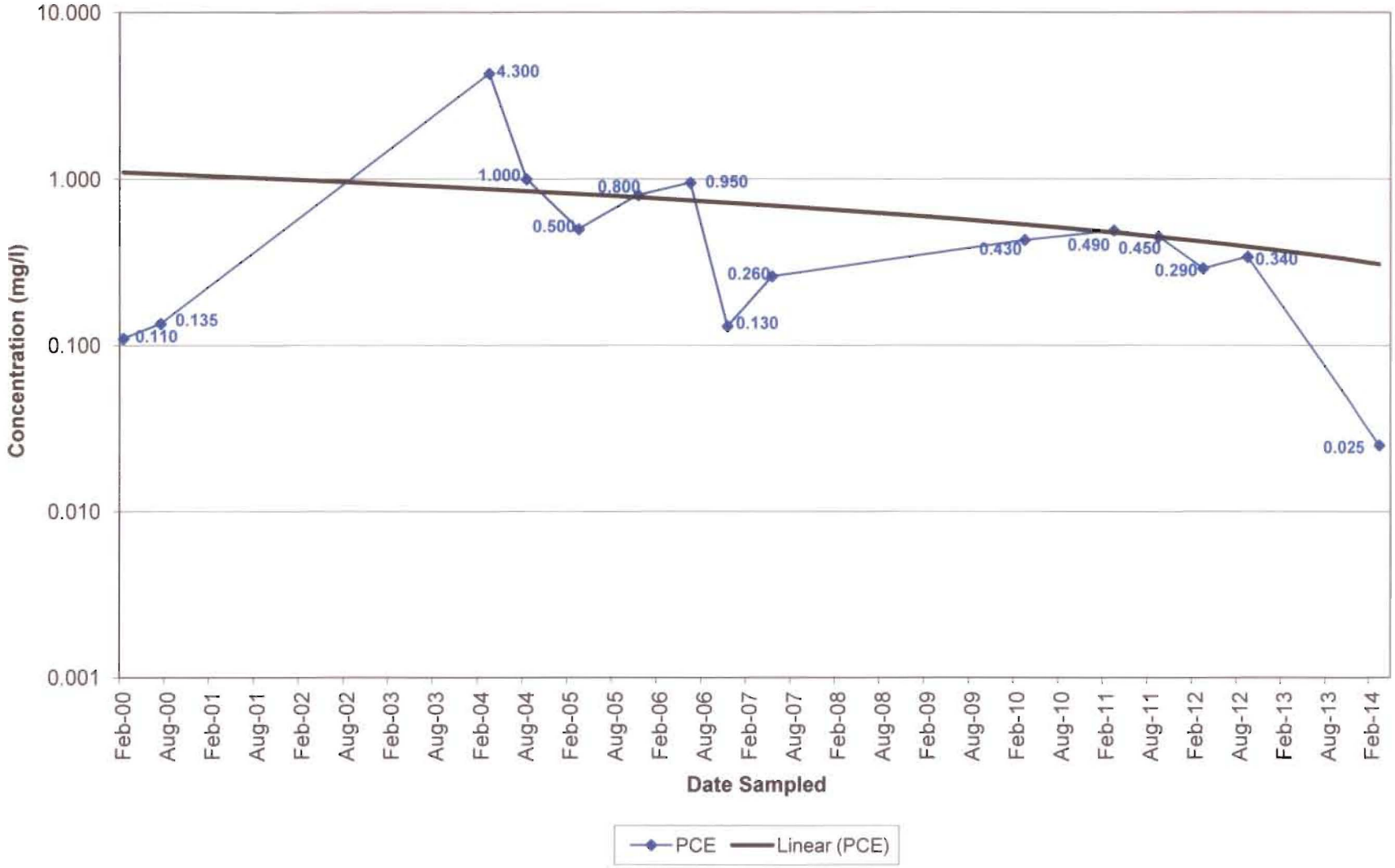
Tetrachloroethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

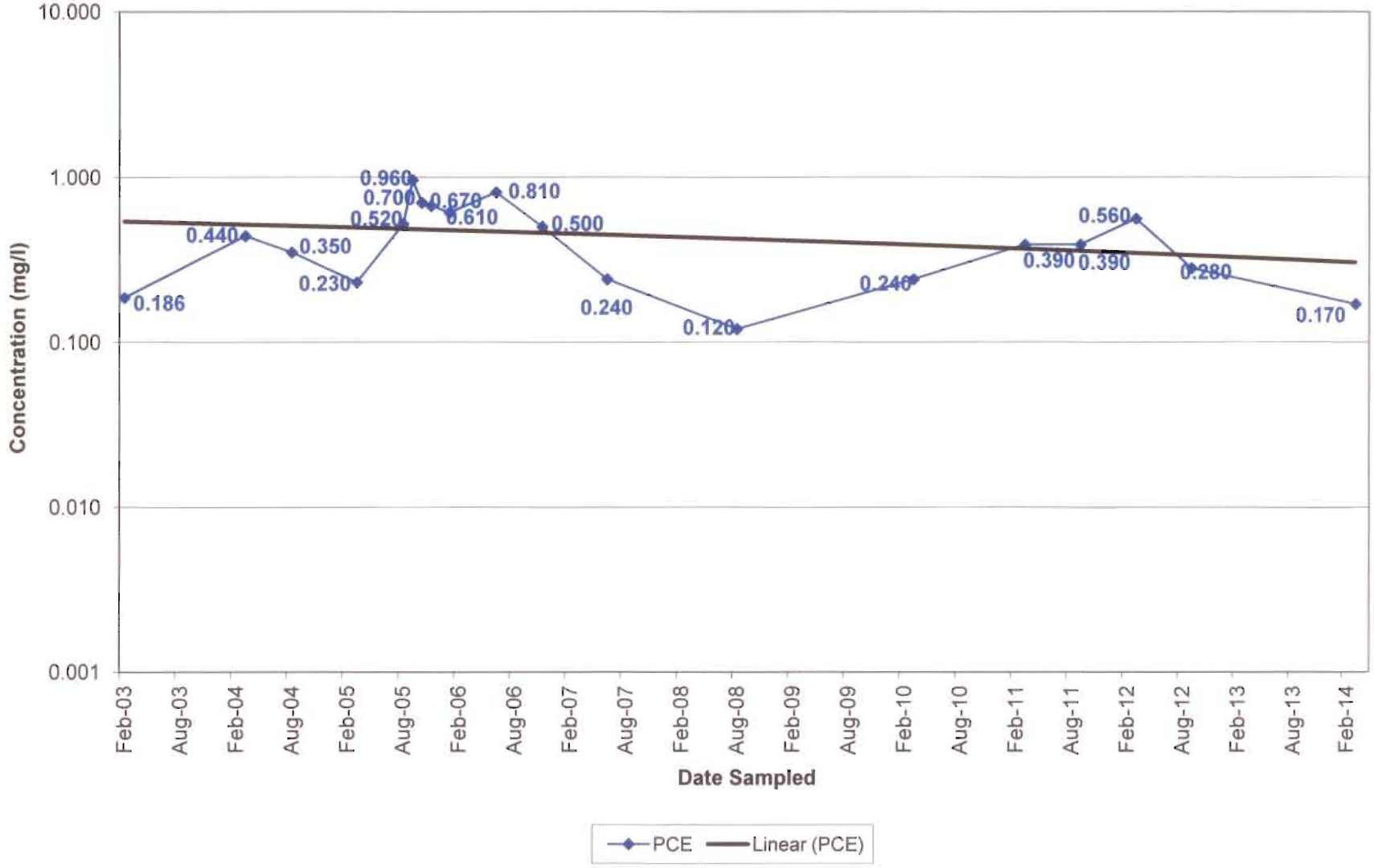
MW-15S
Tetrachloroethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

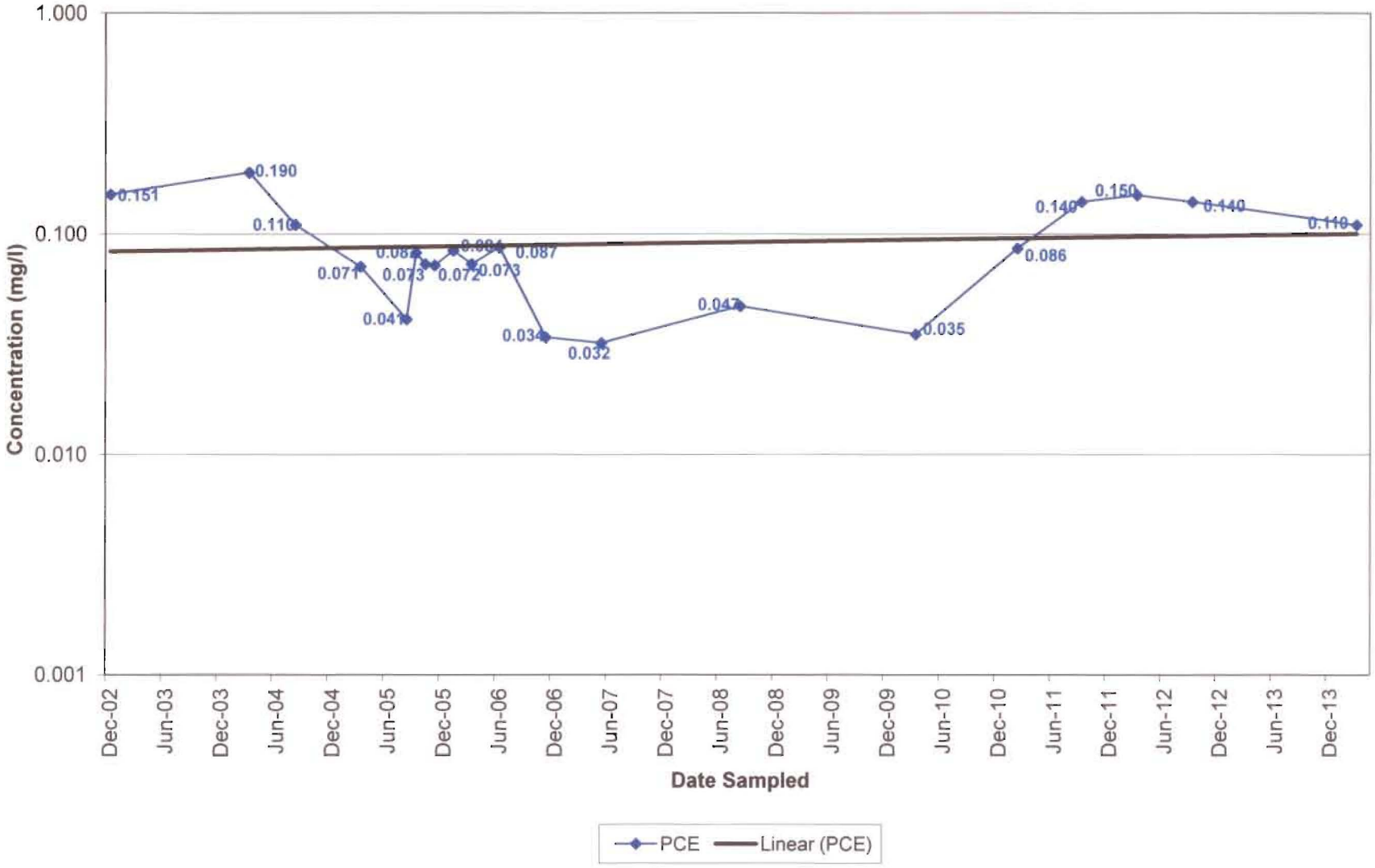
MW-16S
Tetrachloroethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

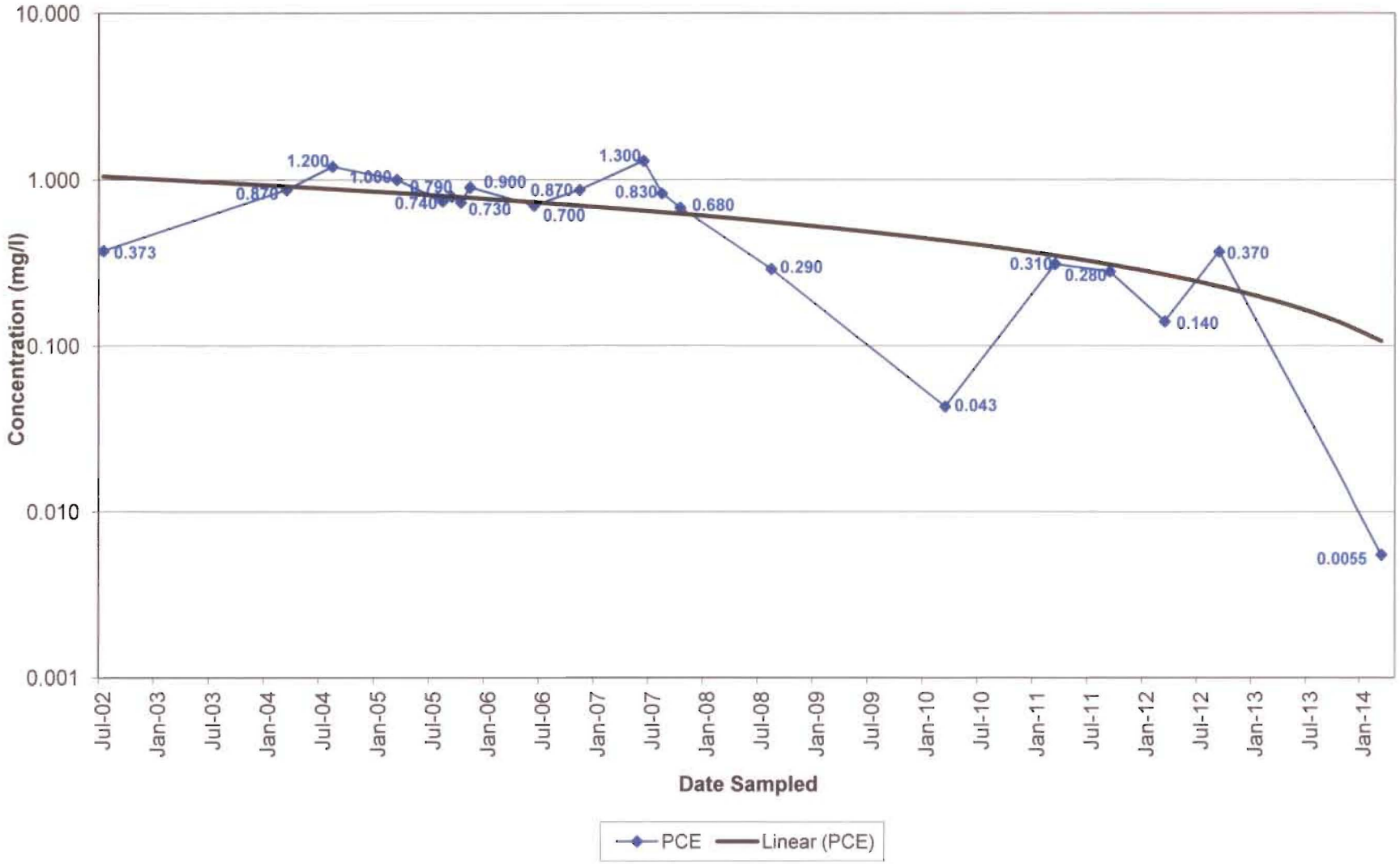
MW-17S
Tetrachlororethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

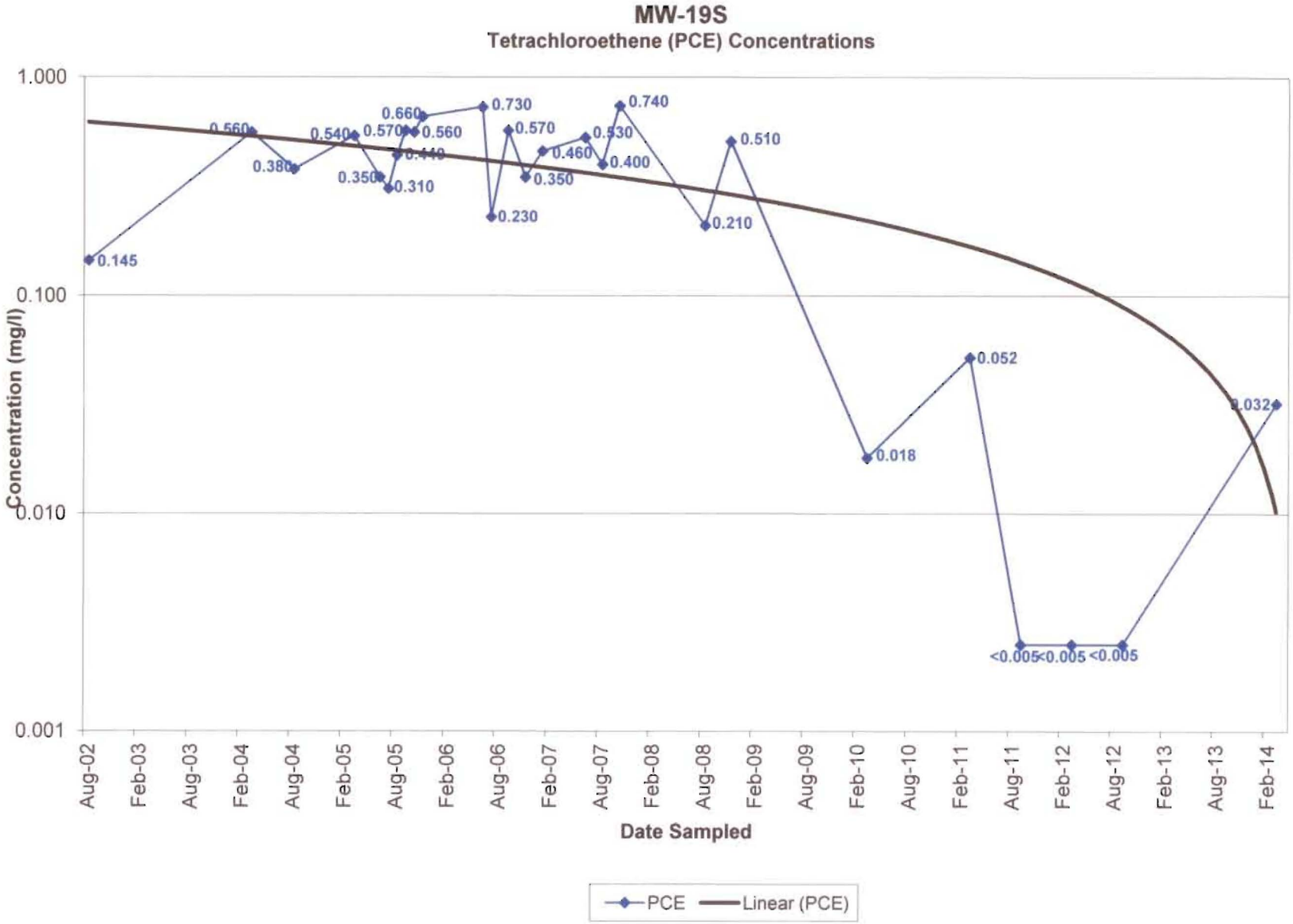
Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

MW-18S
Tetrachloroethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

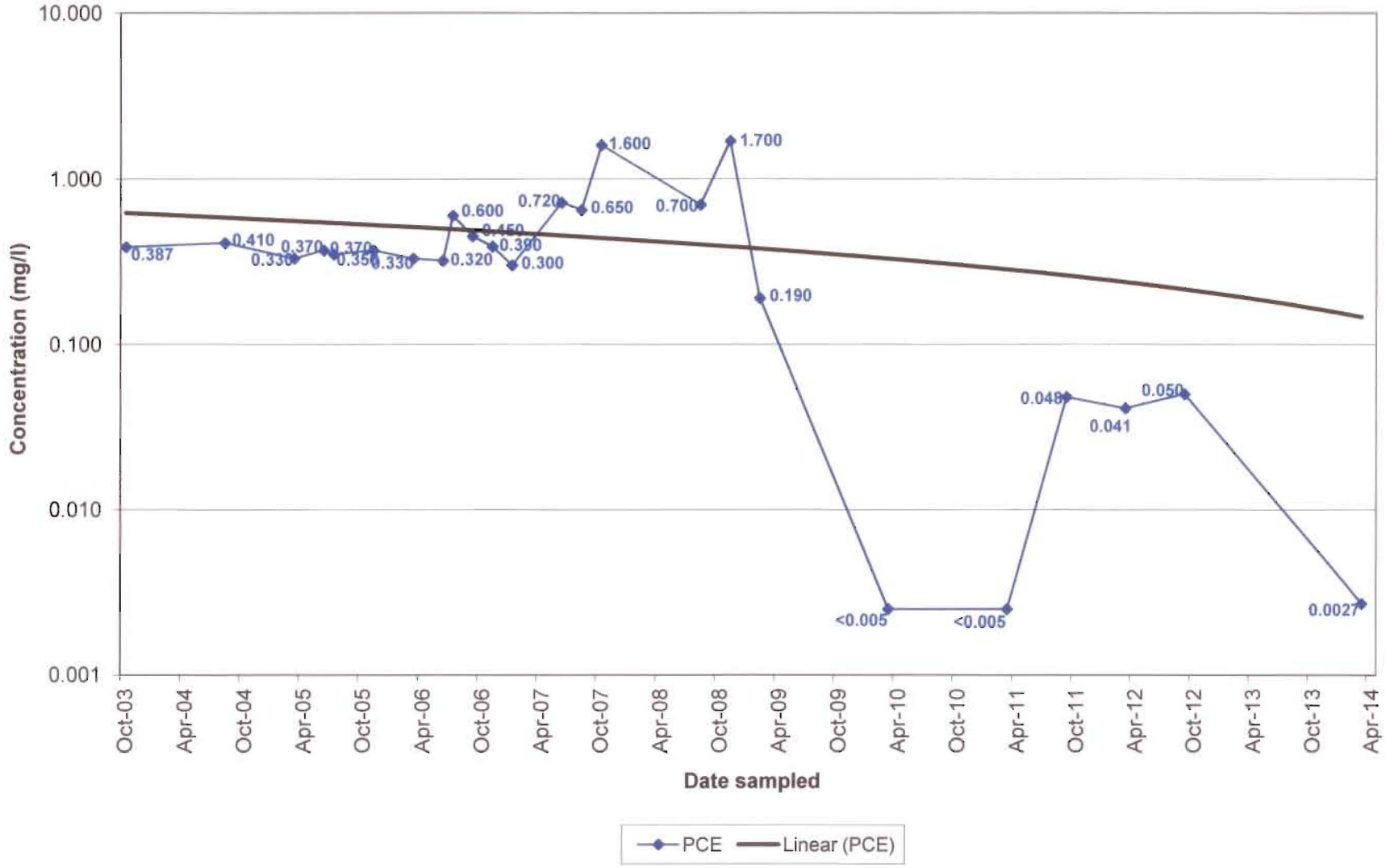
Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

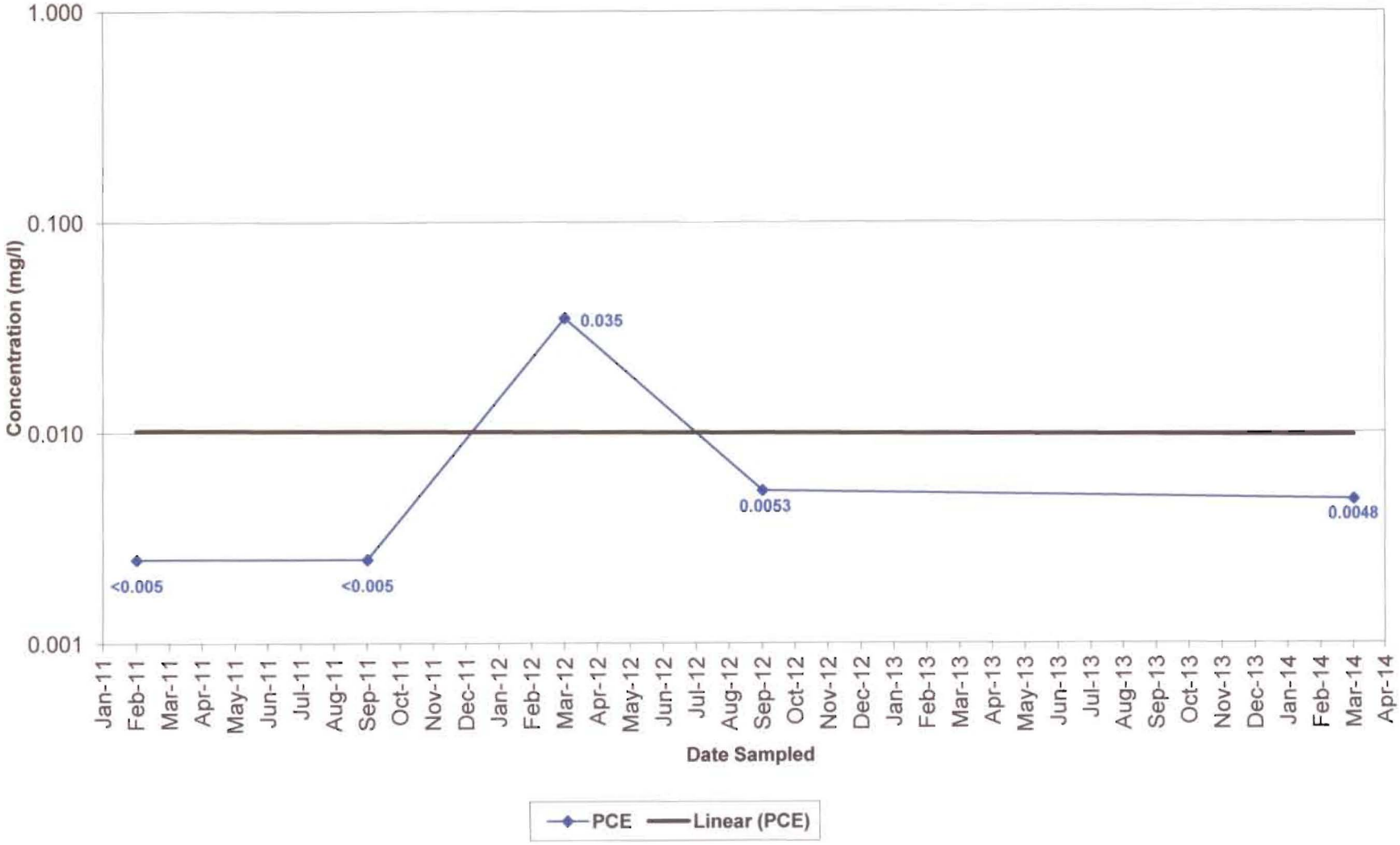
MW-20S
Tetrachloroethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

MW-21S
Tetrachloroethene (PCE) Concentrations

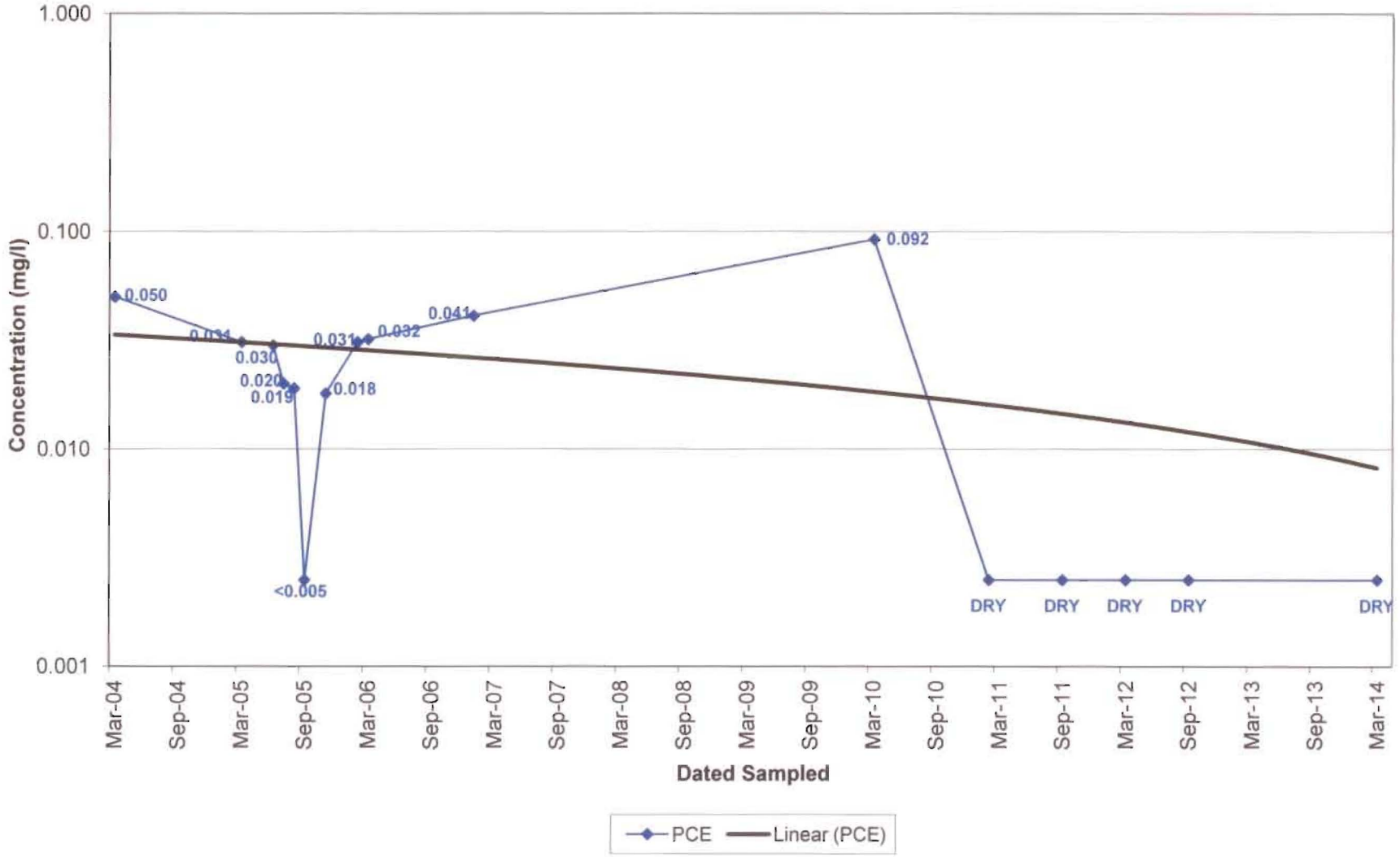


Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

SW-1

Tetrachloroethene (PCE) Concentrations

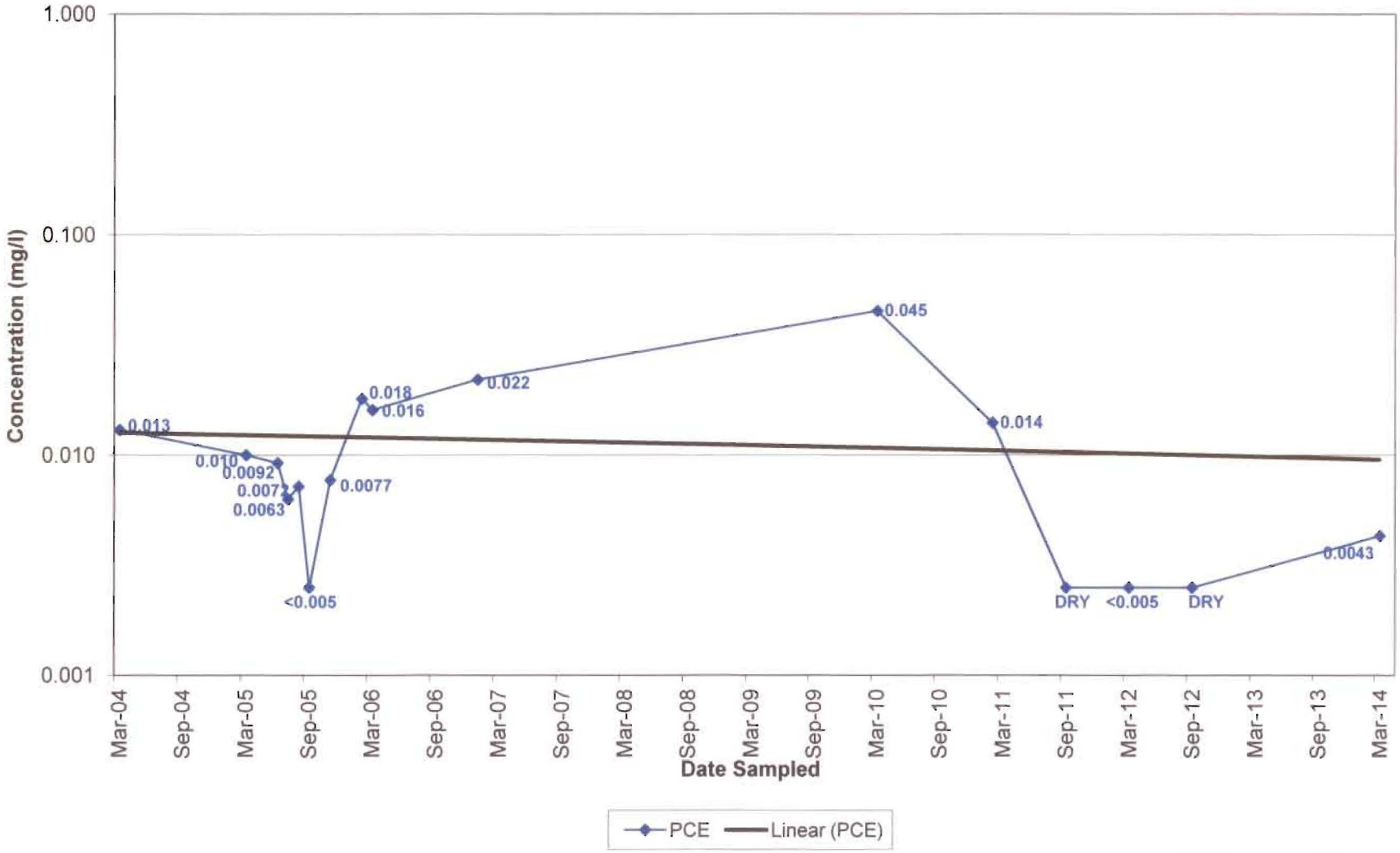


Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

SW-2

Tetrachloroethene (PCE) Concentrations

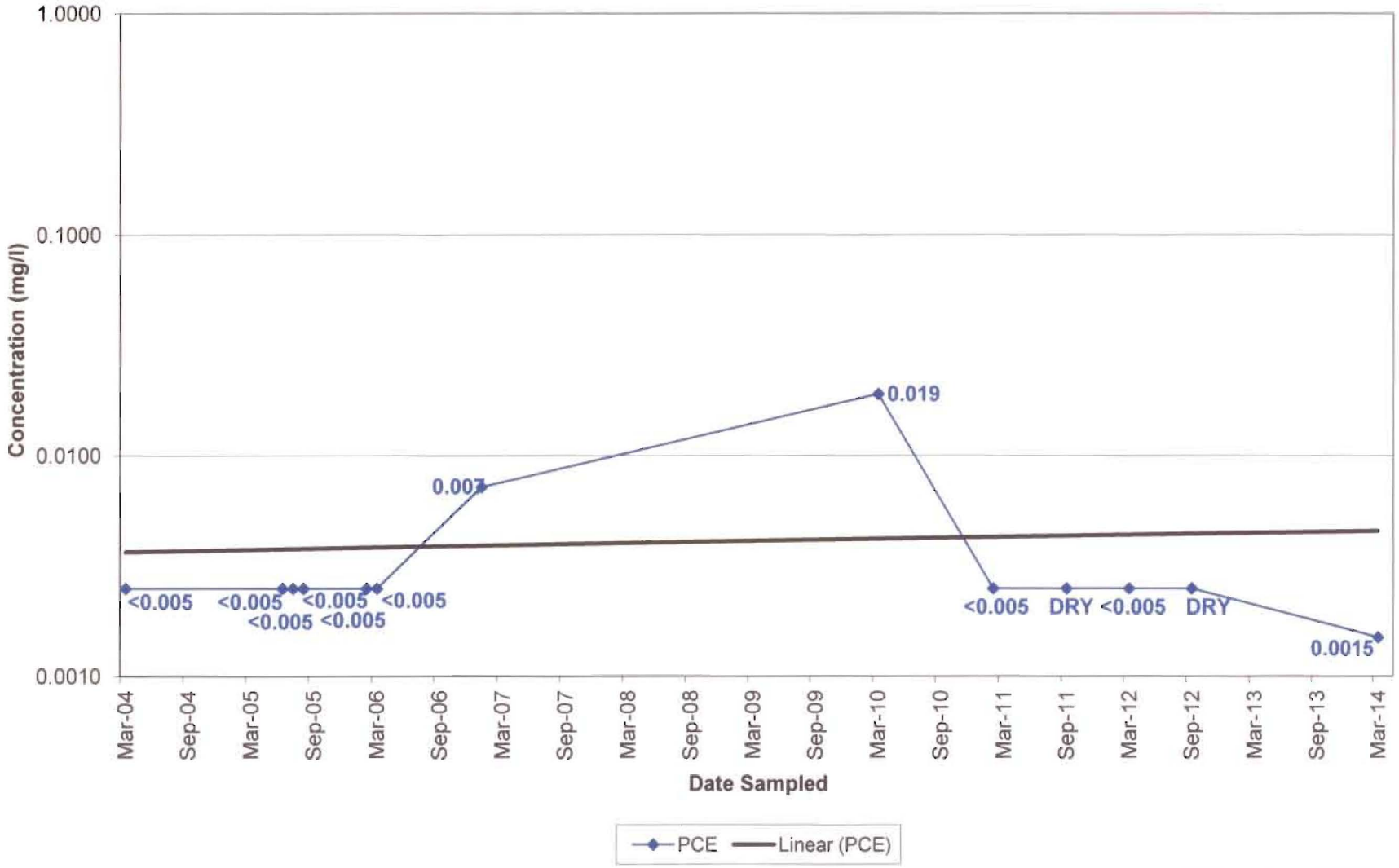


Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

SW-3

Tetrachloroethene (PCE) Concentrations



Spalding Corners Shopping Center
Norcross, Fulton Co., GA
HSI #10639

Sailors Engineering Associates, Inc.
Lawrenceville, GA
SEA Job #102-063

APPENDIX 7

GROUNDWATER MODELING

Spalding Corners Shopping Center
7700 Spalding Drive
Norcross, Fulton County, Georgia
HSI No. 10639
SEA Job #102-063

SourceDK Tier 1 Results Summary

Predicted Date to Achieve Cleanup at 95% Confidence Interval

	Location	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
Source Area	MW-15S	2029			
	MW-16S	2072	2005		
	MW-17S	Can't Calc			
	MW-18S	2022	2004		
	MW-19S	2014	2007	2006	
	MW-20S	2015	2004	2006	

Note: 1. Model calculates dates for decreasing concentration trends only.
2. For increasing trends (plumes with positive slopes = Can't Calc
3. For cleanup levels greater than the concentration of the earliest point of the predicted trend, the predicted cleanup date is the year of the earliest sample entered with the lowest concentration

Lower Limit to Upper Limit on 95% Confidence Interval on Predicted Cleanup Date

	Location	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
Source Area	MW-15S	2016 to 2025			
	MW-16S	2031 to Can't Calc	2005 to 2005		
	MW-17S	2057 to Can't Calc			
	MW-18S	2015 to 2038	2004 to 2005		
	MW-19S	2011 to 2020	2006 to 2009	2006 to 2006	
	MW-20S	2011 to 2028	2004 to 2004	2006 to 2006	

Note: 1. For increasing trends (plumes with positive slopes = Can't Calc
2. For cleanup levels greater than the concentration of the earliest point of the predicted trend, the predicted cleanup date is the year of the earliest sample entered

Source Decay Rate Constant (1/year) = k_s

	Location	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
Source A\rea	MW-15S	0.228			
	MW-16S	0.073	0.189		
	MW-17S	-0.041			
	MW-18S	0.344	0.313		
	MW-19S	0.564	0.466	0.467	
	MW-20S	0.516	0.206	0.249	

Note: Decreasing concentration trends are represented with a positive k_s
Increasing concentrations trends are represented with a negative k_s
Revised March 2014

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-15S (Source Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	3/9/2004	4.3	0.058	0.045	
2	8/13/2004	1	0.017		
3	3/9/2005	0.5			
4	11/29/2005	0.8	0.012		
5	6/1/2006	0.95	0.013	0.0057	
6	11/29/2006	0.13			
7	5/31/2007	0.26			
8	3/23/2010	0.43			
9	3/2/2011	0.49			
10	9/13/2011	0.45			
11	3/13/2012	0.29			
12	9/12/2012	0.34			
13	3/18/2014	0.025			
14					
15					

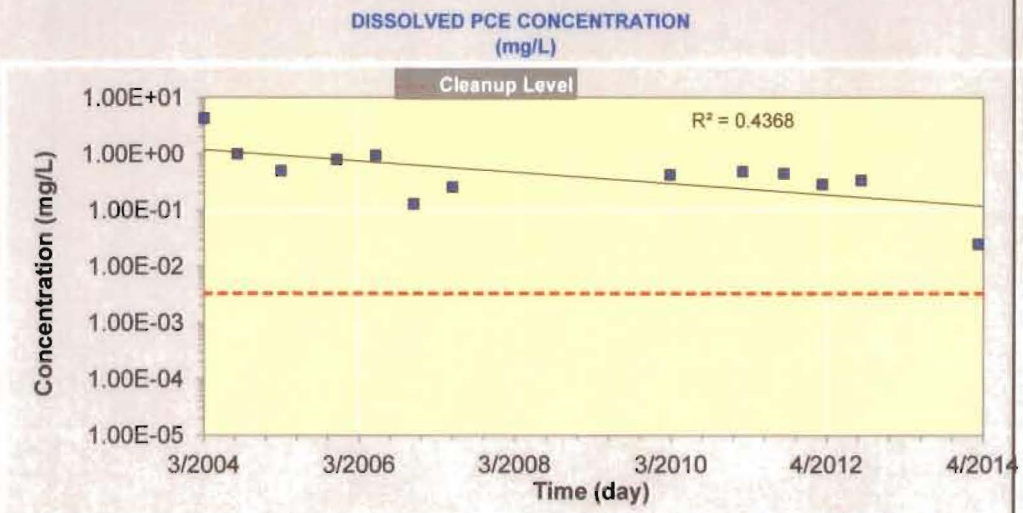
Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

What is the cleanup level?

◉	PCE	0.0033 (mg/L)
○	TCE	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 *(yr)* — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2029**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2016 (Lower Limit on Confidence Interval) to **2125** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **2.28E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | *New Site/Clear Screen* | *Paste Example Data Set* | *HELP*

SourceDK Tier 1

Constituent Historical Data

Site Location and I.D.: SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest: MW-15S (Source Well)

	Date	PCE Concentration (mg/L)	TCE Concentration (mg/L)	cDCE Concentration (mg/L)	
1	3/9/2004	4.300	0.058	0.045	
2	8/13/2004	1.000	0.017		
3	3/9/2005	0.500			
4	11/29/2005	0.800	0.012		
5	6/1/2006	0.950	0.013	0.006	
6	11/29/2006	0.130			
7	5/31/2007	0.260			
8	3/23/2010	0.430			
9	3/2/2011	0.490			
10	9/13/2011	0.450			
11	3/13/2012	0.290			
12	9/12/2012	0.340			
13	3/18/2014	0.025			

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data).*

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-16S (Centerline Well)

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	3/10/2004	0.44			
2	8/13/2004	0.35			
3	3/9/2005	0.23			
4	8/31/2005	0.52	0.019		
5	9/29/2005	0.96	0.0088		
6	10/31/2005	0.7	0.012		
7	11/29/2005	0.67	0.011		
8	1/31/2006	0.61	0.014		
9	6/2/2006	0.81	0.0081		
10	11/29/2006	0.5	0.0025		
11	6/1/2007	0.24	0.0025		
12	8/21/2007	0.19	0.0025		
13	10/26/2007	0.16	0.0025		
14	8/18/2008	0.12	0.0025		
15	3/24/2010	0.24	0.0025		

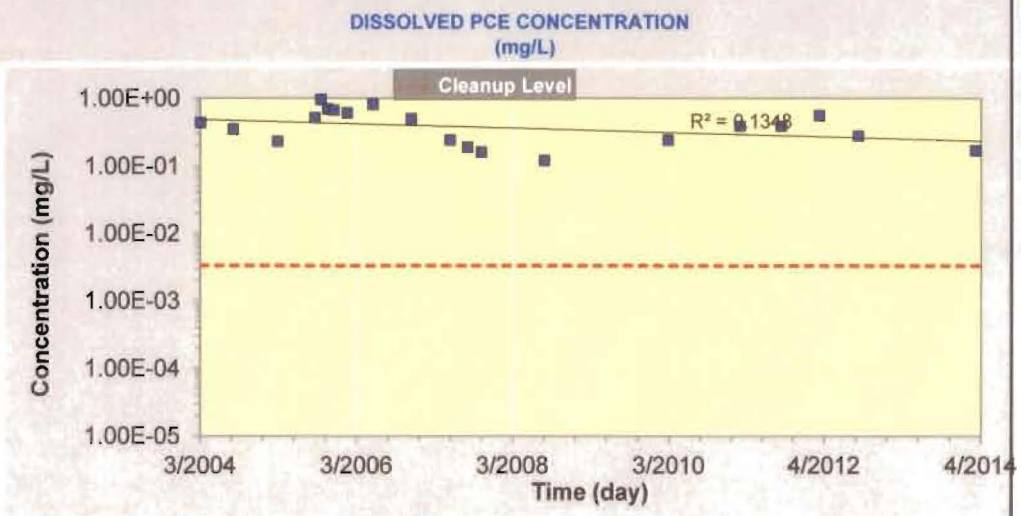
Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

What is the cleanup level?

◉	PCE	0.0033 (mg/L)
○	TCE	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 (yr) — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2072**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2031 (Lower Limit on Confidence Interval) to **Can't Calc (+ve Trend)** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **7.28E-02**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | New Site/Clear Screen | Paste Example Data Set | HELP

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-16S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	3/10/2004	0.44			
2	8/13/2004	0.35			
3	3/9/2005	0.23			
4	8/31/2005	0.52	0.019		
5	9/29/2005	0.96	0.0088		
6	10/31/2005	0.7	0.012		
7	11/29/2005	0.67	0.011		
8	1/31/2006	0.61	0.014		
9	6/2/2006	0.81	0.0081		
10	11/29/2006	0.5	0.0025		
11	6/1/2007	0.24	0.0025		
12	8/21/2007	0.19	0.0025		
13	10/26/2007	0.16	0.0025		
14	8/18/2008	0.12	0.0025		
15	3/24/2010	0.24	0.0025		

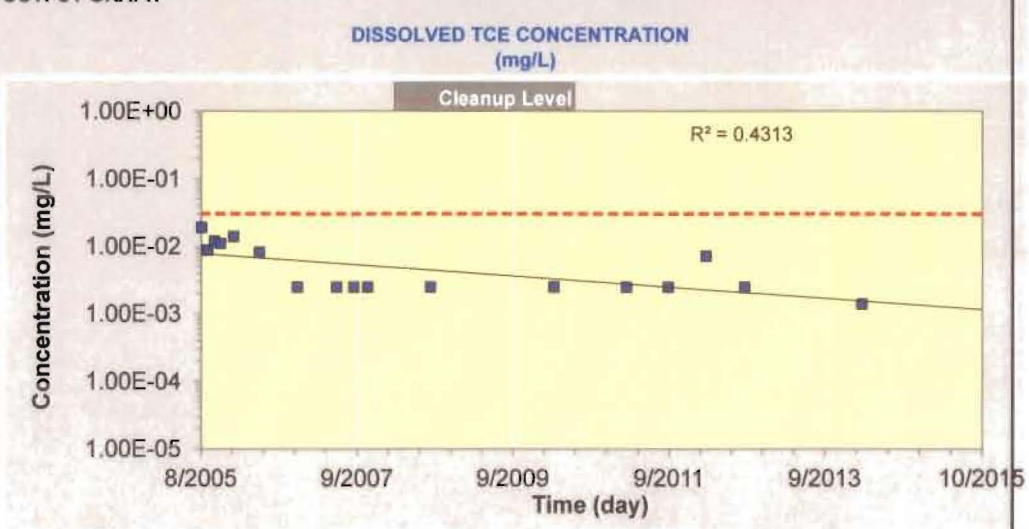
Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

What is the cleanup level?

○	PCE	0.0033 (mg/L)
◉	**TCE**	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 *(yr)* — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2005**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2005 (Lower Limit on Confidence Interval) to **2005** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **1.89E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | *New Site/Clear Screen* | *Paste Example Data Set* | *HELP*

SourceDK Tier 1

Constituent Historical Data

Site Location and I.D.: SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest: MW-16S (Centerline Well)

	Date	PCE Concentration (mg/L)	TCE Concentration (mg/L)	cDCE Concentration (mg/L)	
1	3/10/2004	0.440			
2	8/13/2004	0.350			
3	3/9/2005	0.230			
4	8/31/2005	0.520	0.019		
5	9/29/2005	0.960	0.009		
6	10/31/2005	0.700	0.012		
7	11/29/2005	0.670	0.011		
8	1/31/2006	0.610	0.014		
9	6/2/2006	0.810	0.008		
10	11/29/2006	0.500	0.003		
11	6/1/2007	0.240	0.003		
12	8/21/2007	0.190	0.003		
13	10/26/2007	0.160	0.003		
14	8/18/2008	0.120	0.003		
15	3/24/2010	0.240	0.003		
16	3/2/2011	0.390	0.003		
17	9/14/2011	0.390	0.003		
18	3/12/2012	0.560	0.007	0.005	
19	9/12/2012	0.280	0.003		
20	3/19/2014	0.170	0.001		

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.: SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639

Constituent of Interest: MW-17S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

	Date (mm/dd/yy)	Constituent A: PCE	Constituent B: TCE	Constituent C: cDCE	Constituent D
1	3/10/2004	0.19			
2	8/13/2004	0.11			
3	3/9/2005	0.071			
4	8/31/2005	0.041			
5	9/29/2005	0.082			
6	10/31/2005	0.073			
7	11/29/2005	0.072			
8	1/31/2006	0.084			
9	6/2/2006	0.087			
10	11/29/2006	0.034			
11	5/31/2007	0.032			
12	8/21/2007	0.035			
13	10/26/2007	0.072			
14	8/18/2008	0.047			
15	3/24/2010	0.035			

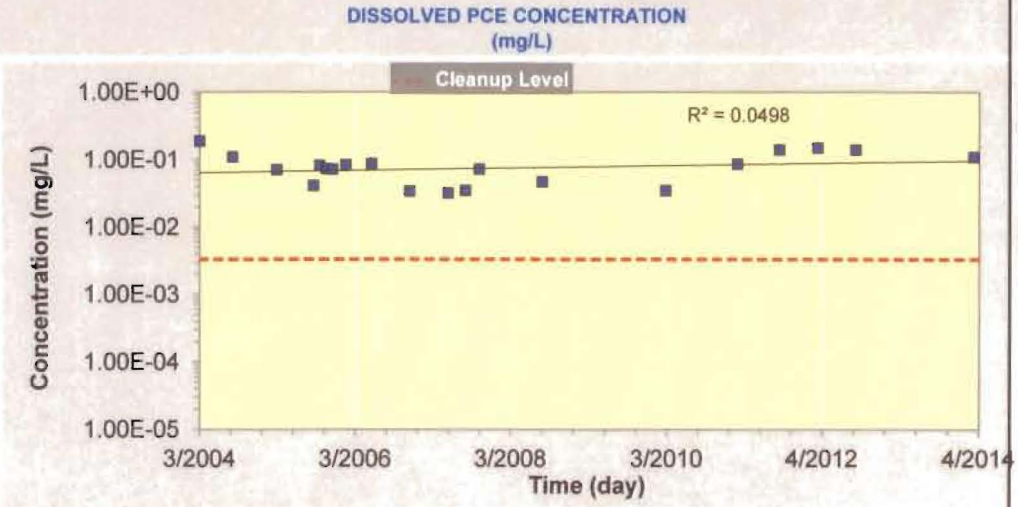
Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

What is the cleanup level?

◉	PCE	0.0033 (mg/L)
○	TCE	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 (yr) — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **Can't Calc (+ve Trend)**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2057 (Lower Limit on Confidence Interval) to **Can't Calc (+ve Trend)** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **-4.06E-02**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | New Site/Clear Screen | Paste Example Data Set | HELP

SourceDK Tier 1

Constituent Historical Data

Site Location and I.D.: SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest: MW-17S (Centerline Well)

	Date	PCE Concentration (mg/L)	TCE Concentration (mg/L)	cDCE Concentration (mg/L)	
1	3/10/2004	0.190			
2	8/13/2004	0.110			
3	3/9/2005	0.071			
4	8/31/2005	0.041			
5	9/29/2005	0.082			
6	10/31/2005	0.073			
7	11/29/2005	0.072			
8	1/31/2006	0.084			
9	6/2/2006	0.087			
10	11/29/2006	0.034			
11	5/31/2007	0.032			
12	8/21/2007	0.035			
13	10/26/2007	0.072			
14	8/18/2008	0.047			
15	3/24/2010	0.035			
16	2/28/2011	0.086			
17	9/15/2011	0.140			
18	3/15/2012	0.150			
19	9/11/2012	0.140			
20	3/19/2014	0.110			

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-18S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	3/9/2004	0.87	0.014		
2	8/13/2004	1.2	0.019		
3	3/9/2005	1	0.017		
4	8/31/2005	0.74	0.013		
5	9/29/2005	0.79	0.012		
6	10/31/2005	0.73	0.014		
7	11/29/2005	0.9	0.014		
8	6/2/2006	0.7	0.01		
9	11/29/2006	0.87	0.019		
10	6/1/2007	1.3	0.024		
11	8/21/2007	0.83	0.018		
12	10/26/2007	0.68	0.0025		
13	8/18/2008	0.29	0.0074		
14	3/24/2010	0.043	0.0025		
15	3/3/2011	0.31	0.0025		

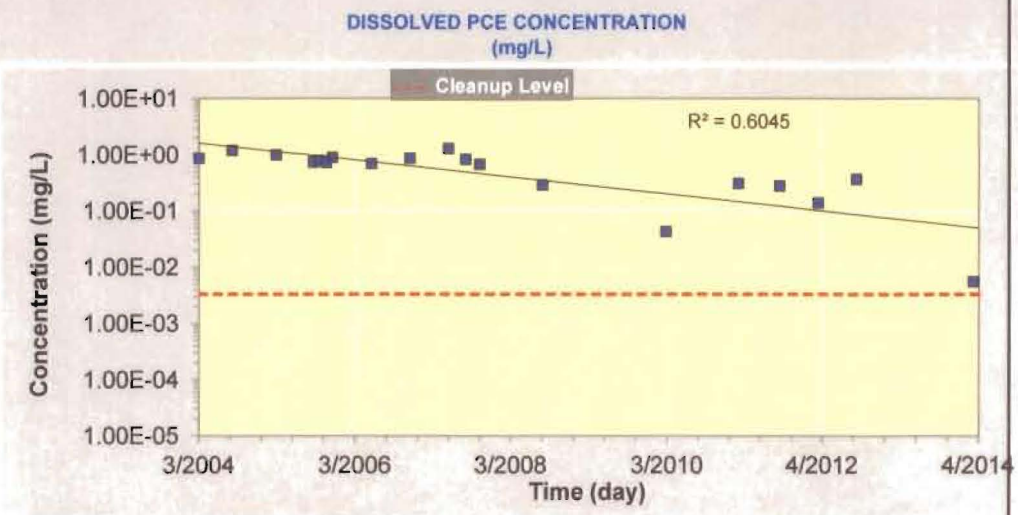
Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

What is the cleanup level?

◉	PCE	0.0033 (mg/L)
○	TCE	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 (yr) — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2022**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2015 (Lower Limit on Confidence Interval) to **2038** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **3.44E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | New Site/Clear Screen | Paste Example Data Set | HELP

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-18S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	3/9/2004	0.87	0.014		
2	8/13/2004	1.2	0.019		
3	3/9/2005	1	0.017		
4	8/31/2005	0.74	0.013		
5	9/29/2005	0.79	0.012		
6	10/31/2005	0.73	0.014		
7	11/29/2005	0.9	0.014		
8	6/2/2006	0.7	0.01		
9	11/29/2006	0.87	0.019		
10	6/1/2007	1.3	0.024		
11	8/21/2007	0.83	0.018		
12	10/26/2007	0.68	0.0025		
13	8/18/2008	0.29	0.0074		
14	3/24/2010	0.043	0.0025		
15	3/3/2011	0.31	0.0025		

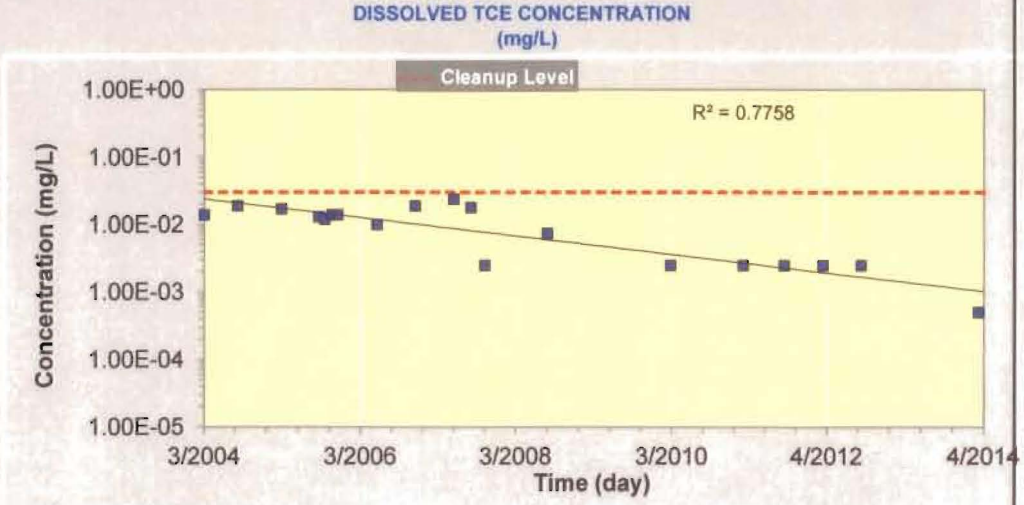
Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

What is the cleanup level?

○	PCE	0.0033 (mg/L)
◉	TCE	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 *(yr)* — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2004**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2004 (Lower Limit on Confidence Interval) to **2005** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **3.13E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | *New Site/Clear Screen* | *Paste Example Data Set* | *HELP*

SourceDK Tier 1

Constituent Historical Data

Site Location and I.D.: SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest: MW-18S (Centerline Well)

	Date	PCE Concentration (mg/L)	TCE Concentration (mg/L)	cDCE Concentration (mg/L)	
1	3/9/2004	0.870	0.014		
2	8/13/2004	1.200	0.019		
3	3/9/2005	1.000	0.017		
4	8/31/2005	0.740	0.013		
5	9/29/2005	0.790	0.012		
6	10/31/2005	0.730	0.014		
7	11/29/2005	0.900	0.014		
8	6/2/2006	0.700	0.010		
9	11/29/2006	0.870	0.019		
10	6/1/2007	1.300	0.024		
11	8/21/2007	0.830	0.018		
12	10/26/2007	0.680	0.003		
13	8/18/2008	0.290	0.007		
14	3/24/2010	0.043	0.003		
15	3/3/2011	0.310	0.003		
16	9/14/2011	0.280	0.003		
17	3/15/2012	0.140	0.003		
18	9/13/2012	0.370	0.003		
19	3/19/2014	0.006	0.001		

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-19S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

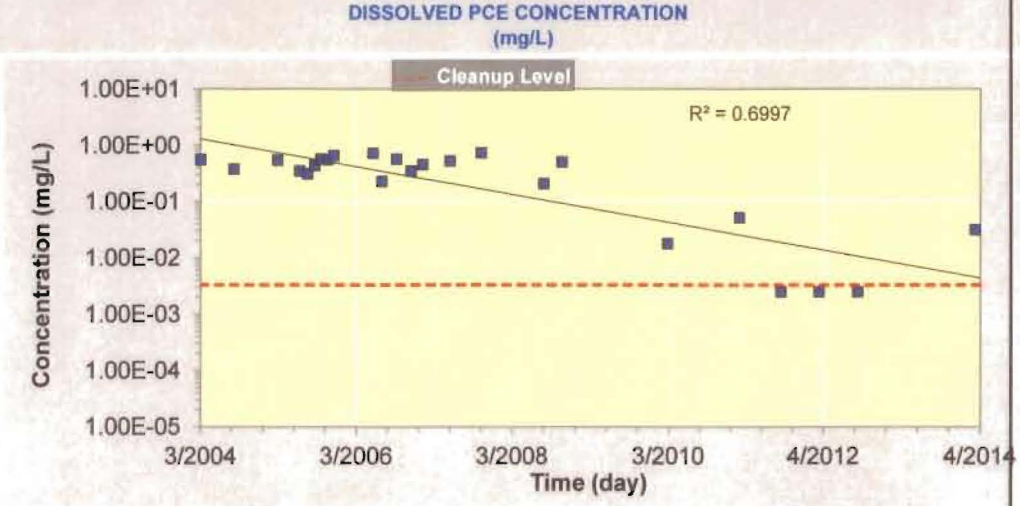
	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	3/9/2004	0.56			
2	8/13/2004	0.38			
3	3/9/2005	0.54			
4	6/21/2005	0.35			
5	7/28/2005	0.31			
6	8/31/2005	0.44			
7	9/29/2005	0.57			
8	10/31/2005	0.56			
9	11/29/2005	0.66			
10	6/2/2006	0.73			
11	7/13/2006	0.23			
12	9/22/2006	0.57	0.13		
13	11/29/2006	0.35	0.05	0.13	
14	1/23/2007	0.46	0.063	0.095	
15	6/1/2007	0.53	0.02	0.024	

Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

		What is the cleanup level?
◉	PCE	0.0033 (mg/L)
○	TCE	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 *(yr)* — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2014**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2011 (Lower Limit on Confidence Interval) to **2020** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **5.64E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | *New Site/Clear Screen* | *Paste Example Data Set* | *HELP*

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-19S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

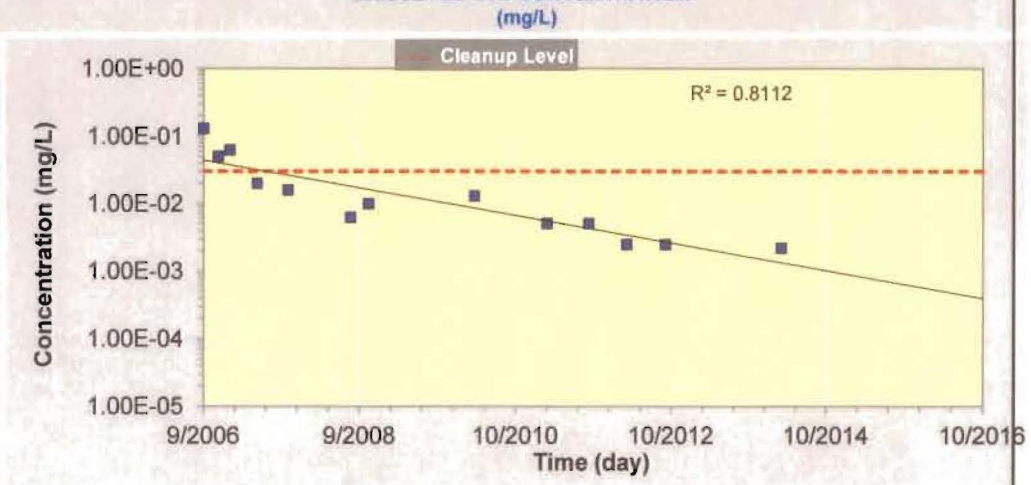
	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	3/9/2004	0.56			
2	8/13/2004	0.38			
3	3/9/2005	0.54			
4	6/21/2005	0.35			
5	7/28/2005	0.31			
6	8/31/2005	0.44			
7	9/29/2005	0.57			
8	10/31/2005	0.56			
9	11/29/2005	0.66			
10	6/2/2006	0.73			
11	7/13/2006	0.23			
12	9/22/2006	0.57	0.13		
13	11/29/2006	0.35	0.05	0.13	
14	1/23/2007	0.46	0.063	0.095	
15	6/1/2007	0.53	0.02	0.024	

Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

		What is the cleanup level?
○	PCE	0.0033 (mg/L)
◉	**TCE**	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 *(yr)* — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2007**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2006 (Lower Limit on Confidence Interval) to **2009** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **4.66E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | *New Site/Clear Screen* | *Paste Example Data Set* | *HELP*

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-19S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	3/9/2004	0.56			
2	8/13/2004	0.38			
3	3/9/2005	0.54			
4	6/21/2005	0.35			
5	7/28/2005	0.31			
6	8/31/2005	0.44			
7	9/29/2005	0.57			
8	10/31/2005	0.56			
9	11/29/2005	0.66			
10	6/2/2006	0.73			
11	7/13/2006	0.23			
12	9/22/2006	0.57	0.13		
13	11/29/2006	0.35	0.05	0.13	
14	1/23/2007	0.46	0.063	0.095	
15	6/1/2007	0.53	0.02	0.024	

Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

		What is the cleanup level?	
○	PCE	0.0033	(mg/L)
○	TCE	0.03	(mg/L)
◉	**cDCE**	10	(mg/L)
○	Constituent D		(mg/L)

3. OUTPUT GRAPH

Number of Years Over Which to Plot Graph: 10.1 *(yr)* — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2006**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2006 (Lower Limit on Confidence Interval) to **2006** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **4.67E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | *New Site/Clear Screen* | *Paste Example Data Set* | *HELP*

SourceDK Tier 1

Constituent Historical Data

Site Location and I.D.: SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest: MW-19S (Centerline Well)

	Date	PCE Concentration (mg/L)	TCE Concentration (mg/L)	cDCE Concentration (mg/L)	
1	3/9/2004	0.560			
2	8/13/2004	0.380			
3	3/9/2005	0.540			
4	6/21/2005	0.350			
5	7/28/2005	0.310			
6	8/31/2005	0.440			
7	9/29/2005	0.570			
8	10/31/2005	0.560			
9	11/29/2005	0.660			
10	6/2/2006	0.730			
11	7/13/2006	0.230			
12	9/22/2006	0.570	0.130		
13	11/29/2006	0.350	0.050	0.130	
14	1/23/2007	0.460	0.063	0.095	
15	6/1/2007	0.530	0.020	0.024	
16	10/26/2007	0.740	0.016	0.016	
17	8/18/2008	0.210	0.006	0.016	
18	11/11/2008	0.510	0.010	0.007	
19	3/24/2010	0.018	0.013	0.008	
20	3/2/2011	0.052	0.005	0.013	
21	9/15/2011	0.003	0.005	0.003	
22	3/14/2012	0.003	0.003	0.003	
23	9/13/2012	0.003	0.003	0.003	
24	3/18/2014	0.032	0.002	0.004	

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-20S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

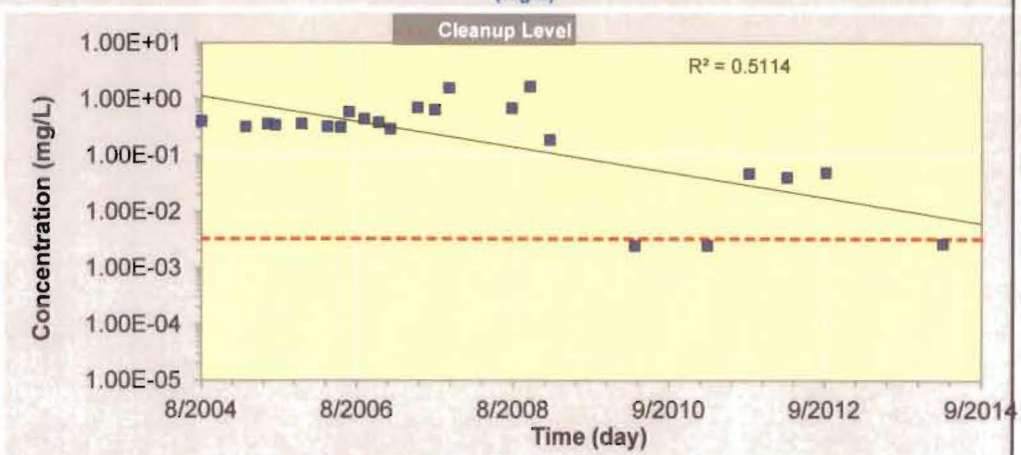
	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	8/13/2004	0.41	0.0091		
2	3/9/2005	0.33	0.0092		
3	6/21/2005	0.37	0.0076		
4	7/28/2005	0.35	0.01		
5	11/29/2005	0.37	0.0083		
6	3/31/2006	0.33	0.0096		
7	6/2/2006	0.32	0.0083		
8	7/13/2006	0.6	0.013		
9	9/22/2006	0.45	0.012	0.031	
10	11/29/2006	0.39	0.0084	0.022	
11	1/23/2007	0.3	0.0095	0.029	
12	6/1/2007	0.72	0.014	0.028	
13	8/21/2007	0.65	0.016	0.033	
14	10/26/2007	1.6	0.023	0.029	
15	8/18/2008	0.7	0.0025	0.022	

Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

		What is the cleanup level?
◉	PCE	0.0033 (mg/L)
○	TCE	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 (yr) — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2015**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2011 (Lower Limit on Confidence Interval) to **2028** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **5.16E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | New Site/Clear Screen | Paste Example Data Set | HELP

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-20S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	8/13/2004	0.41	0.0091		
2	3/9/2005	0.33	0.0092		
3	6/21/2005	0.37	0.0076		
4	7/28/2005	0.35	0.01		
5	11/29/2005	0.37	0.0083		
6	3/31/2006	0.33	0.0096		
7	6/2/2006	0.32	0.0083		
8	7/13/2006	0.6	0.013		
9	9/22/2006	0.45	0.012	0.031	
10	11/29/2006	0.39	0.0084	0.022	
11	1/23/2007	0.3	0.0095	0.029	
12	6/1/2007	0.72	0.014	0.028	
13	8/21/2007	0.65	0.016	0.033	
14	10/26/2007	1.6	0.023	0.029	
15	8/18/2008	0.7	0.0025	0.022	

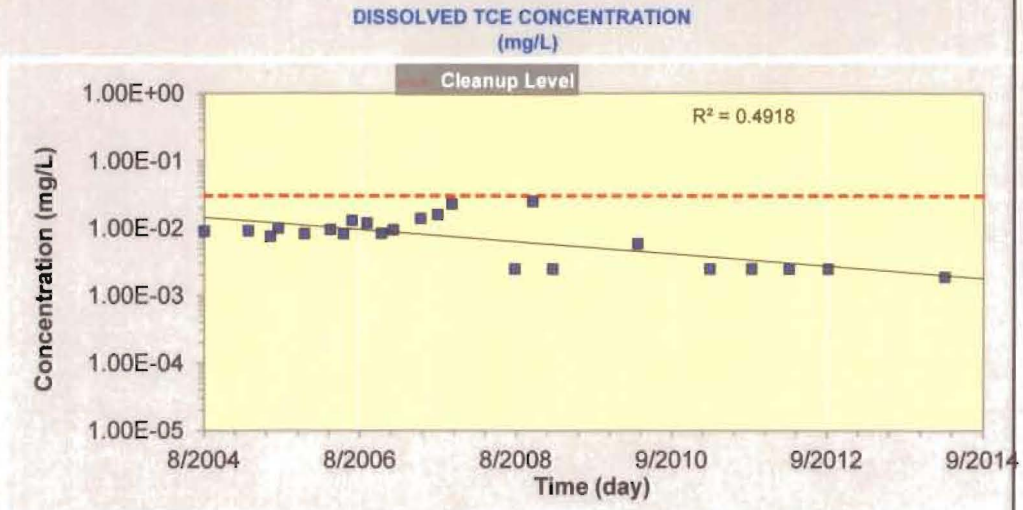
Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

What is the cleanup level?

○	PCE	0.0033 (mg/L)
◉	TCE	0.03 (mg/L)
○	cDCE	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH



Number of Years Over Which to Plot Graph: 10.1 (yr) — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2004**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2004 (Lower Limit on Confidence Interval) to 2004 (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **2.06E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | New Site/Clear Screen | Paste Example Data Set | HELP

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 1 Empirical Data

Site Location and I.D.:	SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest:	MW-20S (Centerline Well)

Data Input Instructions:

10.80 — *Enter value directly.*

10.80 — *Value calculated by model. (Don't enter any data.)*

1. ENTER CONSTITUENT NAME AND HISTORICAL DATA

Concentration mg/L

	Date (mm/dd/yy)	Constituent A PCE	Constituent B TCE	Constituent C cDCE	Constituent D
1	8/13/2004	0.41	0.0091		
2	3/9/2005	0.33	0.0092		
3	6/21/2005	0.37	0.0076		
4	7/28/2005	0.35	0.01		
5	11/29/2005	0.37	0.0083		
6	3/31/2006	0.33	0.0096		
7	6/2/2006	0.32	0.0083		
8	7/13/2006	0.6	0.013		
9	9/22/2006	0.45	0.012	0.031	
10	11/29/2006	0.39	0.0084	0.022	
11	1/23/2007	0.3	0.0095	0.029	
12	6/1/2007	0.72	0.014	0.028	
13	8/21/2007	0.65	0.016	0.033	
14	10/26/2007	1.6	0.023	0.029	
15	8/18/2008	0.7	0.0025	0.022	

Print Historical Data

2. WHICH CONSTITUENT TO PLOT?

What is the cleanup level?

○	PCE	0.0033 (mg/L)
○	TCE	0.03 (mg/L)
◉	**cDCE**	10 (mg/L)
○	Constituent D	(mg/L)

3. OUTPUT GRAPH

Number of Years Over Which to Plot Graph: 10.1 *(yr)* — Update Graph

4. RESULTS

Predicted Date to Achieve Cleanup: **2006**

Confidence Interval on Predicted Cleanup Date:
(at least 3 data points needed to calculate confidence intervals)

○ 90 % Confidence Interval
◉ 95 % Confidence Interval

2006 (Lower Limit on Confidence Interval) to **2006** (Upper Limit on Confidence Interval)

Source Decay Rate Constant (1/year): **2.49E-01**
(positive numbers represent shrinking plumes while negative numbers represent expanding plumes)

Return To Main Screen | *New Site/Clear Screen* | *Paste Example Data Set* | *HELP*

SourceDK Tier 1

Constituent Historical Data

Site Location and I.D.: SEA Job #102-063; Spalding Corners Shopping Center, Norcross, Fulton Co., GA HSI #10639
Constituent of Interest: MW-20S (Centerline Well)

	Date	PCE Concentration (mg/L)	TCE Concentration (mg/L)	cDCE Concentration (mg/L)	
1	8/13/2004	0.410	0.009		
2	3/9/2005	0.330	0.009		
3	6/21/2005	0.370	0.008		
4	7/28/2005	0.350	0.010		
5	11/29/2005	0.370	0.008		
6	3/31/2006	0.330	0.010		
7	6/2/2006	0.320	0.008		
8	7/13/2006	0.600	0.013		
9	9/22/2006	0.450	0.012	0.031	
10	11/29/2006	0.390	0.008	0.022	
11	1/23/2007	0.300	0.010	0.029	
12	6/1/2007	0.720	0.014	0.028	
13	8/21/2007	0.650	0.016	0.033	
14	10/26/2007	1.600	0.023	0.029	
15	8/18/2008	0.700	0.003	0.022	
16	11/11/2008	1.700	0.025	0.020	
17	2/13/2009	0.190	0.003	0.020	
18	3/24/2010	0.003	0.006	0.018	
19	3/2/2011	0.003	0.003	0.012	
20	9/15/2011	0.048	0.003	0.008	
21	3/12/2012	0.041	0.003	0.006	
22	9/13/2012	0.050	0.003	0.007	
23	3/19/2014	0.003	0.002	0.006	

Spalding Corners Shopping Center
7700 Spalding Drive
Norcross, Fulton County, Georgia
HSI No. 10639
SEA Job #102-063

SourceDK Tier 2 Source Area (MW-15S) from t=0 (2004)

Sampling Date	Days from Time 0	Years from Time 0	PCE mg/l	TCE mg/l	DCE mg/l	VC mg/l
3/9/2004	0	**0.00**	4.300	0.058	0.045	<0.002
8/13/2004	157	**0.43**	1.000	0.017	<0.005	<0.002
3/9/2005	365	**1.00**	0.500	0.008	<0.005	<0.002
11/29/2005	630	**1.73**	0.800	0.012	<0.005	<0.002
6/1/2006	814	**2.23**	0.950	0.013	0.0057	<0.002
11/29/2006	995	**2.73**	0.130	<0.005	<0.005	<0.002
5/31/2007	1178	**3.23**	0.260	<0.005	<0.005	<0.002
3/23/2010	2205	**6.04**	0.430	<0.005	<0.005	<0.002
3/2/2011	2549	**6.98**	0.490	<0.005	<0.005	<0.002
9/13/2011	2744	**7.52**	0.450	<0.005	<0.005	<0.002
3/13/2012	2926	**8.02**	0.290	<0.005	<0.005	<0.002
9/12/2012	3109	**8.52**	0.340	<0.005	<0.005	<0.002
3/18/2014	3661	**10.03**	0.025	<0.001	<0.001	<0.001

Darcy Velocity = 1.71E+01 Calculated in model from the average Hydraulic Conductivity (K) = 2.751 feet/day or 9.71E-04 cm/sec (slug tests performed on MW-17s & MW-20S on 3-25-10)
and the Hydraulic gradient (i) = 0.017 between MW-15S & MW-20S on 2-24-11

Average source groundwater concentration of PCE at t=0 (see Table above)

Source Dimensions estimated from site reports & vertical thickness of source zone

Source Decay Constant (k_s) directly from Tier 1 results

SourceDK

Remediation Timeframe Decision Support System

Air Force Center for Environmental Excellence — *Version 1.0*

TIER 2 Box Model

Site Location and I.D.: SEA Job #102-063; HSI #106

Constituent of Interest: MW-15S PCE

Data Input Instructions:

115 — 1. Enter value directly ... or

115 — 2. Calculate by filling in blue cells. Press Enter, then hit "Calculate" button.

115 — 3. Value calculated by model. (Do not enter any data.)

1. HYDROGEOLOGY

Darcy Velocity	V_d	1.71E+01	(ft/yr)
		or	
Hydraulic Conductivity	K	2.8E+00	ft/d
Hydraulic Gradient	i	0.017	(ft/ft)

Calculate Vd

2. SOURCE CHARACTERISTICS

Key Assumption: Source Represented as Box Model

Average Source Groundwater Concentration at Time = 0	C_{gwo}	4.3	mg/L
Source Length	S_l	15	(ft)
Source Width	S_w	15	(ft)
Source Thickness	S_t	20	(ft)
Enter Value for Specific Discharge or Press "Calculate Q" Button	Q	1.1E+03	(ft^3/yr)

Calculate Q

3. SOURCE DECAY CONSTANT

◉ Enter Directly — k_s = 0.228 (1/yr)

↓ or

○ Calculate Source Decay Constant Using Sections 3A and 3B — k_s = (1/yr)

4. TIME FOR OUTPUT

a) Number of Years Over Which to Plot Data: 10.1 (yr) (Required)

b) Time in Years at Which Decay Starts: 0 (yr) (Optional)

5. UNCERTAINTY RANGE FOR ks ESTIMATE

± Factor of 100

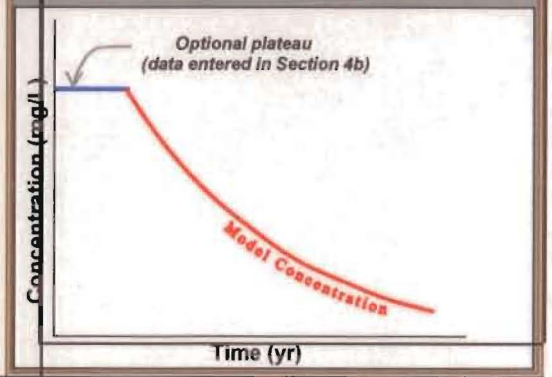
6. FIELD DATA FOR COMPARISON

Year From Time = 0 (yr)	0	0.43	1	1.73	2.23	2.73	3.23	6.98	7.52	8.02	8.52	10
Concentration (mg/L)	4.3	1	0.5	0.8	0.95	0.13	0.26	0.49	0.45	0.29	0.34	0.03

7. CHOOSE OUTPUT TO VIEW

Show Graph | Return to Main Screen | New Site/Clear Screen | Paste Example Data Set | HELP

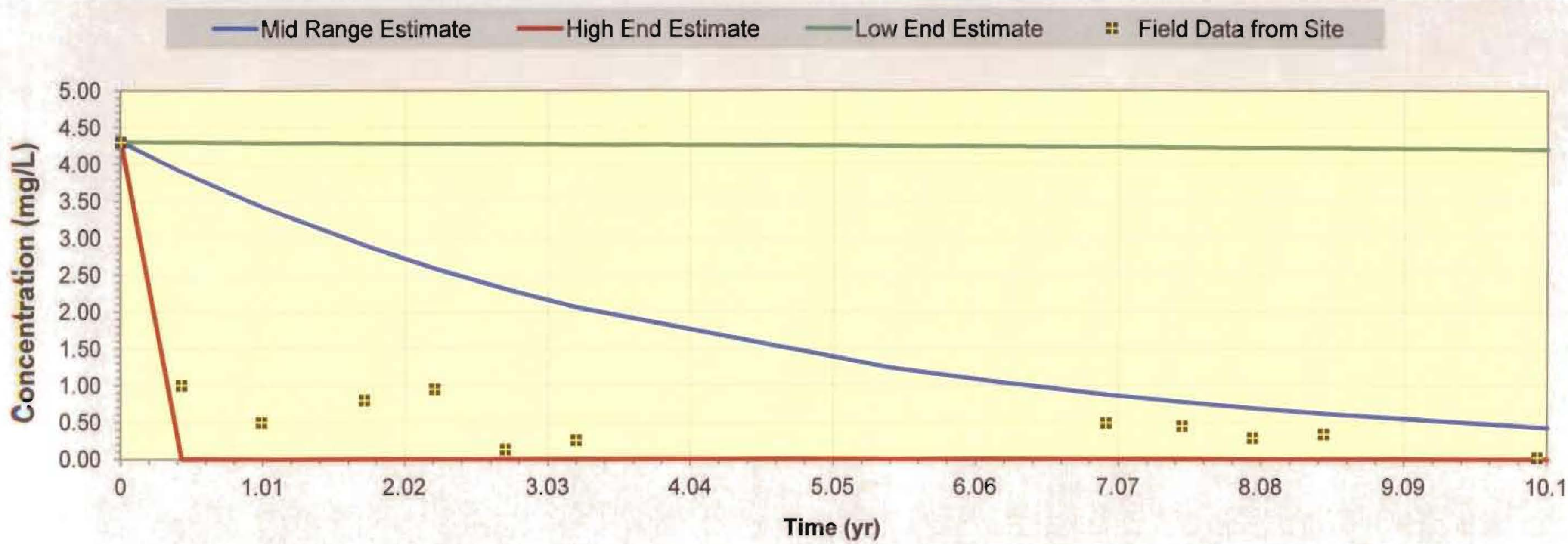
SourceDK OUTPUT SHOWS THIS:



Site Location and I.D.: SEA Job #102-063; HSI #10639
Constituent of Interest: MW-15S PCE

SourceDK TIER 2 OUTPUT

TYPE OF MODEL	Time (yr) 0.00	0.43	1.00	1.73	2.23	2.73	3.23	5.44	6.22	6.98	7.52	8.02	8.52	10.03	10.10
Model Conc. (mg/L)	4.300	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.244	1.042	[illegible]	0.774	[illegible]	[illegible]	0.437	[illegible]
Actual Conc. (mg/L)	4.300	1.000	0.500	0.800	0.950	0.130	0.260			0.490	0.450	0.290	0.340	0.025	
Mass Discharge (kg/yr)	1.4E-01	1.3E-01	1.1E-01	9.4E-02	8.4E-02	7.5E-02	6.7E-02	4.0E-02	3.4E-02	2.8E-02	2.5E-02	2.2E-02	2.0E-02	1.4E-02	1.4E-02



1. ◉ **Display Concentration Vs. Time Chart**
or
○ Display Source Mass Vs. Time Chart

2. Number of Years Over Which to Plot Graph 10.1 *(yr)*
(Press "Calculate Current Sheet" button after changing value.)

Log ⟷ Linear

Concentration/Time Mini-Calculator

Time		Concentration	
(yr) →	*(mg/L)* High End Conc Estimate	0.003 *(mg/L)* →	>500 *(yr)* High End Time Estimate
	(mg/L) Mid Range Conc Estimate		31 *(yr)* Mid Range Time Estimate
	(mg/L) Low End Conc Estimate		0 *(yr)* Low End Time Estimate

Return To Input

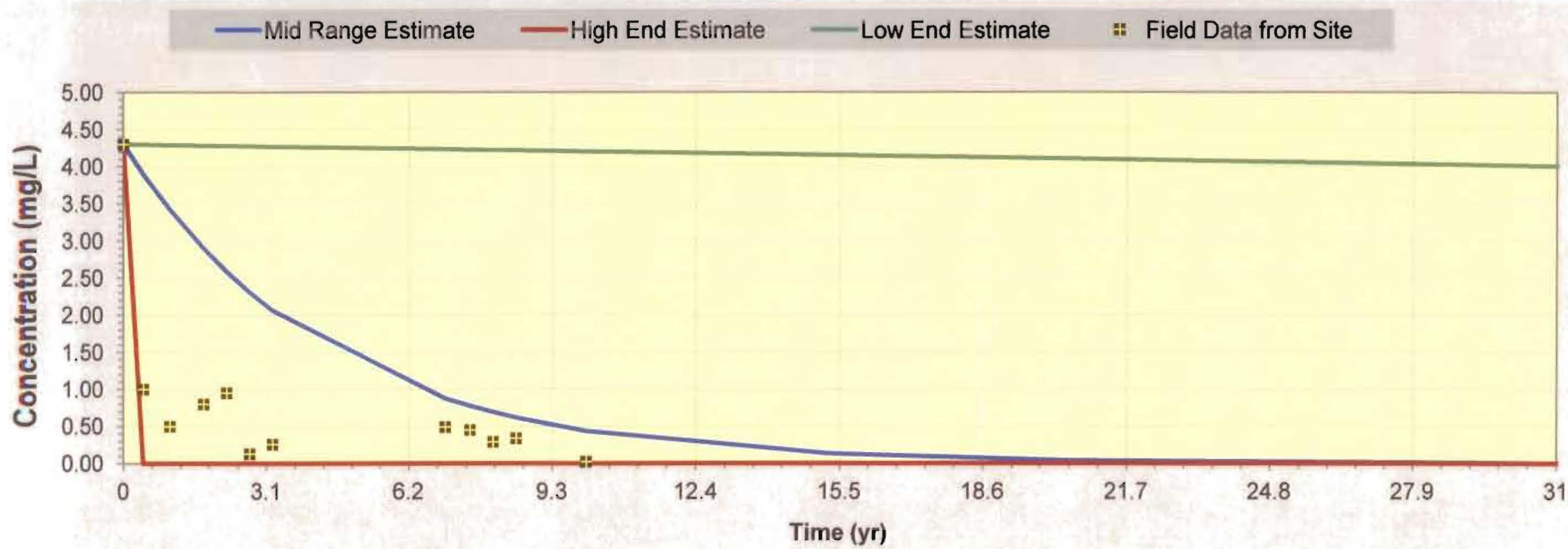
Calculate Current Sheet

HELP

Site Location and I.D.: SEA Job #102-063; HSI #10639
Constituent of Interest: MW-15S PCE

SourceDK TIER 2 OUTPUT

TYPE OF MODEL	Time (yr)														
	0.00	0.43	1.00	1.73	2.23	2.73	3.23	6.98	7.52	8.02	8.52	10.03	15.27	20.52	31.00
Model Conc. (mg/L)	4.300	3.895	3.423	2.890	2.596	2.300	2.059	0.879	0.774	0.691	0.616	0.437	0.132	0.040	0.004
Actual Conc. (mg/L)	4.300	1.000	0.500	0.800	0.950	0.130	0.260	0.490	0.450	0.290	0.340	0.025			
Mass Discharge (kg/yr)	1.4E-01	1.3E-01	1.1E-01	9.4E-02	8.4E-02	7.5E-02	6.7E-02	2.8E-02	2.5E-02	2.2E-02	2.0E-02	1.4E-02	4.3E-03	1.3E-03	1.2E-04



1. ◉ **Display Concentration Vs. Time Chart**
or
○ Display Source Mass Vs. Time Chart

2. Number of Years Over Which to Plot Graph 31 *(yr)*
(Press "Calculate Current Sheet" button after changing value.)

Log ⇔ Linear

Concentration/Time Mini-Calculator

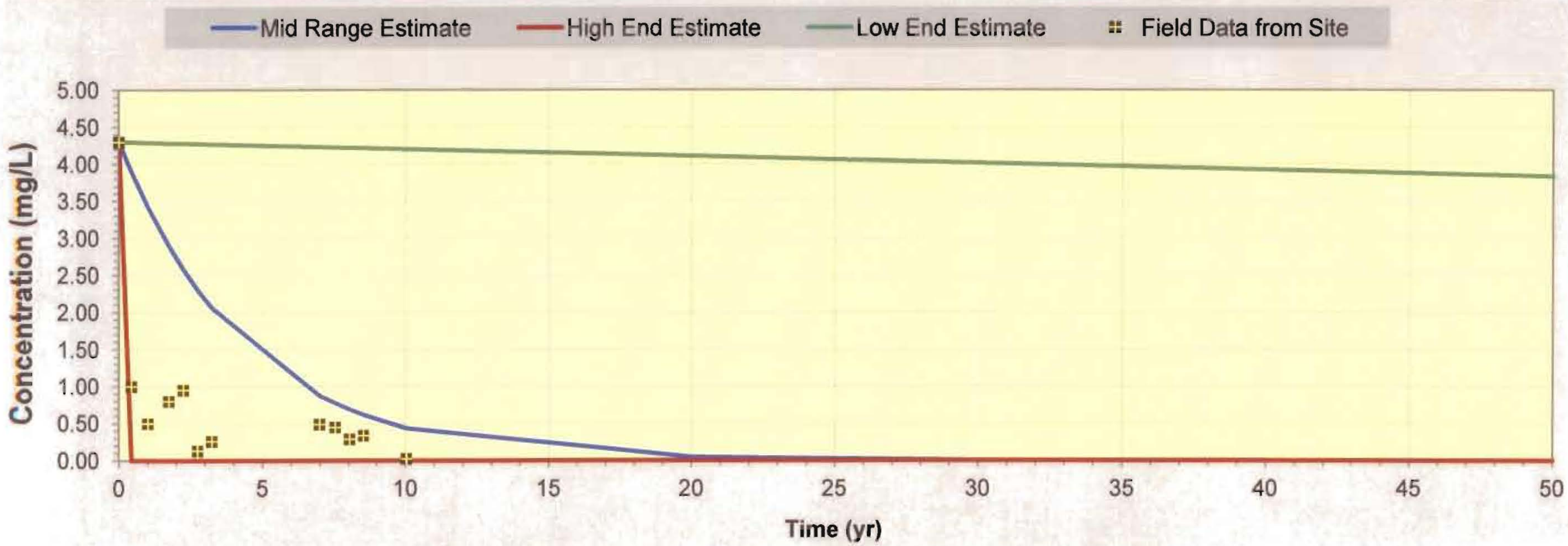
Time *(yr)* → *(mg/L)* High End Conc Estimate; *(mg/L)* Mid Range Conc Estimate; *(mg/L)* Low End Conc Estimate

Concentration 0.003 *(mg/L)* → >500 *(yr)* High End Time Estimate; 31 *(yr)* Mid Range Time Estimate; 0 *(yr)* Low End Time Estimate

Return To Input
Calculate Current Sheet
HELP

SourceDK TIER 2 OUTPUT

TYPE OF MODEL	Time (yr)													
	0.00	0.43	1.00	1.73	2.23	2.73	3.23	6.98	7.52	8.02	8.52	10.03	20.02	30.02	50.00
Model Conc. (mg/L)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Actual Conc. (mg/L)	4.300	1.000	0.500	0.800	0.950	0.130	0.260	0.490	0.450	0.290	0.340	0.025			
Mass Discharge (kg/yr)	1.4E-01	1.3E-01	1.1E-01	9.4E-02	8.4E-02	7.5E-02	6.7E-02	2.8E-02	2.5E-02	2.2E-02	2.0E-02	1.4E-02	1.5E-03	1.5E-04	1.6E-06



1. ◉ **Display Concentration Vs. Time Chart**
   or
   ○ Display Source Mass Vs. Time Chart

2. Number of Years Over Which to Plot Graph 50 *(yr)*
   (Press "Calculate Current Sheet" button after changing value.)

Log ⟷ Linear

Concentration/Time Mini-Calculator

Time		Concentration	
(yr) →	*(mg/L)* High End Conc Estimate	0.003 *(mg/L)* →	>500 *(yr)* High End Time Estimate
	(mg/L) Mid Range Conc Estimate		31 *(yr)* Mid Range Time Estimate
	(mg/L) Low End Conc Estimate		0 *(yr)* Low End Time Estimate

Return To Input
Calculate Current Sheet
HELP

APPENDIX 8

VAPOR INTRUSION ASSESSMENT

OSWER VAPOR INTRUSION ASSESSMENT
Vapor Intrusion Screening Level (VISL) Calculator Version 3.2, November 2013 RSLs

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens
Average Groundwater Temperature (^{o}C)	Tgw	19.34	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

	CAS	Chemical Name	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Soil Source?	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Groundwater Source?	Target Indoor Air Conc. @ TCR = 10E-06 or THQ = 1	Toxicity Basis	Target Sub-Slab and Exterior Soil Gas Conc. @ TCR = 10E-06 or THQ = 1	Target Ground Water Conc. @ TCR = 10E-06 or THQ = 1	Is Target Ground Water Conc. < MCL?	Pure Phase Vapor Conc. @ 25^{o}C	Groundwater Vapor Conc.	Temperature for Groundwater Vapor Conc.	Lower Explosive Limit**	LEL Source	Inhalation Unit Risk	IUR Source*	Reference Concentration	RFC Source*	Mutagenic Indicator	Target Indoor Air Conc. for Carcinogens @ TCR = 10E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 1
			Cvp > Cia,target?	Chc > Cia,target?	MIN(Cia,c;Cia,nc)		Csg	Cgw	Cgw<MCL?	Cvp	Chc	Tgw or 25	LEL		IUR		RfC		i	Cia,c	Cia,nc
			Yes/No	Yes/No	(ug/m^3)	C/NC	(ug/m^3)	(ug/L)	Yes/No (MCL ug/L)	(ug/m^3)	(ug/m^3)	C	(% by vol)		(ug/m^3)$^{-1}$		(mg/m^3)			(ug/m^3)	(ug/m^3)
x	67-64-1	Acetone	Yes	Yes	1.4E+05	NC	1.4E+06	1.2E+08	--	7.25E+08	1.12E+09	19.34	2.6	E			3.10E+01	A			1.4E+05
x	67-66-3	Chloroform	Yes	Yes	5.3E+00	C	5.3E+01	4.5E+01	Yes (80)	1.27E+09	9.35E+08	19.34			2.30E-05	I	9.80E-02	A		5.3E+00	4.3E+02
x	156-59-2	Dichloroethylene, 1,2-cis-	No Inhal. Tox. Info	No Inhal. Tox. Info	--	--	--	--	No (70)	1.05E+09	8.35E+08	19.34	9.7	M							
x	127-18-4	Tetrachloroethylene	Yes	Yes	1.8E+02	NC	1.8E+03	3.3E+02	No (5)	1.65E+08	1.09E+08	19.34			2.60E-07	I	4.00E-02	I		4.7E+02	1.8E+02
x	79-01-6	Trichloroethylene	Yes	Yes	8.8E+00	NC	8.8E+01	2.9E+01	No (5)	4.88E+08	3.91E+08	19.34	8	N	see note	I	2.00E-03	I	TCE	3.0E+01	8.8E+00

Notes:

(1) **Inhalation Pathway Exposure Parameters (RME):**

Exposure Scenario	Units	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario in cell E5) Symbol	Selected Value
Averaging time for carcinogens	(yrs)	ATc_R	70	ATc_C	70	ATc	70
Averaging time for non-carcinogens	(yrs)	ATnc_R	30	ATnc_C	25	ATnc	25
Exposure duration	(yrs)	ED_R	30	ED_C	25	ED	25
Exposure frequency	(days/yr)	EF_R	350	EF_C	250	EF	250
Exposure time	(hr/day)	ET_R	24	ET_C	8	ET	8

(2) **Generic Attenuation Factors:**

Source Medium of Vapors	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario in cell E5) Symbol	Selected Value
Groundwater	AFgw_R	0.001	AFgw_C	0.001	AFgw	0.001
Sub-Slab and Exterior Soil Gas	AFss_R	0.1	AFss_C	0.1	AFss	0.1

(3) **Formulas**

Cia, target = MIN(Cia,c; Cia,nc)
Cia,c (ug/m3) = TCR x ATc x (365 days/yr) x (24 hrs/day) / (ED x EF x ET x IUR)
Cia,nc (ug/m3) = THQ x ATnc x (365 days/yr) x (24 hrs/day) x RfC x (1000 ug/mg) / (ED x EF x ET)

(4) **Special Case Chemicals**

Trichloroethylene

	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario in cell E5) Symbol	Selected Value
mIURTCE_R	1.00E-06	mIURTCE_C	0.00E+00	mIURTCE	0.00E+00	
IURTCE_R	3.10E-06	IURTCE_C	4.10E-06	IURTCE	4.10E-06	

Mutagenic Chemicals

The exposure durations and age-dependent adjustment factors for mutagenic-mode-of-action are listed in the table below:

Note: This section applies to trichloroethylene and other mutagenic chemicals, but not to vinyl chloride.

Age Cohort	Exposure Duration (years)	Age-dependent adjustment factor
0 - 2 years	2	10
2 - 6 years	4	3
6 - 16 years	10	3
16 - 30 years	14	1

Mutagenic-mode-of-action (MMOA) adjustment factor 25 This factor is used in the equations for mutagenic chemicals.

Vinyl Chloride

See the Navigation Guide equation for Cia,c for vinyl chloride.

Notation:

NVT = Not sufficiently volatile and/or toxic to pose inhalation risk in selected exposure scenario for the indicated medium
C = Carcinogenic
NC = Non-carcinogenic
I = IRIS: EPA Integrated Risk Information System (IRIS). Available online at: http://www.epa.gov/iris/subst/index.html
P = PPRTV. EPA Provisional Peer Reviewed Toxicity Values (PPRTVs). Available online at: http://hhpprtv.ornl.gov/pprtv.shtml
A = Agency for Toxic Substances and Disease Registry (ATSDR) Minimum Risk Levels (MRLs). Available online at: http://www.atsdr.cdc.gov/mrls/index.html
CA = California Environmental Protection Agency/Office of Environmental Health Hazard Assessment assessments. Available online at: http://www.oehha.ca.gov/risk/ChemicalDB/index.asp
H = HEAST. EPA Superfund Health Effects Assessment Summary Tables (HEAST) database. Available online at: http://epa-heast.ornl.gov/heast.shtml
S = See RSL User Guide, Section 5
X = PPRTV Appendix
E = The Engineering ToolBox. Available online at http://www.engineeringtoolbox.com/explosive-concentration-limits-d_423.html
N = Centers for Disease Control and Prevention (CDC) National Institute for Occupational Safety and Health (NIOSH). Pocket Guide to Chemical Hazards. Available online at: http://www.cdc.gov/niosh/npg/default.html http://www.cdc.gov/niosh/npg/default.html
M = Chemical-specific MSDS
Mut = Chemical acts according to the mutagenic-mode-of-action, special exposure parameters apply (see footnote (4) above).
VC = Special exposure equation for vinyl chloride applies (see Navigation Guide for equation).
TCE = Special mutagenic and non-mutagenic IURs for trichloroethylene apply (see footnote (4) above).
Yellow highlighting indicates site-specific parameters that may be edited by the user.
Blue highlighting indicates exposure factors that are based on Risk Assessment Guidance for Superfund (RAGS) or EPA vapor intrusion guidance, which generally should not be changed.
**Lower explosive limit is the minimum concentration of the compound in air (% by volume) that is needed for the gas to ignite and explode.

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Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column F)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column G)
Average Groundwater Temperature (^{o}C)	Tgw	19.34	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

	CAS	Chemical Name	Site Groundwater Concentration Cgw (ug/L)	Calculated Indoor Air Concentration Cia (ug/m^3)	VI Carcinogenic Risk CR	VI Hazard HQ	Inhalation Unit Risk IUR (ug/m^3)$^{-1}$	IUR Source*	Reference Concentration RfC (mg/m^3)	RFC Source*	Mutagenic Indicator i
	83-32-9	Acenaphthene		--	--	--					
	75-07-0	Acetaldehyde		--	--	--	2.20E-06	I	9.00E-03	I	
x	67-64-1	Acetone	2.5E+01	2.80E-02	No IUR	2.1E-07			3.10E+01	A	
	75-86-5	Acetone Cyanohydrin		--	--	--			2.00E-03	X	
	75-05-8	Acetonitrile		--	--	--			6.00E-02	I	
	98-86-2	Acetophenone		--	--	--					
	107-02-8	Acrolein		--	--	--			2.00E-05	I	
	107-13-1	Acrylonitrile		--	--	--	6.80E-05	I	2.00E-03	I	
	107-05-1	Allyl Chloride		--	--	--	6.00E-06	CA	1.00E-03	I	
	75-85-4	Amyl Alcohol, tert-		--	--	--			3.00E-03	X	
	120-12-7	Anthracene		--	--	--					
	11104-28-2	Aroclor 1221		--	--	--	5.70E-04	S			
	11141-16-5	Aroclor 1232		--	--	--	5.70E-04	S			
	103-33-3	Azobenzene		--	--	--	3.10E-05	I			
	100-52-7	Benzaldehyde		--	--	--					
	71-43-2	Benzene		--	--	--	7.80E-06	I	3.00E-02	I	
	108-98-5	Benzenethiol		--	--	--					
	98-07-7	Benzotrichloride		--	--	--					
	100-44-7	Benzyl Chloride		--	--	--	4.90E-05	CA	1.00E-03	P	
	92-52-4	Biphenyl, 1,1'-		--	--	--			4.00E-04	X	
	108-60-1	Bis(2-chloro-1-methylethyl) ether		--	--	--	1.00E-05	H			
	111-44-4	Bis(2-chloroethyl)ether		--	--	--	3.30E-04	I			
	542-88-1	Bis(chloromethyl)ether		--	--	--	6.20E-02	I			
	107-04-0	Bromo-2-chloroethane, 1-		--	--	--	6.00E-04	X			
	108-86-1	Bromobenzene		--	--	--			6.00E-02	I	
	74-97-5	Bromochloromethane		--	--	--			4.00E-02	X	
	75-27-4	Bromodichloromethane		--	--	--	3.70E-05	CA			
	74-83-9	Bromomethane		--	--	--			5.00E-03	I	
	106-99-0	Butadiene, 1,3-		--	--	--	3.00E-05	I	2.00E-03	I	
	104-51-8	Butylbenzene, n-		--	--	--					
	135-98-8	Butylbenzene, sec-		--	--	--					
	98-06-6	Butylbenzene, tert-		--	--	--					
	75-15-0	Carbon Disulfide		--	--	--			7.00E-01	I	
	56-23-5	Carbon Tetrachloride		--	--	--	6.00E-06	I	1.00E-01	I	
	75-68-3	Chloro-1,1-difluoroethane, 1-		--	--	--			5.00E+01	I	
	126-99-8	Chloro-1,3-butadiene, 2-		--	--	--	3.00E-04	I	2.00E-02	I	
	107-20-0	Chloroacetaldehyde, 2-		--	--	--					
	108-90-7	Chlorobenzene		--	--	--			5.00E-02	P	
	98-56-6	Chlorobenzotrifluoride, 4-		--	--	--			3.00E-01	P	
	109-69-3	Chlorobutane, 1-		--	--	--					
	75-45-6	Chlorodifluoromethane		--	--	--			5.00E+01	I	
x	67-66-3	Chloroform	2.5E+00	2.94E-01	5.5E-07	6.8E-04	2.30E-05	I	9.80E-02	A	
	74-87-3	Chloromethane		--	--	--			9.00E-02	I	
	107-30-2	Chloromethyl Methyl Ether		--	--	--	6.90E-04	CA			
	91-58-7	Chloronaphthalene, Beta-		--	--	--					
	95-57-8	Chlorophenol, 2-		--	--	--					
	76-06-2	Chloropicrin		--	--	--			4.00E-04	CA	
	95-49-8	Chlorotoluene, o-		--	--	--					
	106-43-4	Chlorotoluene, p-		--	--	--					

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Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column F)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column G)
Average Groundwater Temperature (^{o}C)	Tgw	19.34	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

	CAS	Chemical Name	Site Groundwater Concentration Cgw (ug/L)	Calculated Indoor Air Concentration Cia (ug/m^3)	VI Carcinogenic Risk CR	VI Hazard HQ	Inhalation Unit Risk IUR (ug/m^3)$^{-1}$	IUR Source*	Reference Concentration RfC (mg/m^3)	RFC Source*	Mutagenic Indicator i
	123-73-9	Crotonaldehyde, trans-		--	--	--					
	98-82-8	Cumene		--	--	--			4.00E-01	I	
	57-12-5	Cyanide (CN-)		--	--	--			8.00E-04	S	
	460-19-5	Cyanogen		--	--	--					
	506-68-3	Cyanogen Bromide		--	--	--					
	506-77-4	Cyanogen Chloride		--	--	--					
	110-82-7	Cyclohexane		--	--	--			6.00E+00	I	
	110-83-8	Cyclohexene		--	--	--			1.00E+00	X	
	132-64-9	Dibenzofuran		--	--	--					
	132-65-0	Dibenzothiophene		--	--	--					
	96-12-8	Dibromo-3-chloropropane, 1,2-		--	--	--	6.00E-03	P	2.00E-04	I	Mut
	124-48-1	Dibromochloromethane		--	--	--	2.70E-05	CA			
	106-93-4	Dibromoethane, 1,2-		--	--	--	6.00E-04	I	9.00E-03	I	
	74-95-3	Dibromomethane (Methylene Bromide)		--	--	--			4.00E-03	X	
	764-41-0	Dichloro-2-butene, 1,4-		--	--	--	4.20E-03	P			
	1476-11-5	Dichloro-2-butene, cis-1,4-		--	--	--	4.20E-03	P			
	110-57-6	Dichloro-2-butene, trans-1,4-		--	--	--	4.20E-03	P			
	95-50-1	Dichlorobenzene, 1,2-		--	--	--			2.00E-01	H	
	106-46-7	Dichlorobenzene, 1,4-		--	--	--	1.10E-05	CA	8.00E-01	I	
	75-71-8	Dichlorodifluoromethane		--	--	--			1.00E-01	X	
	75-34-3	Dichloroethane, 1,1-		--	--	--	1.60E-06	CA			
	107-06-2	Dichloroethane, 1,2-		--	--	--	2.60E-05	I	7.00E-03	P	
	75-35-4	Dichloroethylene, 1,1-		--	--	--			2.00E-01	I	
	540-59-0	Dichloroethylene, 1,2- (Mixed Isomers)		--	--	--					
x	156-59-2	Dichloroethylene, 1,2-cis-	5.0E-01	6.51E-02	No IUR	No RfC					
	156-60-5	Dichloroethylene, 1,2-trans-		--	--	--			6.00E-02	P	
	78-87-5	Dichloropropane, 1,2-		--	--	--	1.00E-05	CA	4.00E-03	I	
	142-28-9	Dichloropropane, 1,3-		--	--	--					
	542-75-6	Dichloropropene, 1,3-		--	--	--	4.00E-06	I	2.00E-02	I	
	77-73-6	Dicyclopentadiene		--	--	--			7.00E-03	P	
	75-37-6	Difluoroethane, 1,1-		--	--	--			4.00E+01	I	
	94-58-6	Dihydrosafrole		--	--	--	1.30E-05	CA			
	108-20-3	Diisopropyl Ether		--	--	--			7.00E-01	P	
	1445-75-6	Diisopropyl Methylphosphonate		--	--	--					
	121-69-7	Dimethylaniline, N,N-		--	--	--					
	120-61-6	Dimethylterephthalate		--	--	--					
	513-37-1	Dimethylvinylchloride		--	--	--	1.30E-05	CA			
	505-29-3	Dithiane, 1,4-		--	--	--					
	106-89-8	Epichlorohydrin		--	--	--	1.20E-06	I	1.00E-03	I	
	106-88-7	Epoxybutane, 1,2-		--	--	--			2.00E-02	I	
	759-94-4	EPTC		--	--	--					
	141-78-6	Ethyl Acetate		--	--	--			7.00E-02	P	
	140-88-5	Ethyl Acrylate		--	--	--					
	75-00-3	Ethyl Chloride (Chloroethane)		--	--	--			1.00E+01	I	
	60-29-7	Ethyl Ether		--	--	--					
	97-63-2	Ethyl Methacrylate		--	--	--			3.00E-01	P	
	100-41-4	Ethylbenzene		--	--	--	2.50E-06	CA	1.00E+00	I	
	75-21-8	Ethylene Oxide		--	--	--	8.80E-05	CA	3.00E-02	CA	
	151-56-4	Ethyleneimine		--	--	--	1.90E-02	CA			

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Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column F)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column G)
Average Groundwater Temperature (^{o}C)	Tgw	19.34	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

	CAS	Chemical Name	Site Groundwater Concentration Cgw (ug/L)	Calculated Indoor Air Concentration Cia (ug/m^3)	VI Carcinogenic Risk CR	VI Hazard HQ	Inhalation Unit Risk IUR (ug/m^3)$^{-1}$	IUR Source*	Reference Concentration RfC (mg/m^3)	RFC Source*	Mutagenic Indicator i
	86-73-7	Fluorene		--	--	--					
	110-00-9	Furan		--	--	--					
	822-06-0	Hexamethylene Diisocyanate, 1,6-		--	--	--			1.00E-05	I	
	110-54-3	Hexane, N-		--	--	--			7.00E-01	I	
	591-78-6	Hexanone, 2-		--	--	--			3.00E-02	I	
	74-90-8	Hydrogen Cyanide		--	--	--			8.00E-04	I	
	NA (JP-7)	JP-7		No HLC	--	--			3.00E-01	A	
	7439-97-6	Mercury (elemental)		--	--	--			3.00E-04	I	
	126-98-7	Methacrylonitrile		--	--	--			3.00E-02	P	
	79-20-9	Methyl Acetate		--	--	--					
	96-33-3	Methyl Acrylate		--	--	--			2.00E-02	P	
	78-93-3	Methyl Ethyl Ketone (2-Butanone)		--	--	--			5.00E+00	I	
	108-10-1	Methyl Isobutyl Ketone (4-methyl-2-pentanone)		--	--	--			3.00E+00	I	
	624-83-9	Methyl Isocyanate		--	--	--			1.00E-03	CA	
	80-62-6	Methyl Methacrylate		--	--	--			7.00E-01	I	
	25013-15-4	Methyl Styrene (Mixed Isomers)		--	--	--			4.00E-02	H	
	1634-04-4	Methyl tert-Butyl Ether (MTBE)		--	--	--	2.60E-07	CA	3.00E+00	I	
	75-09-2	Methylene Chloride		--	--	--	1.00E-08	I	6.00E-01	I	Mut
	90-12-0	Methylnaphthalene, 1-		--	--	--					
	91-57-6	Methylnaphthalene, 2-		--	--	--					
	98-83-9	Methylstyrene, Alpha-		--	--	--					
	8012-95-1	Mineral oils		--	--	--					
	64724-95-6	Naphtha, High Flash Aromatic (HFAN)		No HLC	--	--			1.00E-01	P	
	91-20-3	Naphthalene		--	--	--	3.40E-05	CA	3.00E-03	I	
	98-95-3	Nitrobenzene		--	--	--	4.00E-05	I	9.00E-03	I	
	75-52-5	Nitromethane		--	--	--	8.80E-06	P	5.00E-03	P	
	79-46-9	Nitropropane, 2-		--	--	--	2.70E-03	H	2.00E-02	I	
	924-16-3	Nitroso-di-N-butylamine, N-		--	--	--	1.60E-03	I			
	88-72-2	Nitrotoluene, o-		--	--	--					
	111-84-2	Nonane, n-		--	--	--			2.00E-02	P	
	109-66-0	Pentane, n-		--	--	--			1.00E+00	P	
	75-44-5	Phosgene		--	--	--			3.00E-04	I	
	123-38-6	Propionaldehyde		--	--	--			8.00E-03	I	
	103-65-1	Propyl benzene		--	--	--			1.00E+00	X	
	115-07-1	Propylene		--	--	--			3.00E+00	CA	
	75-56-9	Propylene Oxide		--	--	--	3.70E-06	I	3.00E-02	I	
	129-00-0	Pyrene		--	--	--					
	110-86-1	Pyridine		--	--	--					
	100-42-5	Styrene		--	--	--			1.00E+00	I	
	630-20-6	Tetrachloroethane, 1,1,1,2-		--	--	--	7.40E-06	I			
	79-34-5	Tetrachloroethane, 1,1,2,2-		--	--	--	5.80E-05	CA			
x	127-18-4	Tetrachloroethylene	2.5E+01	1.33E+01	2.8E-07	7.6E-02	2.60E-07	I	4.00E-02	I	
	811-97-2	Tetrafluoroethane, 1,1,1,2-		--	--	--			8.00E+01	I	
	109-99-9	Tetrahydrofuran		--	--	--			2.00E+00	I	
	108-88-3	Toluene		--	--	--			5.00E+00	I	
	NA (TPH-ApL)	Total Petroleum Hydrocarbons (Aliphatic Low)		--	--	--	1.90E-07	P	6.00E-01	P	
	NA (TPH-ApM)	Total Petroleum Hydrocarbons (Aliphatic Medium)		--	--	--	4.50E-06	P	1.00E-01	P	
	NA (TPH-ArL)	Total Petroleum Hydrocarbons (Aromatic Low)		--	--	--	7.80E-06	P	3.00E-02	P	
	NA (TPH-ArM)	Total Petroleum Hydrocarbons (Aromatic Medium)		--	--	--			3.00E-03	P	

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Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column F)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column G)
Average Groundwater Temperature (^{o}C)	Tgw	19.34	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

	CAS	Chemical Name	Site Groundwater Concentration Cgw (ug/L)	Calculated Indoor Air Concentration Cia (ug/m^3)	VI Carcinogenic Risk CR	VI Hazard HQ	Inhalation Unit Risk IUR (ug/m^3)$^{-1}$	IUR Source*	Reference Concentration RfC (mg/m^3)	RFC Source*	Mutagenic Indicator i
	76-13-1	Trichloro-1,2,2-trifluoroethane, 1,1,2-		--	--	--			3.00E+01	H	
	87-61-6	Trichlorobenzene, 1,2,3-		--	--	--					
	120-82-1	Trichlorobenzene, 1,2,4-		--	--	--			2.00E-03	P	
	71-55-6	Trichloroethane, 1,1,1-		--	--	--			5.00E+00	I	
	79-00-5	Trichloroethane, 1,1,2-		--	--	--	1.60E-05	I	2.00E-04	X	
x	79-01-6	Trichloroethylene	5.0E-01	1.53E-01	5.1E-08	1.7E-02	see note	I	2.00E-03	I	TCE
	75-69-4	Trichlorofluoromethane		--	--	--			7.00E-01	H	
	598-77-6	Trichloropropane, 1,1,2-		--	--	--					
	96-18-4	Trichloropropane, 1,2,3-		--	--	--			3.00E-04	I	Mut
	96-19-5	Trichloropropene, 1,2,3-		--	--	--			3.00E-04	P	
	121-44-8	Triethylamine		--	--	--			7.00E-03	I	
	526-73-8	Trimethylbenzene, 1,2,3-		--	--	--			5.00E-03	P	
	95-63-6	Trimethylbenzene, 1,2,4-		--	--	--			7.00E-03	P	
	108-67-8	Trimethylbenzene, 1,3,5-		--	--	--					
	108-05-4	Vinyl Acetate		--	--	--			2.00E-01	I	
	593-60-2	Vinyl Bromide		--	--	--	3.20E-05	H	3.00E-03	I	
	75-01-4	Vinyl Chloride		--	--	--	4.40E-06	I	1.00E-01	I	VC
	108-38-3	Xylene, m-		--	--	--			1.00E-01	S	
	95-47-6	Xylene, o-		--	--	--			1.00E-01	S	
	106-42-3	Xylene, P-		--	--	--			1.00E-01	S	
	1330-20-7	Xylenes		--	--	--			1.00E-01	I	

Notes:

(1) **Inhalation Pathway Exposure Parameters (RME):**

Exposure Scenario	Units	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario) Symbol	Selected (based on scenario) Value
Averaging time for carcinogens	(yrs)	ATc_R_GW	70	ATc_C_GW	70	ATc_GW	70
Averaging time for non-carcinogens	(yrs)	ATnc_R_GW	30	ATnc_C_GW	25	Atnc_GW	25
Exposure duration	(yrs)	ED_R_GW	30	ED_C_GW	25	ED_GW	25
Exposure frequency	(days/yr)	EF_R_GW	350	EF_C_GW	250	EF_GW	250
Exposure time	(hr/day)	ET_R_GW	24	ET_C_GW	8	ET_GW	8

(2) **Generic Attenuation Factors:**

Source Medium of Vapors		Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario) Symbol	Selected (based on scenario) Value
Groundwater	(-)	AFgw_R_GW	0.001	AFgw_C_GW	0.001	AFgw_GW	0.001
Sub-Slab and Exterior Soil Gas	(-)	AFss_R_GW	0.1	AFss_C_GW	0.1	AFss_GW	0.1

(3) **Formulas**

Cia, target = MIN(Cia,c; Cia,nc)
Cia,c (ug/m3) = TCR x ATc x (365 days/yr) x (24 hrs/day) / (ED x EF x ET x IUR)
Cia,nc (ug/m3) = THQ x ATnc x (365 days/yr) x (24 hrs/day) x RfC x (1000 ug/mg) / (ED x EF x ET)

(4) **Special Case Chemicals**

	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario) Symbol	Selected (based on scenario) Value
Trichloroethylene	mIURTCE_R_GW	1.00E-06	mIURTCE_C_GW	0.00E+00	mIURTCE_GW	0.00E+00

OSWER VAPOR INTRUSION ASSESSMENT
Groundwater Concentration to Indoor Air Concentration (GWC-IAC) Calculator Version 3.2, November 2013 RSLs

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens (for comparison to the calculated VI carcinogenic risk in column F)
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens (for comparison to the calculated VI hazard in column G)
Average Groundwater Temperature (^{o}C)	Tgw	19.34	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

CAS	Chemical Name	Site Groundwater Concentration Cgw (ug/L)	Calculated Indoor Air Concentration Cia (ug/m^3)	VI Carcinogenic Risk CR	VI Hazard HQ		Inhalation Unit Risk IUR ($ug/m^3)^{-1}$	IUR Source*	Reference Concentration RfC (mg/m^3)	RFC Source*	Mutagenic Indicator i	
						IURTCE_R_GW	3.10E-06	IURTCE_C_GW	4.10E-06			IURTCE_GW 4.10E-06

Mutagenic Chemicals

The exposure durations and age-dependent adjustment factors for mutagenic-mode-of-action are listed in the table below:

Note: This section applies to trichloroethylene and other mutagenic chemicals, but not to vinyl chloride.

Age Cohort	Exposure Duration	Age-dependent adjustment factor
0 - 2 years	2	10
2 - 6 years	4	3
6 - 16 years	10	3
16 - 30 years	14	1

Mutagenic-mode-of-action (MMOA) adjustment factor 25 This factor is used in the equations for mutagenic chemicals.

Vinyl Chloride

See the Navigation Guide equation for Cia,c for vinyl chloride.

Notation:
I = IRIS: EPA Integrated Risk Information System (IRIS). Available online at: http://www.epa.gov/iris/subst/index.html
P = PPRTV. EPA Provisional Peer Reviewed Toxicity Values (PPRTVs). Available online at: http://hhpprtv.ornl.gov/pprtv.shtml
A = Agency for Toxic Substances and Disease Registry (ATSDR) Minimum Risk Levels (MRLs). Available online at: http://www.atsdr.cdc.gov/mrls/index.html
CA = California Environmental Protection Agency/Office of Environmental Health Hazard Assessment assessments. Available online at: http://www.oehha.ca.gov/risk/ChemicalDB/index.asp
H = HEAST. EPA Superfund Health Effects Assessment Summary Tables (HEAST) database. Available online at: http://epa-heast.ornl.gov/heast.shtml
S = See RSL User Guide, Section 5
X = PPRTV Appendix
Mut = Chemical acts according to the mutagenic-mode-of-action, special exposure parameters apply (see footnote (4) above).
VC = Special exposure equation for vinyl chloride applies (see Navigation Guide for equation).
TCE = Special mutagenic and non-mutagenic IURs for trichloroethylene apply (see footnote (4) above).
Yellow highlighting indicates site-specific parameters that may be edited by the user.
Blue highlighting indicates exposure factors that are based on Risk Assessment Guidance for Superfund (RAGS) or EPA vapor intrusion guidance, which generally should not be changed.
Pink highlighting indicates VI carcinogenic risk greater than the target risk for carcinogens (TCR) or VI Hazard greater than or equal to the target hazard quotient for non-carcinogens (THQ).

APPENDIX 9

SUMMARY OF SERVICES AND PROFESSIONAL HOURS

Spalding Corners Shopping Center
Sandy Springs, Fulton County, Georgia
HSI #10639
SEA Job #102-063

Summary of Activities and Professional Hours

VRP 1st 2014 Semi-Annual Progress Report - March and April 2014

Activity	Professional Hours Spent
Semi-Annual Groundwater Sampling Event	47
MNA Evaluation	3
Groundwater Modeling	37
Semi-Annual Report Preparation	25