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**SEA**

SAILORS ENGINEERING ASSOCIATES, INC.

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

**THIRD SEMI-ANNUAL VRP PROGRESS REPORT  
FORMER WESTSIDE CLEANERS  
700 SANDTOWN ROAD  
MARIETTA, COBB COUNTY, GEORGIA**

**HSI #10927  
SEA JOB #152-018**

**SUBMITTED:  
DECEMBER 28, 2017**



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SAILORS ENGINEERING ASSOCIATES, INC.

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

December 28, 2017

Ms. Carolyn Daniels  
Georgia Department of Natural Resources  
Environmental Protection Division  
205 Butler Street, S.E.  
Floyd Towers East, Suite 1054  
Atlanta, GA 30334

RE: Third Semi-Annual VRP Progress Report  
Former Westside Cleaners  
700 Sandtown Road  
Marietta, Cobb County, Georgia  
HSI #10927  
SEA Job No. 152-018

Dear Ms. Daniels:

Sailors Engineering Associates, Inc. (SEA) has conducted additional activities related to the Voluntary Remediation Program (VRP) for the subject site and is pleased to present this report for your review. The following report discusses the activities completed during the period from July 2017 through December 2017 as well as planned and anticipated activities for the period of January 2018 to June 2018.

## **1.0 INTRODUCTION**

### **1.1 Background**

As part of a due diligence investigation conducted in March 2013, soil and groundwater samples were collected from the area immediately around the former dry cleaner building. Results of that investigation indicated impacts to soil and groundwater from dry cleaning solvents. On August 7, 2013 a release notification was submitted to the Georgia EPD Hazardous Site Response Program and the site was subsequently placed on the Hazardous Site Inventory as Site Number 10927 on November 22, 2013. The VRP application (the Application) submitted for Former Westside Cleaners located at 700 Sandtown Road in Marietta, Cobb County, Georgia; HSI #10927, dated October 30, 2015 was approved on June 30, 2016.

### **1.2 Site Description**

The subject property, located at 700 Sandtown Road in Marietta, Cobb County Georgia, is approximately 6.267 acres and is currently owned by YNH Properties, LLC. A former dry cleaner, know as Westside Cleaners, was located in an approximately 4,000 square foot, stand-

alone building in the northwestern portion of the Westside Plaza Shopping Center. The building most recently operated as a coin laundry and is currently vacant.

## **2.0 GROUNDWATER DELINEATION ACTIVITIES**

The Second Semi-Annual Voluntary Remediation Program (VRP) Progress Report discussed a limited groundwater sampling event that was conducted in January 2017 and the installation and sampling of one additional groundwater monitoring well, MW-9, in March 2017. No groundwater sampling events were performed this period, but for convenience the Summary of Groundwater Sample Analyses and Groundwater Elevation Summary tables and the Historical Groundwater Impact Summary and Potentiometric Surface Map 3/28/2017 figures are included in the Appendix.

## **3.0 ON SITE SOIL DELINEATION ACTIVITIES**

On July 20, 2017, SEA conducted additional soil delineation activities consisting of 9 environmental borings, designated EB-21 through EB-29, located west and south of the former dry cleaner building space utilizing a track-mounted direct push rig. Soil samples were collected at depths ranging from 7 feet to 20 feet bgs. The samples were transported to an independent laboratory to be analyzed for the presence VOCs by EPA Method 8260B, with select samples also analyzed for SPLP VOCs for the purpose of developing site-specific Type 4 Risk Reduction Standards for soil. Our sampling methods and results are more fully described in the sections below. The boring logs for soil borings EB-1 through EB-29 and updated tables and figures are included in the Appendix.

### **3.1 General Approach and Procedures for Soil Sampling and Analysis**

Soil samples were collected in general accordance with published protocols including USEPA Region 4 Science and Ecosystem Support Division Field Branches Quality System and Technical Procedures, and Standard Operating Procedures, Soil Sampling (SESPROC-300-R3, August 21, 2014). Samples were collected by direct push sampling methods. All soil samples were placed in laboratory supplied sample containers and immediately placed on ice for delivery to the laboratory under written chain-of-custody procedures.

Soil samples were collected with decontaminated sampling equipment. Following retrieval of the samples, a laboratory-supplied syringe was used to collect a volume of soil from the sampling equipment. The syringe is marked for the collection of approximately 3 cc of soil, which is roughly 5 grams +/- 2 grams, in accordance with EPA Method 5035. The soil was then placed in laboratory-supplied, preweighed 40 ml vials containing a magnetic stir bar and sodium bisulfate as a preservative in accordance with EPA Method 5035. The actual weight of soil collected is used in the calculation of the analytical result. An additional 2-ounce jar of soil was collected in accordance with method protocol. All samples were immediately placed on ice for delivery to the laboratory under written chain-of-custody. Soil samples were analyzed by EPA approved Method 5035/8260B for VOCs. The laboratory data sheets for the July 2017 event are included in the Appendix

Quality control samples were prepared separately by the laboratory and analyzed during the sampling event. Trip blanks, when supplied by the laboratory, consisted of a 40 ml vial filled with water. The trip blanks were handled and treated in the same manner as the other samples collected and were analyzed for VOCs. Results of the trip blanks are included in the laboratory reports. No compounds were detected in the trip blanks.

#### **4.0 RESULTS**

The results of the July 2017 soil sampling event indicate elevated concentrations of tetrachloroethene (PCE) in the area behind the former dry cleaner tenant space. All environmental borings contained PCE except for EB-21 and EB-22, with the highest concentration detected in EB-26 at 7ft-15ft where PCE was detected at 13,000 milligrams per kilogram (mg/Kg). Other compounds detected include trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), vinyl chloride (VC), acetone and chloroform (TCMA). An updated Additional Soil Investigation table and an updated Soil Impact Summary >2 Feet figure are included in the Appendix.

SEA notes that the soil samples collected from EB-23 and EB-24 at the 10-12 foot sample interval were collected from just above the water table. The soil samples collected from EB-23 and EB-24 at the 13-15 foot and 18-20 foot sample intervals were within the saturated zone and were collected for the purpose of remediation design. These deeper soil samples are not representative of soil impacts and are not considered for horizontal delineation of soil impacts. Monitoring well MW-3, the closest monitoring well to EB-23 and EB-24, had a measured water table depth of 14.90 feet below the ground surface on March 28, 2017. The ground surface elevation of MW-3 is approximately two to three feet higher than the ground surface at EB-23 and EB-24.

#### **5.0 PLANNED ACTIVITIES**

The additional soil excavation planned for December 2017 was postponed due to the location of a 6-inch or 8-inch diameter water line that crosses through the center of the excavation area. This water line is the main supply line for the shopping center. Normally a water line within the excavation is not an issue, but it is unknown whether a concrete or soil bulkhead supports the tee or elbow of this water line. The risk of a waterline blow out occurring was too great to proceed with the planned excavation. Currently, discussions are ongoing between Cobb County and the property owner regarding the relocation of the water line. It is anticipated that the water line will be relocated and the additional soil excavation will occur during the next semi-annual period. As discussed in the previous report, it is anticipated that an estimated additional 100 tons of impacted soil will be removed from an area loosely bounded by EB-5, EB-7, EB-9 and EB-25. The depth of the excavation is expected to be approximately 15 feet below ground surface. An Anticipated Additional Area of Excavation figure is included in the Appendix.

Other activities being contemplated for the next six-month period are off-site soil delineation activities and activities related to the assessment of the potential for vapor intrusion. The site activities performed during this next period will be documented in a semi-annual progress report to be submitted by June 29, 2018.

## 6.0 MILESTONE SCHEDULE

The following milestone schedule outlines significant events as discussed above including historic and anticipated future events. The dates of future events may be accelerated based on the progress of the remedial measures taken.

Due Diligence Investigation by ETRI	March, 2013
Release Notification	August 7, 2013
Listing on HSI	November 22, 2013
Additional Investigation by SEA	March, 2015
Impacted Soil Removal	June 17 to 24, 2015
Chemical Oxidation Pilot Study Injections	August 18 to 21, 2015
Chemical Oxidation Pilot Study Sampling	October and November, 2015
VRP Application and VIRP submittal	October 30, 2015
EPD Approval of Application with Review Comments	June 30, 2016
VRP 1 <sup>st</sup> Semi-Annual Reports	December 30, 2016
On site horizontal delineation	June 30, 2017
VRP 2 <sup>nd</sup> Semi-Annual Report	August 4, 2017
Additional onsite horizontal delineation	July 20, 2017
VRP 3 <sup>rd</sup> Semi-Annual Report	December 29, 2017
Additional Soil Removal	March 2018
Additional Remedial Measures	As warranted
Off-site horizontal delineation	June 30, 2018
Vertical Delineation	December 30, 2018
VRP Compliance Status Report	June, 2021

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

If you have any questions or require any additional information, please contact us at your convenience.

Respectfully submitted,

SAILORS ENGINEERING ASSOCIATES, INC.



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

cc: Mr. Yi, Se Hong, Managing Member, YNH Properties, LLC.

## **Appendix**

Figures

Tables

Lab Data

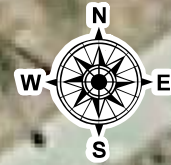
Boring Logs

Risk Reduction Standards Evaluation

Summary of Professional Hours

Groundwater Scientist Certification Statement





**Legend**

- - Sample Location By Others
- ⊕ - Sample Location
- ▭ - Area of 10ft Soil Excavation

Results in mg/Kg

1 inch = 20 feet

700 SANDTOWN ROAD

700 Sandtown Road  
Marietta, Cobb County, Georgia

Job No. 152-018

12/21/2017

# SOIL IMPACT SUMMARY > 2 FEET

**SAILORS ENGINEERING ASSOCIATES, INC.**  
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LAWRENCEVILLE, GEORGIA 30043  
(770) 962-5922 FAX 962-7964







MW-1	4/26/13	3/13/15	10/22/15	1/13/17
1,1-Dichloroethane	0.0050	<0.005	<0.005	<0.050
Choloromethane	<0.010	<0.010	0.034	<0.0010
Ethylbenzene	0.0060	<0.005	<0.005	<0.0050
Tetrachloroethene	6.300	5.900	3.900	2.800
Trichloroethene	0.740	0.690	0.540	0.650
cis-1,2-Dichloroethene	2.100	1.400	1.000	1.400
trans-1,2-Dichloroethene	0.030	0.015	0.086	0.032
Vinyl chloride	0.430	0.170	<0.002	0.220
Toluene	0.0082	<0.005	<0.005	<0.0050
o-Xylene	0.0162	<0.005	<0.005	<0.0050
Methyl tert-butyl ether	<0.005	0.017	0.021	0.023

MW-2	4/26/13	3/13/15	10/21/15	1/13/17
Tetrachloroethene	1.900	2.400	1.300	0.720
Trichloroethene	0.240	0.380	0.290	0.250
cis-1,2-Dichloroethene	1.400	2.600	1.800	2.600
trans-1,2-Dichloroethene	0.020	0.036	0.034	0.060
Vinyl chloride	0.190	0.280	0.200	0.260
Methyl tert-butyl ether	0.010	0.018	0.012	9.000

Powder Springs Rd

MW-3	4/26/13	3/16/15	10/22/15	1/13/17
1,1-Dichloroethane	0.0069	<0.005	<0.500	<0.0050
Chloroform	0.013	0.0086	<0.500	<2.500
Tetrachloroethene	40.000	39.000	20.000	46.000
Trichloroethene	0.910	1.000	1.000	<2.500
cis-1,2-Dichloroethene	3.900	<0.005	3.700	3.700
trans-1,2-Dichloroethene	0.045	0.033	<0.500	<2.500
Vinyl chloride	0.330	0.150	<0.200	<1.000
o-Xylene	<0.005	0.0052	<0.500	<2.500
Methyl tert-butyl ether	0.0054	<0.005	<0.500	<2.500

MW-4	3/13/15	10/21/15	1/13/17
Tetrachloroethene	0.190	0.120	0.078
Trichloroethene	0.120	0.094	0.067
cis-1,2-Dichloroethene	2.800	2.600	2.400
trans-1,2-Dichloroethene	0.011	0.012	0.0067
Vinyl chloride	0.044	0.041	0.033

MW-5	3/16/15	10/21/15	1/13/17
Tetrachloroethene	9.400	8.000	0.190
Trichloroethene	0.600	0.650	<0.0050
cis-1,2-Dichloroethene	3.100	3.100	0.0057
trans-1,2-Dichloroethene	0.032	0.094	<0.0050
Vinyl chloride	0.095	0.056	<0.0020
Methyl tert-butyl ether	0.015	0.015	<0.0050

MW-6	10/6/16
Tetrachloroethene	0.200
Trichloroethene	0.015
cis-1,2-Dichloroethene	0.150

MW-9	3/28/17
Tetrachloroethene	5.500
Trichloroethene	0.170
cis-1,2-Dichloroethene	0.790
trans-1,2-Dichloroethene	0.0056
Vinyl chloride	0.013

MW-7	10/24/16
Tetrachloroethene	0.150
Trichloroethene	0.0057
cis-1,2-Dichloroethene	0.036

MW-8	10/24/16
Tetrachloroethene	0.058
cis-1,2-Dichloroethene	0.0094

**Legend**  
 ● MW- Monitoring Well Location  
 Results in mg/L

0 20 40 80 Feet

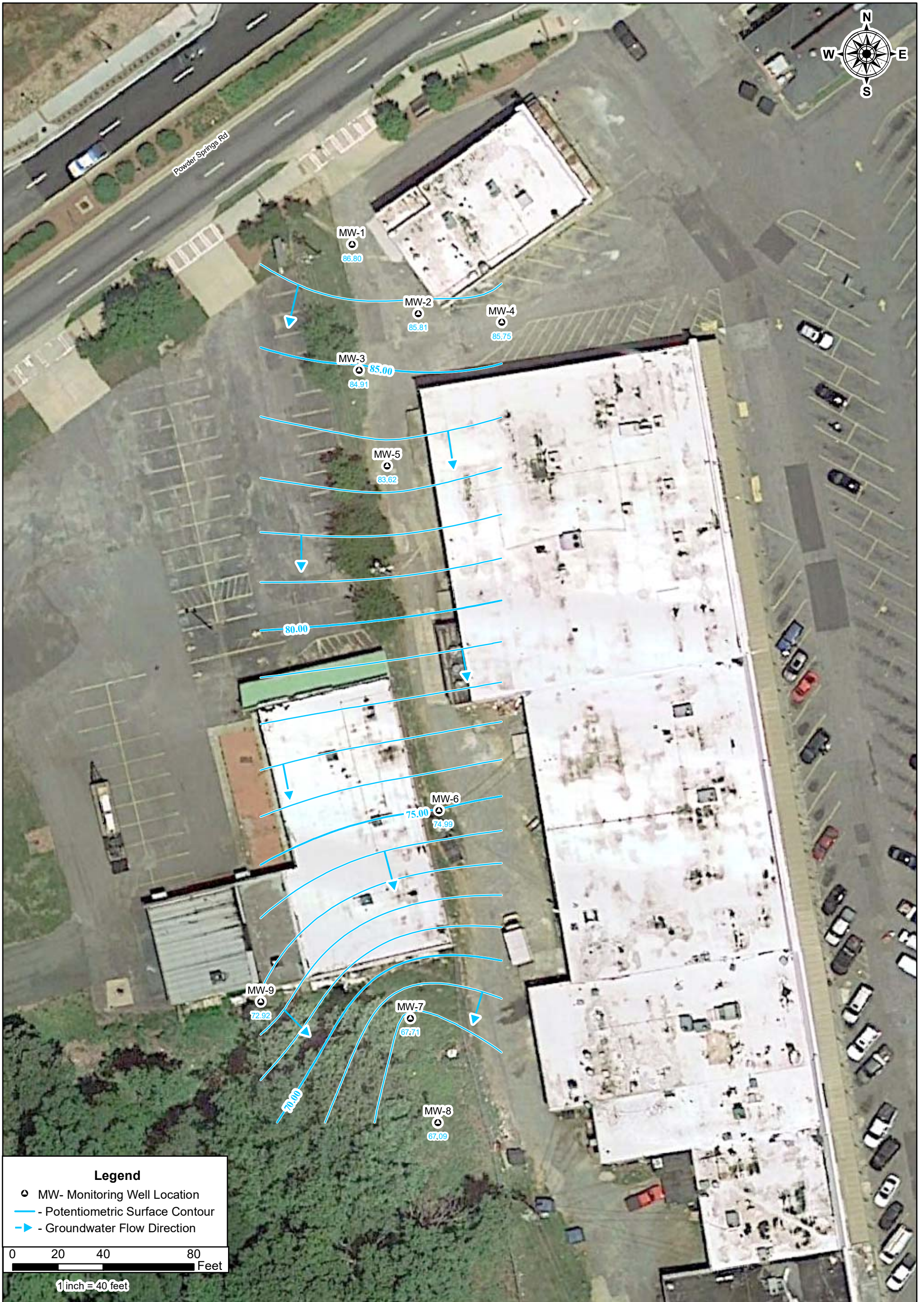
1 inch = 40 feet

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

**HISTORICAL GROUNDWATER IMPACT SUMMARY**

**700 SANDTOWN ROAD**  
 700 Sandtown Road  
 Marietta, Cobb County, Georgia  
 Job No. 152-018  
 4/5/2017





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

**POTENTIOMETRIC  
SURFACE MAP  
3/28/2017**

**700 SANDTOWN ROAD**

700 Sandtown Road  
Marietta, Cobb County, Georgia

Job No. 152-018

3/29/2017





700 SANDTOWN ROAD

700 Sandtown Road  
Marietta, Cobb County, Georgia

Job No. 152-018

12/19/2017

# ANTICIPATED ADDITIONAL AREA OF EXCAVATION

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ENVIRONMENTAL/GEOTECHNICAL

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





**Table-1A**  
**Summary of Soil Sample Analyses**  
**Additional Soil Investigation**  
 Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job# 152-018

Sample Location	Depth	Date	1,4-Dioxane	1,2-DCB	MEK	Acetone	CT	Chloroform	cDCE	Methyl acetate	MTBE	PCE	tDCE	TCE	DCE - Total	Xylenes
EB-1	5'-7'	5/1/2017	NA	<0.0057	<0.057	<0.11	<0.0057	<0.0057	<b>0.0190</b>	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	NA	<0.0057
EB-1	13'-15'	5/1/2017	NA	<0.0054	<0.054	<0.11	<0.0054	<0.0054	<b>0.0110</b>	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	NA	<0.0054
EB-2	5'-7'	5/1/2017	NA	<0.0050	<0.050	<0.099	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	<0.0050
EB-2	13'-15'	5/1/2017	NA	<0.0052	<0.052	<0.10	<0.0052	<0.0052	<b>0.0260</b>	<0.0052	<0.0052	<b>0.0052</b>	<0.0052	<0.0052	NA	<0.0052
EB-3	13-15	5/1/2017	NA	<0.0051	<0.051	<0.10	<0.0051	<0.0051	<b>0.6300</b>	<0.0051	<0.0051	<b>0.4700</b>	<b>0.0096</b>	<b>0.1100</b>	NA	<0.0051
EB-4	5'-7'	5/1/2017	NA	<0.0050	<0.050	<0.10	<0.0050	<0.0050	<b>0.0051</b>	<0.0050	<0.0050	<b>0.7600</b>	<0.0050	<b>0.0110</b>	NA	<0.0050
EB-4	13'-15'	5/1/2017	NA	<0.0042	<0.042	<0.084	<0.0042	<0.0042	<b>0.0290</b>	<0.0042	<0.0042	<b>0.0620</b>	<0.0042	<b>0.0520</b>	NA	<0.0042
EB-5	10'-12'	5/1/2017	<0.1600	<0.053	<0.053	<0.11	<0.0053	<0.0052	<b>1.100</b>	<0.0053	<0.0053	<b>88.0000</b>	<b>0.0380</b>	<b>0.9500</b>	<b>1.2000</b>	<b>0.0061</b>
EB-5**	13'-15'	5/1/2017	<8700	<290	<2900	<5800	<290	<290	<290	<290	<290	<b>9100</b>	<290	<290	<290	<290
EB-5	18-20	5/1/2017	<0.20	<0.0068	<b>0.0790</b>	<0.14	<0.0068	<0.0068	<b>0.8700</b>	<0.0068	<b>0.0150</b>	<b>2.6000</b>	<b>0.0340</b>	<b>0.2400</b>	<b>0.8700</b>	<0.0068
EB-5	23'-25'	5/1/2017	<0.22	<0.0075	<0.0075	<0.15	<0.0075	<0.0075	<b>0.1800</b>	<b>0.0210</b>	<b>0.0210</b>	<b>0.3700</b>	<0.0075	<b>0.0290</b>	<b>0.1800</b>	<0.0075
EB-6	5'-7'	5/1/2017	NA	<0.0048	<0.048	<0.096	<0.0048	<0.0048	<b>0.0260</b>	<0.0048	<0.0048	<b>1.8000</b>	<0.0048	<b>0.0450</b>	NA	<0.0048
EB-6	13'-15'	5/1/2017	NA	<0.0072	<0.072	<0.14	<0.0072	<0.0072	<b>0.1400</b>	<0.0072	<0.0072	<b>1.6000</b>	<b>0.0150</b>	<b>0.0440</b>	NA	<0.0072
EB-7	5'-7'	5/1/2017	NA	<0.0047	<0.047	<0.094	<0.0047	<0.0047	<b>0.0065</b>	<0.0047	<0.0047	<0.0047	<0.0047	<b>0.0095</b>	NA	<0.0047
EB-7	13'-15'	5/1/2017	<0.21	<0.0071	<0.071	<0.14	<0.0071	<0.0071	<b>0.9200</b>	<0.0071	<0.0071	<b>5.7000</b>	<b>0.0170</b>	<b>0.6200</b>	<b>0.9200</b>	<0.0071
EB-8	5'-7'	5/1/2017	<0.13	<0.0045	<0.045	<0.090	<0.0045	<0.0045	<b>0.0960</b>	<0.0045	<0.0045	<b>0.0130</b>	<0.0045	<0.0045	<b>0.1000</b>	<0.0045
EB-8	13'-15'	5/1/2017	NA	<0.37	<3.7	<7.3	<0.37	<0.37	<b>1.6000</b>	<0.37	<0.37	<b>28.0000</b>	<0.37	<b>1.6000</b>	NA	<0.37
EB-9	13'-15'	5/2/2017	NA	<0.33	<3.3	<6.6	<0.33	<0.33	<b>0.6900</b>	<0.33	<0.33	<b>27.0000</b>	<0.33	<b>0.4700</b>	NA	<0.33
EB-10	5'-7'	5/1/2017	NA	<0.0063	<0.63	<0.13	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<b>0.0650</b>	<0.0063	<0.0063	NA	<0.0063
EB-10	13'-15'	5/1/2017	NA	<0.0066	<0.066	<0.13	<0.0066	<0.0066	<b>0.1100</b>	<0.0066	<0.0066	<b>0.0530</b>	<0.0066	<0.0066	NA	<0.0066
EB-11	13'-15'	5/2/2017	NA	<0.0072	<0.072	<0.14	<0.0072	<0.0072	<b>0.6300</b>	<0.0072	<0.0072	<b>2.3000</b>	<b>0.0096</b>	<b>0.1200</b>	NA	<0.0072
EB-12	13'-15'	5/2/2017	NA	<0.30	<3.0	<6.1	<0.30	<0.30	<b>0.8500</b>	<0.30	<0.30	<b>13.0000</b>	<0.30	<b>0.4200</b>	NA	<0.30
EB-13	5'-7'	5/2/2017	NA	<0.0052	<0.0052	<0.10	<0.0052	<0.0052	<b>0.0190</b>	<0.0052	<0.0052	<b>0.0190</b>	<0.0052	<b>0.0057</b>	NA	<0.0052
EB-13	13'-15'	5/2/2017	NA	<0.0069	<0.069	<0.14	<0.0069	<0.0069	<b>0.4900</b>	<0.0069	<0.0069	<b>0.0350</b>	<0.0069	<b>0.0220</b>	NA	<0.0069
EB-14	13'-15'	5/2/2017	NA	<0.0071	<0.071	<0.14	<0.0071	<0.0071	<b>0.6800</b>	<0.0071	<0.0071	<b>2.1000</b>	<b>0.0120</b>	<b>0.0730</b>	NA	<0.0071
EB-15	10'12'	5/2/2017	NA	<0.0073	<0.073	<0.15	<0.0073	<b>0.0077</b>	<b>0.2300</b>	<0.0073	<0.0073	<b>3.7000</b>	<b>0.0240</b>	<b>0.0890</b>	NA	<0.0073
EB-15	13'-15'	5/2/2017	NA	<0.0073	<0.073	<0.15	<0.0073	<0.0073	<b>0.7600</b>	<0.0073	<0.0073	<b>6.1000</b>	<b>0.0610</b>	<b>0.4400</b>	NA	<0.0073
EB-15	18'-20'	5/2/2017	NA	<0.31	<3.1	<6.2	<0.31	<0.31	<b>0.8300</b>	<0.31	<0.31	<b>44.0000</b>	<0.31	<0.31	NA	<0.31
EB-15	23'-25'	5/2/2017	NA	<0.0064	<0.064	<0.13	<b>0.0110</b>	<b>0.0210</b>	<0.0064	<0.0064	<0.0064	<b>0.1900</b>	<0.0064	<0.0064	NA	<0.0064
EB-16	13'-15'	5/2/2017	NA	<0.0064	<0.064	<0.13	<0.0064	<0.0064	<b>0.1600</b>	<0.0064	<0.0064	<b>0.0180</b>	<0.0064	<b>0.0100</b>	NA	<0.0064
EB-17	13'-15'	5/2/2017	NA	<0.0063	<0.063	<0.13	<0.0063	<0.0063	<b>0.0820</b>	<0.0063	<0.0063	<b>0.0580</b>	<b>0.0083</b>	<b>0.0098</b>	NA	<0.0063
EB-18	13'-15'	5/2/2017	NA	<0.0063	<0.063	<0.13	<0.0063	<b>0.0210</b>	<b>0.7400</b>	<0.0063	<0.0063	<b>7.6000</b>	<b>0.0230</b>	<b>0.1000</b>	NA	<0.0063
EB-19	13'-15'	5/2/2017	NA	<0.0069	<0.069	<0.14	<0.0069	<b>0.0300</b>	<0.050	<0.0069	<0.0069	<b>1.7000</b>	<b>0.0080</b>	<b>0.0150</b>	NA	<0.0069
EB-20	13'-15'	5/2/2017	NA	<0.0066	<0.066	<0.13	<0.0066	<b>0.0120</b>	<b>0.0480</b>	<0.0066	<0.0066	<b>0.2300</b>	<0.0066	<b>0.0096</b>	NA	<0.0066
EB-21	10'-12'	7/20/2017	NA	<0.0048	<0.0048	<0.095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	NA	<0.0048
EB-22	10'-12'	7/20/2017	NA	<0.0066	<0.066	<0.13	<0.0066	<0.0066	<b>0.025</b>	<0.0066	<0.0066	<0.0066	<0.0066	<b>0.0071</b>	NA	<0.0066
EB-23	10'-12'	7/20/2017	NA	<0.0066	<0.066	<0.13	<0.0066	<0.0066	<b>0.016</b>	<0.0066	<0.0066	<b>0.035</b>	<0.0066	<0.0066	NA	<0.0066
EB-23	13'-15'	7/20/2017	NA	<0.0067	<0.067	<0.13	<0.0067	<0.0067	<b>0.33</b>	<0.0067	<0.0067	<b>2.0</b>	<0.0067	<b>0.069</b>	NA	<0.0067
EB-23	18'-20'	7/20/2017	NA	<0.0060	<0.060	<0.12	<0.0060	<0.0060	<b>0.063</b>	<0.0060	<0.0060	<b>0.028</b>	<0.0060	<b>0.023</b>	NA	<0.0060
EB-24	10'-12'	7/20/2017	NA	<0.0078	<0.078	<0.16	<0.0078	<0.0078	<b>0.015</b>	<0.0078	<0.0078	<b>0.54</b>	<0.0078	<b>0.012</b>	NA	<0.0078
EB-24	13'-15'	7/20/2017	NA	<0.0064	<0.064	<0.13	<0.0064	<0.0064	<b>0.24</b>	<0.0064	<0.0064	<b>1.4</b>	<b>0.0091</b>	<b>0.11</b>	NA	<0.0064
EB-24	18'-20'	7/20/2017	NA	<0.0069	<0.069	<0.14	<0.0069	<0.0064	<b>0.51</b>	<0.0069	<0.0069	<b>2.5</b>	<b>0.0088</b>	<b>0.16</b>	NA	<0.0069
EB-25	7'-15'	7/20/2017	NA	<0.0060	<0.060	<b>0.13</b>	<0.0060	<0.0060	<b>0.059</b>	<0.0060	<0.0060	<b>2.0</b>	<0.0060	<b>0.036</b>	NA	<0.0060
EB-26**	7'-15'	7/20/2017	NA	<32	<320	<640	<32	<32	<32	<32	<32	<b>13000</b>	<32	<b>68</b>	NA	<32
EB-27	7'-15'	7/20/2017	NA	<0.0068	<0.068	<0.14	<0.0068	<0.0068	<b>0.27E</b>	<0.0068	<0.0068	<b>1.0</b>	<b>0.0084</b>	<b>0.18</b>	NA	<0.0068
EB-28	13'-15'	7/20/2017	NA	<0.0062	<0.062	<0.12	<0.0062	<0.0062	<b>1.2</b>	<0.0062	<0.0062	<b>28</b>	<b>0.065</b>	<b>0.72</b>	NA	<0.0062
EB-28	15'-20'	7/20/2017	NA	<0.0078	<0.078	<0.16	<0.0078	<0.0078	<b>0.45</b>	<0.0078	<0.0078	<b>21</b>	<b>0.041</b>	<b>0.14</b>	NA	<0.0078
EB-29	13'-15'	7/20/2017	NA	<0.0066	<0.066	<0.13	<0.0066	<b>0.049</b>	<b>0.41</b>	<0.0066	<0.0066	<b>7.9</b>	<b>0.037</b>	<b>0.081</b>	NA	<0.0066
EB-29	18'-20'	7/20/2017	NA	<0.0065	<0.065	<0.13	<0.0065	<0.0065	<b>0.77</b>	<0.0065	<0.0065	<b>17</b>	<b>0.041</b>	<b>0.11</b>	NA	<0.0065

Concentrations in mg/Kg  
 NA-Not analyzed  
 \*\* Reportable Limit is high due to a high dilution factor  
 E - Estimated



Table-2  
 Summary of Groundwater Sample Analyses  
 Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job #152-018

Sample Location	Date	1,1-DCE (mg/L)	Acetone (mg/L)	Bromoform (mg/L)	Bromomethane (mg/L)	Chloroform (mg/L)	Chloromethane (mg/L)	cDCE (mg/L)	Ethylbenzene (mg/L)	MTBE (mg/L)	PCE (mg/L)	Toluene (mg/L)	tDCE (mg/L)	TCE (mg/L)	VC (mg/L)	Xylenes (mg/L)
B1	3/22/13	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	2.400	<0.0050	0.014	2.500	<0.0050	0.040	0.590	0.370	<0.0050
B2	3/22/13	<0.0050	<0.050	<0.0050	<0.0050	0.013	<0.010	0.510	<0.0050	<0.0050	85.000	<0.0050	0.0093	0.180	0.025	<0.0050
B3	3/22/13	<0.0050	<0.050	<0.0050	<0.0050	0.0096	<0.010	7.700	<0.0050	<0.0050	9.100	<0.0050	0.079	1.000	0.042	<0.0050
MW-1	4/26/13	0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	2.100	0.0060	<0.0050	6.300	0.0082	0.030	0.740	0.430	0.0162
**	3/13/15	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.010	1.400	<0.0050	0.017	5.900	<0.0050	0.015	0.690	0.170	<0.0050
	10/22/15	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	0.034	1.000	<0.0050	0.021	3.900	<0.0050	0.086	0.540	<0.0020	<0.0050
	1/13/17	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	1.400	<0.0050	0.023	2.800	<0.0050	0.032	0.650	0.220	<0.0050
MW-2	4/26/13	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	1.400	<0.0050	0.010	1.900	<0.0050	0.020	0.240	0.190	<0.0050
	3/13/15	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.010	2.600	<0.0050	0.018	2.400	<0.0050	0.036	0.380	0.280	<0.0050
	10/21/15	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	1.800	<0.0050	0.012	1.300	<0.0050	0.034	0.290	0.200	<0.0050
	1/13/17	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	2.600	<0.0050	0.0090	0.720	<0.0050	0.060	0.250	0.260	<0.0050
MW-3	4/26/13	0.0069	<0.050	<0.0050	<0.0050	0.013	<0.010	3.900	<0.0050	0.0054	40.000	<0.0050	0.045	0.910	0.330	<0.0050
**	3/16/15	<0.0050	<0.020	<0.0050	<0.0050	0.0086	<0.010	<0.0050	<0.0050	<0.0050	39.000	<0.0050	0.033	1.000	0.150	0.0052
	10/22/15	<0.500	<5.000	<0.500	<0.500	<0.500	<1.000	3.700	<0.500	<0.500	20.000	<0.500	<0.500	1.000	<0.200	<0.500
	1/13/17	<2.500	<25.000	<2.500	<2.500	<2.500	<5.000	3.700	<2.500	<2.500	46.000	<2.500	<2.500	<2.500	<1.000	<2.500
MW-4	3/13/15	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.010	2.800	<0.0050	<0.0050	0.190	<0.0050	0.011	0.120	0.044	<0.0050
	10/21/15	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	2.600	<0.0050	<0.0050	0.120	<0.0050	0.012	0.094	0.041	<0.0050
	1/13/17	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	2.400	<0.0050	<0.0050	0.078	<0.0050	0.0067	0.067	0.033	<0.0050
MW-5	3/13/15	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.010	3.100	<0.0050	0.015	9.400	<0.0050	0.032	0.600	0.095	<0.0050
	10/21/15	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	3.100	<0.0050	0.015	8.000	<0.0050	0.094	0.650	0.056	<0.0050
	1/12/17	<0.0050	0.170	0.0078	0.017	0.031	0.044	0.0057	<0.0050	<0.0050	0.190	<0.0050	<0.0050	<0.0050	<0.0020	<0.0050
MW-6	10/6/16	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.010	0.150	<0.0050	<0.0050	0.200	<0.0050	<0.0050	0.015	<0.0020	<0.0050
MW-7	10/24/16	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	0.036	<0.0050	<0.0050	0.150	<0.0050	<0.0050	0.0057	<0.0020	<0.0050
MW-8	10/24/16	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	0.0094	<0.0050	<0.0050	0.058	<0.0050	<0.0050	<0.0050	<0.0020	<0.0050
MW-9	3/28/17	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.010	0.790	<0.0050	<0.0050	5.500	<0.0050	0.0056	0.170	0.013	<0.010

\*\* MW-1 and MW-3 were identified incorrectly at time of sampling and were corrected

Table-3  
 Groundwater Elevation Summary  
 Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

WELL NO.	DATE MEASURED	GROUND ELEVATION	TOP OF CASING ELEVATION	SCREENED INTERVAL	STATIC WATER LEVEL	GROUND WATER ELEVATION
MW-1	4/26/2013	NM	99.59	12.0-22.0	11.89	87.70
	3/6/2015				13.48	86.11
	3/13/2015	100.25	99.81		13.66	86.15
	**					
	10/16/2015				13.88	85.71
	12/5/2016				13.81	86.00
	1/12/2017				13.38	86.43
	3/28/2017				13.01	86.80
MW-2	4/26/2013	NM	99.86	12.0-22.0	12.81	87.05
	3/6/2015				13.22	86.64
	3/13/2015	100.13	99.62		12.96	86.66
	10/16/2015				13.07	86.55
	12/5/2016				14.60	85.02
	1/12/2017				14.20	85.42
	3/28/2017				13.81	85.81
MW-3	4/26/2013	NM	100.00	12.0-22.0	13.46	86.54
	3/6/2015				12.63	87.37
	3/13/2015	99.81	99.45		12.46	86.99
	**					
	10/16/2015				13.88	85.57
	12/5/2016				15.35	84.10
	1/12/2017				14.93	84.52
	3/28/2017				14.54	84.91
MW-4	3/13/2015	100.68	100.44	10.0-20.0	13.92	86.52
	10/16/2015				14.01	86.43
	12/5/2016				15.46	84.98
	1/12/2017				15.10	85.34
	3/28/2017				14.69	85.75
MW-5	3/13/2015	100.29	100.13	10.0-20.0	15.92	84.21
	10/16/2015				15.99	84.14
	12/5/2016				17.31	82.82
	1/12/2017				16.96	83.17
	3/28/2017				16.51	83.62
MW-6	10/6/2016	100.69	100.19	18.5-28.5	25.46	74.73
	12/5/2016				25.88	74.31
	1/12/2017				NM	
	3/28/2017				25.20	74.99
MW-7	10/24/2016	90.20	93.22	15.0-25.0	26.00	67.22
	12/5/2016				25.53	67.69
	1/12/2017				NM	
	3/28/2017				25.51	67.71
MW-8	10/24/2016	88.33	91.09	15.0-25.0	24.43	66.66
	12/5/2016				24.00	67.09
	1/12/2017				NM	
	3/28/2017				24.00	67.09
MW-9	3/28/2017	95.53	99.23	22.0-37.0	26.83	72.40

NM - Not Measured

Benchmark established by SEA on 3/13/2015 is a manhole assigned reference elevation 100.00 feet

\*\*Water levels of MW-1 and MW-3 were switched at time of gauging and were corrected



Table - 4  
 Monitoring Well Construction Details  
 Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

WELL NO.	INSTALLATION DATE	GROUND ELEVATION	TOP OF CASING ELEVATION	DEPTH TO GROUT SEAL (feet)	DEPTH TO BENTONITE SEAL (feet)	DEPTH TO SAND PACK (feet)	SCREENED INTERVAL (feet)
MW-1	4/23/2013	NM	99.59	0	8	10	12.0-22.0
		100.25	99.81				
MW-2	4/23/2013	NM	99.86	0	8	10	12.0-22.0
		100.13	99.62				
MW-3	4/23/2013	NM	100.00	0	8	10	12.0-22.0
		99.81	99.45				
MW-4	3/12/2015	100.68	100.44	0	1.50	8	10.0-20.0
MW-5	3/12/2015	100.29	100.13	0	1.50	8	10.0-20.0
MW-6	10/5/2016	100.69	100.19	0	1.50	16.5	18.5-28.5
MW-7	10/20/2016	90.20	93.22	0	1.50	13.0	15.0-25.0
MW-8	10/20/2016	88.33	91.09	0	1.50	13	15.0-25.0
MW-9	3/28/2017	95.53	99.23	0	20.00	17	22.0-37.0

NM - Not Measured

Benchmark established by SEA on 3/13/2015 is a top of manhole assigned reference elevation 100.00 feet

Table - 5a  
Delineation/Cleanup Criteria and Standards for Soil  
Westside Cleaners  
700 Sandtown Road, Marietta, Georgia  
HSI #10927  
SEA Job#152-018

CAS Number	Regulated Substance	Delineation Standards	Residential Type 1/2 RRS	Non-Residential Type 3/4 RRS
79-34-5	1,1,2,2-PCA	0.13	0.130 / 92.5911	0.1300 / 3.0750
79-00-5	1,1,2-TCA	0.5	0.500 / 0.5252	0.500 / 2.5506
75-35-4	1,1-DCE	0.7	0.700 / 50.9253	0.700 / 3.7624
95-50-1	1,2-DCB	60	60.0 / 834.0780	60.0 / 11.6737
107-06-2	1,2-DCA	0.5	0.500 / 3.9804	0.500 / 1.0130
541-73-1	1,3-DCB	60	60.0 / 7442.4835	60.0 / 17.3635
106-46-7	1,4-DCB	7.5	7.50 / 412.4662	7.50 / 33.7897
78-93-3	2-Butanone (MEK)	200	200 / 9.4639	200 / 49.3456
67-64-1	Acetone	400	400.0 / 409.7302	400.0 / 186.9164
56-23-5	Carbon Tetrachloride (CT)	0.5	0.500 / 0.0389	0.500 / 0.6618
67-66-3	Chloroform (TCMA)	3.87	3.870 / 0.5541	3.870 / 0.5541
74-87-3	Chloromethane (CMA)	Not Regulated Under HSRA		
156-59-2	cDCE	7	7.00 / 57.5542	7.00 / 1.1787
100-41-4	Ethylbenzene	70	70.0 / 932.1254	70.0 / 50.9170
98-82-8	Isopropylbenzene	21.88	21.88 / 16.0083	21.88 / 34.3306
79-20-9	Methyl Acetate	Not Regulated Under HSRA		
1634-04-4	MTBE	Not Regulated Under HSRA		
108-87-2	Methylcyclohexane	Not Regulated Under HSRA		
75-09-2	Methylene Chloride	0.5	0.500 / 43.8463	0.500 / 2.3195
127-18-4	PCE	0.5	0.500 / 0.1722	0.500 / 0.8918
108-88-3	Toluene	100	100.0 / 4.0000	100.0 / 72.5404
156-60-5	tDCE	10	10.0 / 3080.5866	10.0 / 10.6781
79-01-6	TCE	0.5	0.500 / 29.5858	0.500 / 0.0375
75-01-4	VC	0.2	0.200 / 528.7091	0.200 / 1.0319
1330-20-7	Xylenes	1000	1000 / 1.4053	1000 / 198.0014

RED designates additional compounds detected in 2017



Table - 5b  
Delineation/Cleanup Criteria and Standards for Groundwater  
Westside Cleaners  
700 Sandtown Road, Marietta, Georgia  
HSI #10927  
SEA Job#152-018

CAS Number	Regulated Substance	Delineation Standards	Residential Type 1/2 RRS	Non-Residential Type 3/4 RRS
75-35-4	1,1-DCE	0.007	0.007 / 0.1034	0.007 / 0.5241
67-66-3	Acetone	4	4 / 7.9897	4 / 45.6221
75-25-2	Bromoform (TBMA)	0.08	0.08 /	0.08 / 0.5139
74-83-9	Bromomethane (BMA)	0.01	0.01 / 0.0026	0.01 / 0.0132
67-66-3	Chloroform	0.1	0.1 / 0.0196	0.1 / 0.2139
74-87-3	Chloromethane	Not Regulated Under HSRA		
156-59-2	cDCE	0.07	0.07 / 0.0723	0.07 / 0.2004
100-41-4	Ethylbenzene	0.7	0.7 / 0.4315	0.7 / 2.2711
1634-04-4	MTBE	Not Regulated Under HSRA		
127-18-4	PCE	0.005	0.005 / 0.1780	0.005 / 0.0981
108-88-3	Toluene	1	1.00 / 0.1780	1 / 5.2410
156-60-5	tDCE	0.1	0.10 / 0.5006	0.1 / 1.7033
79-01-6	TCE	0.005	0.005 / 0.0190	0.005 / 0.0052
75-01-4	VC	0.002	0.002 / 0.6636	0.002 / 0.1496
1330-20-7	Xylenes	10	10 / 0.0010	10 / 0.2879

RED designates additional compounds detected in 2017

Table - 6  
 Potential and Known COCs  
 Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

CAS Number	Regulated Substance	Media	Historic Maximum Concentration	Sample ID	Sample Depth	Delineation Standards	Residential Type 1/2 RRS	Non-Residential Type 3/4 RRS
79-34-5	1,1,2,2-PCA	S	0.023 mg/kg	SGP-1	5.25	0.13	0.130 / 92.5911	0.1300 / 6.2753
79-00-5	1,1,2-TCA	S	0.035 mg/kg	SGP-1	7.5'	0.5	0.500 / 0.5252	0.500 / 0.0324
75-35-4	1,1-DCE	S	0.0099 mg/kg	B1-2.5'	2.5'	0.7	0.700 / 50.9253	0.700 / 3.7624
		GW	0.0069 mg/L	MW-3	NA	0.007	0.007 / 0.1034	0.7 / 0.5241
95-50-4	1,2-DCB	S	0.58 mg/kg	FL-4	10'	60	60.0 / 834.0780	60.0 / 11.6737
107-06-2	1,2-DCA	S	0.0069 mg/kg	SGP-1	7.5'	0.5	0.500 / 3.9804	0.500 / 0.1122
541-73-1	1,3-DCB	S	0.020 mg/kg	FL-4	10'	60	60.0 / 7442.4835	60.0 / 17.3635
106-46-7	1,4-DCB	S	0.072 mg/kg	FL-4	10'	7.5	7.50 / 412.4662	7.50 / 33.7897
78-93-3	2-Butanone (MEK)	S	0.079 mg/kg	EB-5 18'-20'	18'-20'	200	200 / 9.4639	200 / 49.3456
67-64-1	Acetone	S	0.36 mg/kg	SGP-1	7.5'	400	400.0 / 409.7302	400.0 / 186.9164
		GW	0.170 mg/L	MW-5	NA	4	4 / 7.9897	4 / 45.6221
75-25-2	Bromoform	GW	0.0078 mg/L	MW-5	NA	0.08	0.08 /	0.08 / 0.5139
74-83-9	Bromomethane	GW	0.017mg/L	MW-5	NA	0.01	0.01 / 0.0026	0.01 / 0.0132
56-23-5	Carbon Tetrachloride (CT)	S	0.011 mg/kg	EB-15 23'-25'	23'-25'	0.5	0.5 / 0.0389	0.5 / 0.6618
67-66-3	Chloroform	S	0.049 mg/kg	EB-29 13'15"	13'-15'	3.87	3.87 / 0.5541	3.870 / 0.5541
		GW	0.031 mg/L	MW-5	NA	0.1	0.1 / 0.0196	0.1 / 0.2139
74-87-3	Chloromethane	S	0.013 mg/kg	SGP-1	7.5'	Not Regulated		
		GW	0.044 mg/L	MW-5	NA	Not Regulated		
156-59-2	cDCE	S	15 mg/kg	IB-4	3'-5'	7	7.00 / 57.5542	7.00 / 1.1787
		GW	7.700 mg/L	B3	NA	0.07	0.07 / 0.0723	0.07 / 0.2004
100-41-4	Ethylbenzene	S	1.6 mg/kg	B12-9'-10'	9'-10'	70	70.0 / 932.1254	70.0 / 50.9170
		GW	0.0060 mg/L	MW-1	NA	0.7	0.7 / 0.4315	0.7 / 2.2711
98-82-8	Isopropylbenzene	S	5.1 mg/kg	B12-9'-10'	9'-10'	21.88	21.88 / 16.0083	21.88 / 34.3306
79-20-9	Methyl Acetate	S	0.021 mg/kg	EB-15 23'-25'	23'-25'	Not Regulated		
	MTBE	S	0.021 mg/kg	EB-15 23'-25'	23'-25'	Not Regulated		
		GW	0.023 mg/L	MW-1	NA	Not Regulated		
108-87-2	Methylcyclohexane	S	0.012 mg/kg	B8-1'-2'	1'-2'	Not Regulated		
75-09-2	Methylene Chloride	S	0.11 mg/kg	IP-3	8'	0.5	0.500 / 43.8463	0.500 / 2.3195
127-18-4	PCE	S	8500 mg/kg	B12-9'-10'	9'-10'	0.5	0.500 / 0.7122	0.500 / 0.8918
		GW	85 mg/L	B2	NA	0.005	0.005 / 0.1780	0.005 / 0.0981
108-88-3	Toluene	S	0.0057 mg/kg	IP-3	8'	100	100.0 / 4.00	100.0 / 72.5404
		GW	0.0082 mg/L	MW-1	NA	1	1.00 / 0.1780	1.00 / 5.2410
156-60-5	tDCE	S	0.069 mg/kg	B1-2'-5'	2'-5'	10	10.0 / 3080.5866	10.0 / 10.6781
		GW	0.094 mg/L	MW-5	NA	0.1	0.10 / 0.5006	0.10 / 1.7033
79-01-6	TCE	S	2.0 mg/kg	IB4-6"-2" & IB4-3'-5"	6"-2" & 3'-5"	0.5	0.500 / 29.5858	0.500 / 0.0375
		GW	1.000 mg/L	B3 & MW-3	NA	0.005	0.005 / 0.0190	0.005 / 0.0052
75-01-4	VC	S	2.6 mg/kg	B1-2'-5'	2'-5'	0.2	0.200 / 528.7091	0.200 / 1.0319
		GW	0.430 mg/L	MW-1	NA	0.002	0.002 / 0.6636	0.002 / 0.1496
1330-20-7	Xylenes	S	7.6 mg/kg	B12-9'-10'	9'-10'	1000	1000 / 1.4053	1000 / 198.0014
		GW	0.0162 mg/L	MW-1	NA	10	10 / 0.0010	10 / 0.2879

RED designates additional compounds detected in 2017

Highlighted cells designates corrected or updated data



August 02, 2017

Michael Haller  
Sailors Engineering Associates

1675 Spectrum Drive  
Lawrenceville GA 30043

RE: Sandtown Rd

Dear Michael Haller:

Order No: 1707H23

Analytical Environmental Services, Inc. received 17 samples on 7/20/2017 3:18:00 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's accreditations are as follows:

-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/17-06/30/18.

State of Georgia, Department of Natural Resources ID #800 for analysis of Drinking Water Metals, effective 07/01/17-06/30/18 and Total Coliforms and E. coli, effective 04/25/17-04/24/20.

-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/17-06/30/18.

-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

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.

Sincerely,

Tyrel Heckendorf  
Project Manager







ANALYTICAL ENVIRONMENTAL SERVICES, INC.  
 3080 Presidential Drive Atlanta, GA 30340-3704  
 Phone: (770) 457-8177 / Toll-Free: (800) 972-4889 / Fax: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1707423

Date: 7/20 Page 2 of 2

COMPANY: <b>Sailors Eng. Assoc</b>		ADDRESS: <b>1675 Spectrum Dr Lawrenceville GA 30043</b>			ANALYSIS REQUESTED										Visit our website <a href="http://www.aesatlanta.com">www.aesatlanta.com</a> for downloadable COCs and to log in to your AESAccess account.		Number of Containers		
PHONE: <b>770-962-5922</b>		EMAIL:			<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOC</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SPLP</div> </div>														
SAMPLED BY: <b>Michael Short</b>		SIGNATURE:													PRESERVATION (see codes)				
#	SAMPLE ID	SAMPLED:		GRAB	COMPOSITE	MATRIX (see codes)													
		DATE	TIME																
1	EB-29 15-20	7/20	11:00		/	Se											3		
2	EB-29 18-20	7/20	10:54		/	So											4		
3	Trip Blank	7/20				W											2		
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
RELINQUISHED BY:		DATE/TIME: <b>7/20/17 15:18</b>		RECEIVED BY:		DATE/TIME: <b>7/20/17 15:18</b>		PROJECT INFORMATION										RECEIPT	
2.				3.				PROJECT NAME: <b>Sandtown Rd</b>										Total # of Containers: <b>9</b>	
3.								PROJECT #: <b>152-018</b>										Turnaround Time (TAT) Request <input checked="" type="checkbox"/> Standard 5 Business Days <input type="checkbox"/> 2 Business Day Rush <input type="checkbox"/> Next Business Day Rush <input type="checkbox"/> Same-Day Rush (auth req.) <input type="checkbox"/> Other _____	
								SITE ADDRESS: <b>800 Sandtown Rd</b>											
								SEND REPORT TO: <b>Mike Harkes</b>										STATE PROGRAM (if any): _____ E-mail? <input checked="" type="checkbox"/> Fax? <input type="checkbox"/> DATA PACKAGE: I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/>	
								INVOICE TO: (IF DIFFERENT FROM ABOVE)											
SPECIAL INSTRUCTIONS/COMMENTS:				SHIPMENT METHOD				QUOTE #: _____ PO#: _____											
				OUT: / / VIA:															
				IN: / / VIA:															
				client FedEx UPS US mail courier Greyhound															
				other: _____															

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Samples received after 3PM or on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arrangements are made.

**Client:** Sailors Engineering Associates  
**Project:** Sandtown Rd  
**Lab ID:** 1707H23

**Case Narrative**

Volatile Organic Compounds Analysis by Method 1312:

Trichloroethene value for sample 1707H23-010C is "E" qualified indicating an estimated value over linear calibration range. Sample was diluted and reanalyzed with analyte being below reporting limit due to the level of dilution required for other compounds.

Due to sample matrix, sample 1707H23-010A required dilution during preparation and/or analysis resulting in elevated reporting limits.

cis-1,2-Dichloroethene value for sample 1707H23-011A is "E" qualified indicating an estimated value over linear calibration range. Sample was diluted and reanalyzed using the supplied methanol preserved sample at the minimum dilution allowed resulting in analytes being below reporting limits.

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-21 10-12
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 10:02:00 AM
<b>Lab ID:</b> 1707H23-001	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,1,2,2-Tetrachloroethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,1,2-Trichloroethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,1-Dichloroethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,1-Dichloroethene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,2,4-Trichlorobenzene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,2-Dibromo-3-chloropropane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,2-Dibromoethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,2-Dichlorobenzene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,2-Dichloroethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,2-Dichloropropane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,3-Dichlorobenzene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
1,4-Dichlorobenzene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
2-Butanone	BRL	0.048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
2-Hexanone	BRL	0.0095		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
4-Methyl-2-pentanone	BRL	0.0095		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Acetone	BRL	0.095		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Benzene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Bromodichloromethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Bromoform	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Bromomethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Carbon disulfide	BRL	0.0095		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Carbon tetrachloride	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Chlorobenzene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Chloroethane	BRL	0.0095		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Chloroform	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Chloromethane	BRL	0.0095		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
cis-1,2-Dichloroethene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
cis-1,3-Dichloropropene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Cyclohexane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Dibromochloromethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Dichlorodifluoromethane	BRL	0.0095		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Ethylbenzene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Freon-113	BRL	0.0095		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Isopropylbenzene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
m,p-Xylene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Methyl acetate	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Methyl tert-butyl ether	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Methylcyclohexane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Methylene chloride	BRL	0.019		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
o-Xylene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD

**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



<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-21 10-12
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 10:02:00 AM
<b>Lab ID:</b> 1707H23-001	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>				<b>(SW5035)</b>				
Styrene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Tetrachloroethene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Toluene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
trans-1,2-Dichloroethene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
trans-1,3-Dichloropropene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Trichloroethene	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Trichlorofluoromethane	BRL	0.0048		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Vinyl chloride	BRL	0.0095		mg/Kg-dry	246021	1	07/26/2017 00:27	MD
Surr: 4-Bromofluorobenzene	88.7	63-125		%REC	246021	1	07/26/2017 00:27	MD
Surr: Dibromofluoromethane	99	69.9-123		%REC	246021	1	07/26/2017 00:27	MD
Surr: Toluene-d8	102	70-122		%REC	246021	1	07/26/2017 00:27	MD
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	17.5	0		wt%	R348336	1	07/25/2017 13:00	VH

**Qualifiers:**

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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-22 10-12
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 9:42:00 AM
<b>Lab ID:</b> 1707H23-002	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,1,2,2-Tetrachloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,1,2-Trichloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,1-Dichloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,1-Dichloroethene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,2,4-Trichlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,2-Dibromo-3-chloropropane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,2-Dibromoethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,2-Dichlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,2-Dichloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,2-Dichloropropane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,3-Dichlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
1,4-Dichlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
2-Butanone	BRL	0.066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
2-Hexanone	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
4-Methyl-2-pentanone	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Acetone	BRL	0.13		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Benzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Bromodichloromethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Bromoform	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Bromomethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Carbon disulfide	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Carbon tetrachloride	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Chlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Chloroethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Chloroform	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Chloromethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
cis-1,2-Dichloroethene	0.025	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
cis-1,3-Dichloropropene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Cyclohexane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Dibromochloromethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Dichlorodifluoromethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Ethylbenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Freon-113	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Isopropylbenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
m,p-Xylene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Methyl acetate	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Methyl tert-butyl ether	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Methylcyclohexane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Methylene chloride	BRL	0.026		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
o-Xylene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD

**Qualifiers:**

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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-22 10-12
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 9:42:00 AM
<b>Lab ID:</b> 1707H23-002	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>			<b>(SW5035)</b>					
Styrene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Tetrachloroethene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Toluene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
trans-1,2-Dichloroethene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
trans-1,3-Dichloropropene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Trichloroethene	0.0071	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Trichlorofluoromethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Vinyl chloride	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 00:52	MD
Surr: 4-Bromofluorobenzene	92.3	63-125		%REC	246021	1	07/26/2017 00:52	MD
Surr: Dibromofluoromethane	112	69.9-123		%REC	246021	1	07/26/2017 00:52	MD
Surr: Toluene-d8	101	70-122		%REC	246021	1	07/26/2017 00:52	MD
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	29.7	0		wt%	R348336	1	07/25/2017 13:00	VH

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
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- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
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- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-23 10-12
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 9:19:00 AM
<b>Lab ID:</b> 1707H23-003	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,1,2,2-Tetrachloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,1,2-Trichloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,1-Dichloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,1-Dichloroethene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,2,4-Trichlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,2-Dibromo-3-chloropropane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,2-Dibromoethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,2-Dichlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,2-Dichloroethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,2-Dichloropropane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,3-Dichlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
1,4-Dichlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
2-Butanone	BRL	0.066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
2-Hexanone	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
4-Methyl-2-pentanone	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Acetone	BRL	0.13		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Benzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Bromodichloromethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Bromoform	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Bromomethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Carbon disulfide	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Carbon tetrachloride	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Chlorobenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Chloroethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Chloroform	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Chloromethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
cis-1,2-Dichloroethene	0.016	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
cis-1,3-Dichloropropene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Cyclohexane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Dibromochloromethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Dichlorodifluoromethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Ethylbenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Freon-113	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Isopropylbenzene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
m,p-Xylene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Methyl acetate	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Methyl tert-butyl ether	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Methylcyclohexane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Methylene chloride	BRL	0.026		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
o-Xylene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD

**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



<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-23 10-12
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 9:19:00 AM
<b>Lab ID:</b> 1707H23-003	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>			<b>(SW5035)</b>					
Styrene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Tetrachloroethene	0.035	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Toluene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
trans-1,2-Dichloroethene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
trans-1,3-Dichloropropene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Trichloroethene	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Trichlorofluoromethane	BRL	0.0066		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Vinyl chloride	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:17	MD
Surr: 4-Bromofluorobenzene	95.2	63-125		%REC	246021	1	07/26/2017 01:17	MD
Surr: Dibromofluoromethane	116	69.9-123		%REC	246021	1	07/26/2017 01:17	MD
Surr: Toluene-d8	101	70-122		%REC	246021	1	07/26/2017 01:17	MD
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	28.7	0		wt%	R348336	1	07/25/2017 13:00	VH

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-23 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 9:23:00 AM
<b>Lab ID:</b> 1707H23-004	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,1,2,2-Tetrachloroethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,1,2-Trichloroethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,1-Dichloroethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,1-Dichloroethene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,2,4-Trichlorobenzene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,2-Dibromo-3-chloropropane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,2-Dibromoethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,2-Dichlorobenzene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,2-Dichloroethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,2-Dichloropropane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,3-Dichlorobenzene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
1,4-Dichlorobenzene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
2-Butanone	BRL	0.067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
2-Hexanone	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
4-Methyl-2-pentanone	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Acetone	BRL	0.13		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Benzene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Bromodichloromethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Bromoform	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Bromomethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Carbon disulfide	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Carbon tetrachloride	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Chlorobenzene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Chloroethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Chloroform	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Chloromethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
cis-1,2-Dichloroethene	0.33	0.14		mg/Kg-dry	245927	50	07/27/2017 15:33	NP
cis-1,3-Dichloropropene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Cyclohexane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Dibromochloromethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Dichlorodifluoromethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Ethylbenzene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Freon-113	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Isopropylbenzene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
m,p-Xylene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Methyl acetate	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Methyl tert-butyl ether	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Methylcyclohexane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Methylene chloride	BRL	0.027		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
o-Xylene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-23 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 9:23:00 AM
<b>Lab ID:</b> 1707H23-004	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
Styrene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Tetrachloroethene	2.0	0.35		mg/Kg-dry	245927	50	07/27/2017 15:33	NP
Toluene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
trans-1,2-Dichloroethene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
trans-1,3-Dichloropropene	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Trichloroethene	0.069	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Trichlorofluoromethane	BRL	0.0067		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Vinyl chloride	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 01:42	MD
Surr: 4-Bromofluorobenzene	95.6	63-125		%REC	246021	1	07/26/2017 01:42	MD
Surr: 4-Bromofluorobenzene	94	63-125		%REC	245927	50	07/27/2017 15:33	NP
Surr: Dibromofluoromethane	103	69.9-123		%REC	246021	1	07/26/2017 01:42	MD
Surr: Dibromofluoromethane	96.9	69.9-123		%REC	245927	50	07/27/2017 15:33	NP
Surr: Toluene-d8	97.3	70-122		%REC	246021	1	07/26/2017 01:42	MD
Surr: Toluene-d8	97.8	70-122		%REC	245927	50	07/27/2017 15:33	NP
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	30.5	0		wt%	R348336	1	07/25/2017 13:00	VH

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-23 18-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 9:27:00 AM
<b>Lab ID:</b> 1707H23-005	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,1,2,2-Tetrachloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,1,2-Trichloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,1-Dichloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,1-Dichloroethene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,2,4-Trichlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,2-Dibromo-3-chloropropane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,2-Dibromoethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,2-Dichlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,2-Dichloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,2-Dichloropropane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,3-Dichlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
1,4-Dichlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
2-Butanone	BRL	0.060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
2-Hexanone	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
4-Methyl-2-pentanone	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Acetone	BRL	0.12		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Benzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Bromodichloromethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Bromoform	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Bromomethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Carbon disulfide	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Carbon tetrachloride	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Chlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Chloroethane	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Chloroform	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Chloromethane	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
cis-1,2-Dichloroethene	0.063	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
cis-1,3-Dichloropropene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Cyclohexane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Dibromochloromethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Dichlorodifluoromethane	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Ethylbenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Freon-113	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Isopropylbenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
m,p-Xylene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Methyl acetate	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Methyl tert-butyl ether	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Methylcyclohexane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Methylene chloride	BRL	0.024		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
o-Xylene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD

**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-Aug-17

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-23 18-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 9:27:00 AM
<b>Lab ID:</b> 1707H23-005	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>			<b>(SW5035)</b>					
Styrene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Tetrachloroethene	0.028	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Toluene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
trans-1,2-Dichloroethene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
trans-1,3-Dichloropropene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Trichloroethene	0.023	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Trichlorofluoromethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Vinyl chloride	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 02:07	MD
Surr: 4-Bromofluorobenzene	90.4	63-125		%REC	246021	1	07/26/2017 02:07	MD
Surr: Dibromofluoromethane	102	69.9-123		%REC	246021	1	07/26/2017 02:07	MD
Surr: Toluene-d8	100	70-122		%REC	246021	1	07/26/2017 02:07	MD
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	33.1	0		wt%	R348336	1	07/25/2017 13:00	VH

**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



<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-24 10-12
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 8:50:00 AM
<b>Lab ID:</b> 1707H23-006	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,1,2,2-Tetrachloroethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,1,2-Trichloroethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,1-Dichloroethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,1-Dichloroethene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,2,4-Trichlorobenzene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,2-Dibromo-3-chloropropane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,2-Dibromoethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,2-Dichlorobenzene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,2-Dichloroethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,2-Dichloropropane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,3-Dichlorobenzene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
1,4-Dichlorobenzene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
2-Butanone	BRL	0.078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
2-Hexanone	BRL	0.016		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
4-Methyl-2-pentanone	BRL	0.016		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Acetone	BRL	0.16		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Benzene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Bromodichloromethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Bromoform	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Bromomethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Carbon disulfide	BRL	0.016		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Carbon tetrachloride	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Chlorobenzene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Chloroethane	BRL	0.016		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Chloroform	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Chloromethane	BRL	0.016		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
cis-1,2-Dichloroethene	0.015	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
cis-1,3-Dichloropropene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Cyclohexane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Dibromochloromethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Dichlorodifluoromethane	BRL	0.016		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Ethylbenzene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Freon-113	BRL	0.016		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Isopropylbenzene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
m,p-Xylene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Methyl acetate	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Methyl tert-butyl ether	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Methylcyclohexane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Methylene chloride	BRL	0.031		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
o-Xylene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-24 10-12
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 8:50:00 AM
<b>Lab ID:</b> 1707H23-006	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
Styrene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Tetrachloroethene	0.54	0.31		mg/Kg-dry	245927	50	07/27/2017 15:57	NP
Toluene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
trans-1,2-Dichloroethene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
trans-1,3-Dichloropropene	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Trichloroethene	0.012	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Trichlorofluoromethane	BRL	0.0078		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Vinyl chloride	BRL	0.016		mg/Kg-dry	246021	1	07/26/2017 02:32	MD
Surr: 4-Bromofluorobenzene	92.7	63-125		%REC	246021	1	07/26/2017 02:32	MD
Surr: 4-Bromofluorobenzene	92.1	63-125		%REC	245927	50	07/27/2017 15:57	NP
Surr: Dibromofluoromethane	110	69.9-123		%REC	246021	1	07/26/2017 02:32	MD
Surr: Dibromofluoromethane	96.3	69.9-123		%REC	245927	50	07/27/2017 15:57	NP
Surr: Toluene-d8	101	70-122		%REC	246021	1	07/26/2017 02:32	MD
Surr: Toluene-d8	95.3	70-122		%REC	245927	50	07/27/2017 15:57	NP
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	29.6	0		wt%	R348336	1	07/25/2017 13:00	VH

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-24 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 8:53:00 AM
<b>Lab ID:</b> 1707H23-007	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,1,2,2-Tetrachloroethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,1,2-Trichloroethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,1-Dichloroethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,1-Dichloroethene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,2,4-Trichlorobenzene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,2-Dibromo-3-chloropropane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,2-Dibromoethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,2-Dichlorobenzene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,2-Dichloroethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,2-Dichloropropane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,3-Dichlorobenzene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
1,4-Dichlorobenzene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
2-Butanone	BRL	0.064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
2-Hexanone	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
4-Methyl-2-pentanone	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Acetone	BRL	0.13		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Benzene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Bromodichloromethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Bromoform	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Bromomethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Carbon disulfide	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Carbon tetrachloride	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Chlorobenzene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Chloroethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Chloroform	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Chloromethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
cis-1,2-Dichloroethene	0.24	0.14		mg/Kg-dry	245927	50	07/27/2017 17:08	NP
cis-1,3-Dichloropropene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Cyclohexane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Dibromochloromethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Dichlorodifluoromethane	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Ethylbenzene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Freon-113	BRL	0.013		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Isopropylbenzene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
m,p-Xylene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Methyl acetate	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Methyl tert-butyl ether	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Methylcyclohexane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Methylene chloride	BRL	0.026		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
o-Xylene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-24 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 8:53:00 AM
<b>Lab ID:</b> 1707H23-007	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
Styrene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Tetrachloroethene	1.4	0.34		mg/Kg-dry	245927	50	07/27/2017 17:08	NP
Toluene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
trans-1,2-Dichloroethene	0.0091	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
trans-1,3-Dichloropropene	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Trichloroethene	0.11	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Trichlorofluoromethane	BRL	0.0064		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Vinyl chloride	0.017	0.013		mg/Kg-dry	246021	1	07/26/2017 02:57	MD
Surr: 4-Bromofluorobenzene	92.8	63-125		%REC	246021	1	07/26/2017 02:57	MD
Surr: 4-Bromofluorobenzene	93.4	63-125		%REC	245927	50	07/27/2017 17:08	NP
Surr: Dibromofluoromethane	107	69.9-123		%REC	246021	1	07/26/2017 02:57	MD
Surr: Dibromofluoromethane	98.4	69.9-123		%REC	245927	50	07/27/2017 17:08	NP
Surr: Toluene-d8	99.8	70-122		%REC	246021	1	07/26/2017 02:57	MD
Surr: Toluene-d8	96.2	70-122		%REC	245927	50	07/27/2017 17:08	NP
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	30.0	0		wt%	R348336	1	07/25/2017 13:00	VH

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-24 18-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 8:58:00 AM
<b>Lab ID:</b> 1707H23-008	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,1,2,2-Tetrachloroethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,1,2-Trichloroethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,1-Dichloroethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,1-Dichloroethene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,2,4-Trichlorobenzene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,2-Dibromo-3-chloropropane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,2-Dibromoethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,2-Dichlorobenzene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,2-Dichloroethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,2-Dichloropropane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,3-Dichlorobenzene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
1,4-Dichlorobenzene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
2-Butanone	BRL	0.069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
2-Hexanone	BRL	0.014		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
4-Methyl-2-pentanone	BRL	0.014		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Acetone	BRL	0.14		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Benzene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Bromodichloromethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Bromoform	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Bromomethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Carbon disulfide	BRL	0.014		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Carbon tetrachloride	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Chlorobenzene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Chloroethane	BRL	0.014		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Chloroform	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Chloromethane	BRL	0.014		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
cis-1,2-Dichloroethene	0.51	0.37		mg/Kg-dry	245927	50	07/27/2017 17:32	NP
cis-1,3-Dichloropropene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Cyclohexane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Dibromochloromethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Dichlorodifluoromethane	BRL	0.014		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Ethylbenzene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Freon-113	BRL	0.014		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Isopropylbenzene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
m,p-Xylene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Methyl acetate	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Methyl tert-butyl ether	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Methylcyclohexane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Methylene chloride	BRL	0.028		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
o-Xylene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD

**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



<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-24 18-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 8:58:00 AM
<b>Lab ID:</b> 1707H23-008	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
Styrene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Tetrachloroethene	2.5	0.37		mg/Kg-dry	245927	50	07/27/2017 17:32	NP
Toluene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
trans-1,2-Dichloroethene	0.0088	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
trans-1,3-Dichloropropene	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Trichloroethene	0.16	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Trichlorofluoromethane	BRL	0.0069		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Vinyl chloride	BRL	0.014		mg/Kg-dry	246021	1	07/26/2017 12:52	MD
Surr: 4-Bromofluorobenzene	94	63-125		%REC	246021	1	07/26/2017 12:52	MD
Surr: 4-Bromofluorobenzene	93.8	63-125		%REC	245927	50	07/27/2017 17:32	NP
Surr: Dibromofluoromethane	104	69.9-123		%REC	246021	1	07/26/2017 12:52	MD
Surr: Dibromofluoromethane	97.6	69.9-123		%REC	245927	50	07/27/2017 17:32	NP
Surr: Toluene-d8	97.7	70-122		%REC	246021	1	07/26/2017 12:52	MD
Surr: Toluene-d8	96.7	70-122		%REC	245927	50	07/27/2017 17:32	NP
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	31.4	0		wt%	R348336	1	07/25/2017 13:00	VH

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-25 7-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 12:25:00 PM
<b>Lab ID:</b> 1707H23-009	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,1,2,2-Tetrachloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,1,2-Trichloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,1-Dichloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,1-Dichloroethene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,2,4-Trichlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,2-Dibromo-3-chloropropane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,2-Dibromoethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,2-Dichlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,2-Dichloroethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,2-Dichloropropane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,3-Dichlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
1,4-Dichlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
2-Butanone	BRL	0.060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
2-Hexanone	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
4-Methyl-2-pentanone	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Acetone	0.13	0.12		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Benzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Bromodichloromethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Bromoform	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Bromomethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Carbon disulfide	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Carbon tetrachloride	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Chlorobenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Chloroethane	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Chloroform	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Chloromethane	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
cis-1,2-Dichloroethene	0.059	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
cis-1,3-Dichloropropene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Cyclohexane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Dibromochloromethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Dichlorodifluoromethane	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Ethylbenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Freon-113	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Isopropylbenzene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
m,p-Xylene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Methyl acetate	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Methyl tert-butyl ether	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Methylcyclohexane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Methylene chloride	BRL	0.024		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
o-Xylene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD

**Qualifiers:**

- \* Value exceeds maximum contaminant level
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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-25 7-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 12:25:00 PM
<b>Lab ID:</b> 1707H23-009	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>			<b>(SW5035)</b>					
Styrene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Tetrachloroethene	2.0	0.33		mg/Kg-dry	245927	50	07/27/2017 17:56	NP
Toluene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
trans-1,2-Dichloroethene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
trans-1,3-Dichloropropene	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Trichloroethene	0.036	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Trichlorofluoromethane	BRL	0.0060		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Vinyl chloride	BRL	0.012		mg/Kg-dry	246021	1	07/26/2017 13:17	MD
Surr: 4-Bromofluorobenzene	90.1	63-125		%REC	246021	1	07/26/2017 13:17	MD
Surr: 4-Bromofluorobenzene	92	63-125		%REC	245927	50	07/27/2017 17:56	NP
Surr: Dibromofluoromethane	102	69.9-123		%REC	246021	1	07/26/2017 13:17	MD
Surr: Dibromofluoromethane	95.2	69.9-123		%REC	245927	50	07/27/2017 17:56	NP
Surr: Toluene-d8	98.7	70-122		%REC	246021	1	07/26/2017 13:17	MD
Surr: Toluene-d8	93.5	70-122		%REC	245927	50	07/27/2017 17:56	NP
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B</b>			<b>(SW5030B)</b>					
1,1,1-Trichloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,1-Dichloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,1-Dichloroethene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,2-Dibromoethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,2-Dichloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,2-Dichloropropane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
2-Butanone	BRL	50		ug/L	246038	1	07/26/2017 16:40	NP
2-Hexanone	BRL	10		ug/L	246038	1	07/26/2017 16:40	NP
4-Methyl-2-pentanone	BRL	10		ug/L	246038	1	07/26/2017 16:40	NP
Acetone	BRL	50		ug/L	246038	1	07/26/2017 16:40	NP
Benzene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Bromodichloromethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Bromoform	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Bromomethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Carbon disulfide	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Carbon tetrachloride	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Chlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Chloroethane	BRL	10		ug/L	246038	1	07/26/2017 16:40	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-25 7-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 12:25:00 PM
<b>Lab ID:</b> 1707H23-009	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
Chloroform	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Chloromethane	BRL	10		ug/L	246038	1	07/26/2017 16:40	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Cyclohexane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Dibromochloromethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Dichlorodifluoromethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Ethylbenzene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Freon-113	BRL	10		ug/L	246038	1	07/26/2017 16:40	NP
Isopropylbenzene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Methyl acetate	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Methylcyclohexane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Methylene chloride	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Styrene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Tetrachloroethene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Toluene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Trichloroethene	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Trichlorofluoromethane	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Vinyl chloride	BRL	2.0		ug/L	246038	1	07/26/2017 16:40	NP
Xylenes, Total	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
1,2-Dichloroethene, Total	BRL	5.0		ug/L	246038	1	07/26/2017 16:40	NP
Surr: 4-Bromofluorobenzene	93.6	68.3-122		%REC	246038	1	07/26/2017 16:40	NP
Surr: Dibromofluoromethane	97.1	70.1-125		%REC	246038	1	07/26/2017 16:40	NP
Surr: Toluene-d8	96.8	81.4-120		%REC	246038	1	07/26/2017 16:40	NP

**PERCENT MOISTURE D2216**

Percent Moisture	22.9	0		wt%	R348336	1	07/25/2017 13:00	VH
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<b>Qualifiers:</b>	* 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-26 7-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 12:46:00 PM
<b>Lab ID:</b> 1707H23-010	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,1,2,2-Tetrachloroethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,1,2-Trichloroethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,1-Dichloroethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,1-Dichloroethene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,2,4-Trichlorobenzene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,2-Dibromo-3-chloropropane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,2-Dibromoethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,2-Dichlorobenzene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,2-Dichloroethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,2-Dichloropropane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,3-Dichlorobenzene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
1,4-Dichlorobenzene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
2-Butanone	BRL	320		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
2-Hexanone	BRL	64		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
4-Methyl-2-pentanone	BRL	64		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Acetone	BRL	640		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Benzene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Bromodichloromethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Bromoform	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Bromomethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Carbon disulfide	BRL	64		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Carbon tetrachloride	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Chlorobenzene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Chloroethane	BRL	64		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Chloroform	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Chloromethane	BRL	64		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
cis-1,2-Dichloroethene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
cis-1,3-Dichloropropene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Cyclohexane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Dibromochloromethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Dichlorodifluoromethane	BRL	64		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Ethylbenzene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Freon-113	BRL	64		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Isopropylbenzene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
m,p-Xylene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Methyl acetate	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Methyl tert-butyl ether	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Methylcyclohexane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Methylene chloride	BRL	130		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
o-Xylene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-26 7-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 12:46:00 PM
<b>Lab ID:</b> 1707H23-010	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
Styrene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Tetrachloroethene	13000	3200		mg/Kg-dry	245927	500000	07/27/2017 22:18	NP
Toluene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
trans-1,2-Dichloroethene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
trans-1,3-Dichloropropene	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Trichloroethene	68	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Trichlorofluoromethane	BRL	32		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Vinyl chloride	BRL	64		mg/Kg-dry	245927	5000	07/27/2017 14:45	NP
Surr: 4-Bromofluorobenzene	93.6	63-125		%REC	245927	5000	07/27/2017 14:45	NP
Surr: 4-Bromofluorobenzene	94.3	63-125		%REC	245927	500000	07/27/2017 22:18	NP
Surr: Dibromofluoromethane	93.9	69.9-123		%REC	245927	500000	07/27/2017 22:18	NP
Surr: Dibromofluoromethane	96.7	69.9-123		%REC	245927	5000	07/27/2017 14:45	NP
Surr: Toluene-d8	95.2	70-122		%REC	245927	500000	07/27/2017 22:18	NP
Surr: Toluene-d8	97.8	70-122		%REC	245927	5000	07/27/2017 14:45	NP
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
1,1,1-Trichloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,1-Dichloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,1-Dichloroethene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,2-Dibromoethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,2-Dichloroethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,2-Dichloropropane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
2-Butanone	BRL	50		ug/L	246038	1	07/26/2017 17:06	NP
2-Hexanone	BRL	10		ug/L	246038	1	07/26/2017 17:06	NP
4-Methyl-2-pentanone	BRL	10		ug/L	246038	1	07/26/2017 17:06	NP
Acetone	BRL	50		ug/L	246038	1	07/26/2017 17:06	NP
Benzene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Bromodichloromethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Bromoform	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Bromomethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Carbon disulfide	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Carbon tetrachloride	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Chlorobenzene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Chloroethane	BRL	10		ug/L	246038	1	07/26/2017 17:06	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
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- 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-Aug-17

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-26 7-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 12:46:00 PM
<b>Lab ID:</b> 1707H23-010	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
Chloroform	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Chloromethane	BRL	10		ug/L	246038	1	07/26/2017 17:06	NP
cis-1,2-Dichloroethene	11	5.0		ug/L	246038	1	07/26/2017 17:06	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Cyclohexane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Dibromochloromethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Dichlorodifluoromethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Ethylbenzene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Freon-113	BRL	10		ug/L	246038	1	07/26/2017 17:06	NP
Isopropylbenzene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Methyl acetate	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Methylcyclohexane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Methylene chloride	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Styrene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Tetrachloroethene	72000	2500		ug/L	246038	500	07/31/2017 18:08	NH
Toluene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Trichloroethene	310	5.0	E	ug/L	246038	1	07/26/2017 17:06	NP
Trichlorofluoromethane	BRL	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Vinyl chloride	BRL	2.0		ug/L	246038	1	07/26/2017 17:06	NP
Xylenes, Total	6.2	5.0		ug/L	246038	1	07/26/2017 17:06	NP
1,2-Dichloroethene, Total	11	5.0		ug/L	246038	1	07/26/2017 17:06	NP
Surr: 4-Bromofluorobenzene	78.1	68.3-122		%REC	246038	500	07/31/2017 18:08	NH
Surr: 4-Bromofluorobenzene	95.6	68.3-122		%REC	246038	1	07/26/2017 17:06	NP
Surr: Dibromofluoromethane	109	70.1-125		%REC	246038	500	07/31/2017 18:08	NH
Surr: Dibromofluoromethane	95.2	70.1-125		%REC	246038	1	07/26/2017 17:06	NP
Surr: Toluene-d8	101	81.4-120		%REC	246038	500	07/31/2017 18:08	NH
Surr: Toluene-d8	97.1	81.4-120		%REC	246038	1	07/26/2017 17:06	NP
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	26.5	0		wt%	R348336	1	07/25/2017 13:00	VH

**Qualifiers:**

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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-27 7-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 12:08:00 PM
<b>Lab ID:</b> 1707H23-011	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,1,2,2-Tetrachloroethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,1,2-Trichloroethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,1-Dichloroethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,1-Dichloroethene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,2,4-Trichlorobenzene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,2-Dibromo-3-chloropropane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,2-Dibromoethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,2-Dichlorobenzene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,2-Dichloroethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,2-Dichloropropane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,3-Dichlorobenzene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
1,4-Dichlorobenzene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
2-Butanone	BRL	0.068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
2-Hexanone	BRL	0.014		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
4-Methyl-2-pentanone	BRL	0.014		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Acetone	BRL	0.14		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Benzene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Bromodichloromethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Bromoform	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Bromomethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Carbon disulfide	BRL	0.014		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Carbon tetrachloride	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Chlorobenzene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Chloroethane	BRL	0.014		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Chloroform	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Chloromethane	BRL	0.014		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
cis-1,2-Dichloroethene	0.27	0.0068	E	mg/Kg-dry	246074	1	07/26/2017 14:32	MD
cis-1,3-Dichloropropene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Cyclohexane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Dibromochloromethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Dichlorodifluoromethane	BRL	0.014		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Ethylbenzene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Freon-113	BRL	0.014		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Isopropylbenzene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
m,p-Xylene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Methyl acetate	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Methyl tert-butyl ether	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Methylcyclohexane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Methylene chloride	BRL	0.027		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
o-Xylene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD

**Qualifiers:**

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- > 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-27 7-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 12:08:00 PM
<b>Lab ID:</b> 1707H23-011	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>			<b>(SW5035)</b>					
Styrene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Tetrachloroethene	1.0	0.40		mg/Kg-dry	245927	50	07/27/2017 19:08	NP
Toluene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
trans-1,2-Dichloroethene	0.0084	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
trans-1,3-Dichloropropene	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Trichloroethene	0.18	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Trichlorofluoromethane	BRL	0.0068		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Vinyl chloride	BRL	0.014		mg/Kg-dry	246074	1	07/26/2017 14:32	MD
Surr: 4-Bromofluorobenzene	88.9	63-125		%REC	246074	1	07/26/2017 14:32	MD
Surr: 4-Bromofluorobenzene	93.1	63-125		%REC	245927	50	07/27/2017 19:08	NP
Surr: Dibromofluoromethane	101	69.9-123		%REC	246074	1	07/26/2017 14:32	MD
Surr: Dibromofluoromethane	96.8	69.9-123		%REC	245927	50	07/27/2017 19:08	NP
Surr: Toluene-d8	98.6	70-122		%REC	246074	1	07/26/2017 14:32	MD
Surr: Toluene-d8	95.1	70-122		%REC	245927	50	07/27/2017 19:08	NP
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B</b>			<b>(SW5030B)</b>					
1,1,1-Trichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,1,2-Trichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,1-Dichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,1-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,2-Dibromoethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,2-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,2-Dichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,2-Dichloropropane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,3-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,4-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
2-Butanone	BRL	50		ug/L	246038	1	07/31/2017 19:58	NH
2-Hexanone	BRL	10		ug/L	246038	1	07/31/2017 19:58	NH
4-Methyl-2-pentanone	BRL	10		ug/L	246038	1	07/31/2017 19:58	NH
Acetone	BRL	50		ug/L	246038	1	07/31/2017 19:58	NH
Benzene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Bromodichloromethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Bromoform	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Bromomethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Carbon disulfide	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Carbon tetrachloride	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Chlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Chloroethane	BRL	10		ug/L	246038	1	07/31/2017 19:58	NH

**Qualifiers:**

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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-27 7-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 12:08:00 PM
<b>Lab ID:</b> 1707H23-011	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
Chloroform	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Chloromethane	BRL	10		ug/L	246038	1	07/31/2017 19:58	NH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
cis-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Cyclohexane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Dibromochloromethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Dichlorodifluoromethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Ethylbenzene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Freon-113	BRL	10		ug/L	246038	1	07/31/2017 19:58	NH
Isopropylbenzene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Methyl acetate	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Methyl tert-butyl ether	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Methylcyclohexane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Methylene chloride	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Styrene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Tetrachloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Toluene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
trans-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Trichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Trichlorofluoromethane	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Vinyl chloride	BRL	2.0		ug/L	246038	1	07/31/2017 19:58	NH
Xylenes, Total	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
1,2-Dichloroethene, Total	BRL	5.0		ug/L	246038	1	07/31/2017 19:58	NH
Surr: 4-Bromofluorobenzene	80.9	68.3-122		%REC	246038	1	07/31/2017 19:58	NH
Surr: Dibromofluoromethane	110	70.1-125		%REC	246038	1	07/31/2017 19:58	NH
Surr: Toluene-d8	101	81.4-120		%REC	246038	1	07/31/2017 19:58	NH
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	28.1	0		wt%	R348336	1	07/25/2017 13:00	VH

**Qualifiers:**

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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-28 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 11:20:00 AM
<b>Lab ID:</b> 1707H23-012	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,1,2,2-Tetrachloroethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,1,2-Trichloroethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,1-Dichloroethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,1-Dichloroethene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,2,4-Trichlorobenzene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,2-Dibromo-3-chloropropane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,2-Dibromoethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,2-Dichlorobenzene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,2-Dichloroethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,2-Dichloropropane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,3-Dichlorobenzene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
1,4-Dichlorobenzene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
2-Butanone	BRL	0.062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
2-Hexanone	BRL	0.012		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
4-Methyl-2-pentanone	BRL	0.012		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Acetone	BRL	0.12		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Benzene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Bromodichloromethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Bromoform	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Bromomethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Carbon disulfide	BRL	0.012		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Carbon tetrachloride	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Chlorobenzene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Chloroethane	BRL	0.012		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Chloroform	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Chloromethane	BRL	0.012		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
cis-1,2-Dichloroethene	1.2	0.72		mg/Kg-dry	245927	100	07/27/2017 15:09	NP
cis-1,3-Dichloropropene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Cyclohexane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Dibromochloromethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Dichlorodifluoromethane	BRL	0.012		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Ethylbenzene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Freon-113	BRL	0.012		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Isopropylbenzene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
m,p-Xylene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Methyl acetate	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Methyl tert-butyl ether	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Methylcyclohexane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Methylene chloride	BRL	0.025		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
o-Xylene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-28 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 11:20:00 AM
<b>Lab ID:</b> 1707H23-012	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
Styrene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Tetrachloroethene	28	0.72		mg/Kg-dry	245927	100	07/27/2017 15:09	NP
Toluene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
trans-1,2-Dichloroethene	0.065	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
trans-1,3-Dichloropropene	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Trichloroethene	0.72	0.72		mg/Kg-dry	245927	100	07/27/2017 15:09	NP
Trichlorofluoromethane	BRL	0.0062		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Vinyl chloride	0.016	0.012		mg/Kg-dry	246074	1	07/26/2017 14:58	MD
Surr: 4-Bromofluorobenzene	89.9	63-125		%REC	246074	1	07/26/2017 14:58	MD
Surr: 4-Bromofluorobenzene	93.4	63-125		%REC	245927	100	07/27/2017 15:09	NP
Surr: Dibromofluoromethane	95.4	69.9-123		%REC	246074	1	07/26/2017 14:58	MD
Surr: Dibromofluoromethane	97.1	69.9-123		%REC	245927	100	07/27/2017 15:09	NP
Surr: Toluene-d8	95.8	70-122		%REC	246074	1	07/26/2017 14:58	MD
Surr: Toluene-d8	96.6	70-122		%REC	245927	100	07/27/2017 15:09	NP
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
1,1,1-Trichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,1,2-Trichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,1-Dichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,1-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,2-Dibromoethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,2-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,2-Dichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,2-Dichloropropane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,3-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,4-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
2-Butanone	BRL	50		ug/L	246038	1	07/31/2017 20:25	NH
2-Hexanone	BRL	10		ug/L	246038	1	07/31/2017 20:25	NH
4-Methyl-2-pentanone	BRL	10		ug/L	246038	1	07/31/2017 20:25	NH
Acetone	BRL	50		ug/L	246038	1	07/31/2017 20:25	NH
Benzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Bromodichloromethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Bromoform	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Bromomethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Carbon disulfide	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Carbon tetrachloride	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Chlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Chloroethane	BRL	10		ug/L	246038	1	07/31/2017 20:25	NH

**Qualifiers:**

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- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
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<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-28 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 11:20:00 AM
<b>Lab ID:</b> 1707H23-012	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
Chloroform	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Chloromethane	BRL	10		ug/L	246038	1	07/31/2017 20:25	NH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
cis-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Cyclohexane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Dibromochloromethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Dichlorodifluoromethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Ethylbenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Freon-113	BRL	10		ug/L	246038	1	07/31/2017 20:25	NH
Isopropylbenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Methyl acetate	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Methyl tert-butyl ether	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Methylcyclohexane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Methylene chloride	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Styrene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Tetrachloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Toluene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
trans-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Trichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Trichlorofluoromethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Vinyl chloride	BRL	2.0		ug/L	246038	1	07/31/2017 20:25	NH
Xylenes, Total	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
1,2-Dichloroethene, Total	BRL	5.0		ug/L	246038	1	07/31/2017 20:25	NH
Surr: 4-Bromofluorobenzene	78.9	68.3-122		%REC	246038	1	07/31/2017 20:25	NH
Surr: Dibromofluoromethane	109	70.1-125		%REC	246038	1	07/31/2017 20:25	NH
Surr: Toluene-d8	100	81.4-120		%REC	246038	1	07/31/2017 20:25	NH
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	29.3	0		wt%	R348336	1	07/25/2017 13:00	VH

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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-28 15-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 11:39:00 AM
<b>Lab ID:</b> 1707H23-013	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,1,2,2-Tetrachloroethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,1,2-Trichloroethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,1-Dichloroethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,1-Dichloroethene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,2,4-Trichlorobenzene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,2-Dibromo-3-chloropropane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,2-Dibromoethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,2-Dichlorobenzene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,2-Dichloroethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,2-Dichloropropane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,3-Dichlorobenzene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
1,4-Dichlorobenzene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
2-Butanone	BRL	0.078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
2-Hexanone	BRL	0.016		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
4-Methyl-2-pentanone	BRL	0.016		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Acetone	BRL	0.16		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Benzene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Bromodichloromethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Bromoform	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Bromomethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Carbon disulfide	BRL	0.016		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Carbon tetrachloride	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Chlorobenzene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Chloroethane	BRL	0.016		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Chloroform	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Chloromethane	BRL	0.016		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
cis-1,2-Dichloroethene	0.45	0.31		mg/Kg-dry	245927	100	07/27/2017 20:19	NP
cis-1,3-Dichloropropene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Cyclohexane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Dibromochloromethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Dichlorodifluoromethane	BRL	0.016		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Ethylbenzene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Freon-113	BRL	0.016		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Isopropylbenzene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
m,p-Xylene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Methyl acetate	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Methyl tert-butyl ether	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Methylcyclohexane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Methylene chloride	BRL	0.031		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
o-Xylene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD

**Qualifiers:**

- \* Value exceeds maximum contaminant level
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- 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
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- < Less than Result value
- J Estimated value detected below Reporting Limit



<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-28 15-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 11:39:00 AM
<b>Lab ID:</b> 1707H23-013	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>			<b>(SW5035)</b>					
Styrene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Tetrachloroethene	21	0.78		mg/Kg-dry	245927	100	07/27/2017 20:19	NP
Toluene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
trans-1,2-Dichloroethene	0.041	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
trans-1,3-Dichloropropene	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Trichloroethene	0.14	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Trichlorofluoromethane	BRL	0.0078		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Vinyl chloride	BRL	0.016		mg/Kg-dry	246074	1	07/26/2017 15:23	MD
Surr: 4-Bromofluorobenzene	92.2	63-125		%REC	246074	1	07/26/2017 15:23	MD
Surr: 4-Bromofluorobenzene	96.5	63-125		%REC	245927	100	07/27/2017 20:19	NP
Surr: Dibromofluoromethane	97.2	69.9-123		%REC	246074	1	07/26/2017 15:23	MD
Surr: Dibromofluoromethane	93.7	69.9-123		%REC	245927	100	07/27/2017 20:19	NP
Surr: Toluene-d8	97.8	70-122		%REC	246074	1	07/26/2017 15:23	MD
Surr: Toluene-d8	95.3	70-122		%REC	245927	100	07/27/2017 20:19	NP
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B</b>			<b>(SW5030B)</b>					
1,1,1-Trichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,1,2-Trichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,1-Dichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,1-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,2-Dibromoethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,2-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,2-Dichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,2-Dichloropropane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,3-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,4-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
2-Butanone	BRL	50		ug/L	246038	1	07/31/2017 20:52	NH
2-Hexanone	BRL	10		ug/L	246038	1	07/31/2017 20:52	NH
4-Methyl-2-pentanone	BRL	10		ug/L	246038	1	07/31/2017 20:52	NH
Acetone	BRL	50		ug/L	246038	1	07/31/2017 20:52	NH
Benzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Bromodichloromethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Bromoform	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Bromomethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Carbon disulfide	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Carbon tetrachloride	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Chlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Chloroethane	BRL	10		ug/L	246038	1	07/31/2017 20:52	NH

**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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-28 15-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 11:39:00 AM
<b>Lab ID:</b> 1707H23-013	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
Chloroform	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Chloromethane	BRL	10		ug/L	246038	1	07/31/2017 20:52	NH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
cis-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Cyclohexane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Dibromochloromethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Dichlorodifluoromethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Ethylbenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Freon-113	BRL	10		ug/L	246038	1	07/31/2017 20:52	NH
Isopropylbenzene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Methyl acetate	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Methyl tert-butyl ether	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Methylcyclohexane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Methylene chloride	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Styrene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Tetrachloroethene	21	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Toluene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
trans-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Trichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Trichlorofluoromethane	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Vinyl chloride	BRL	2.0		ug/L	246038	1	07/31/2017 20:52	NH
Xylenes, Total	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
1,2-Dichloroethene, Total	BRL	5.0		ug/L	246038	1	07/31/2017 20:52	NH
Surr: 4-Bromofluorobenzene	76.5	68.3-122		%REC	246038	1	07/31/2017 20:52	NH
Surr: Dibromofluoromethane	110	70.1-125		%REC	246038	1	07/31/2017 20:52	NH
Surr: Toluene-d8	101	81.4-120		%REC	246038	1	07/31/2017 20:52	NH
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	29.1	0		wt%	R348336	1	07/25/2017 13:00	VH

**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-Aug-17

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-29 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 10:38:00 AM
<b>Lab ID:</b> 1707H23-014	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,1,2,2-Tetrachloroethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,1,2-Trichloroethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,1-Dichloroethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,1-Dichloroethene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,2,4-Trichlorobenzene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,2-Dibromo-3-chloropropane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,2-Dibromoethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,2-Dichlorobenzene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,2-Dichloroethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,2-Dichloropropane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,3-Dichlorobenzene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
1,4-Dichlorobenzene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
2-Butanone	BRL	0.066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
2-Hexanone	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
4-Methyl-2-pentanone	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Acetone	BRL	0.13		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Benzene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Bromodichloromethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Bromoform	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Bromomethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Carbon disulfide	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Carbon tetrachloride	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Chlorobenzene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Chloroethane	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Chloroform	0.049	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Chloromethane	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
cis-1,2-Dichloroethene	0.41	0.37		mg/Kg-dry	245927	50	07/27/2017 21:07	NP
cis-1,3-Dichloropropene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Cyclohexane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Dibromochloromethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Dichlorodifluoromethane	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Ethylbenzene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Freon-113	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Isopropylbenzene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
m,p-Xylene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Methyl acetate	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Methyl tert-butyl ether	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Methylcyclohexane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Methylene chloride	BRL	0.026		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
o-Xylene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD

**Qualifiers:**

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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-29 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 10:38:00 AM
<b>Lab ID:</b> 1707H23-014	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B</b>			<b>(SW5035)</b>					
Styrene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Tetrachloroethene	7.9	0.37		mg/Kg-dry	245927	50	07/27/2017 21:07	NP
Toluene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
trans-1,2-Dichloroethene	0.037	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
trans-1,3-Dichloropropene	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Trichloroethene	0.081	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Trichlorofluoromethane	BRL	0.0066		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Vinyl chloride	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 15:48	MD
Surr: 4-Bromofluorobenzene	91.3	63-125		%REC	246074	1	07/26/2017 15:48	MD
Surr: 4-Bromofluorobenzene	93.8	63-125		%REC	245927	50	07/27/2017 21:07	NP
Surr: Dibromofluoromethane	102	69.9-123		%REC	246074	1	07/26/2017 15:48	MD
Surr: Dibromofluoromethane	94.4	69.9-123		%REC	245927	50	07/27/2017 21:07	NP
Surr: Toluene-d8	97.2	70-122		%REC	246074	1	07/26/2017 15:48	MD
Surr: Toluene-d8	96.7	70-122		%REC	245927	50	07/27/2017 21:07	NP
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B</b>			<b>(SW5030B)</b>					
1,1,1-Trichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,1,2-Trichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,1-Dichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,1-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,2-Dibromoethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,2-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,2-Dichloroethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,2-Dichloropropane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,3-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,4-Dichlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
2-Butanone	BRL	50		ug/L	246038	1	07/31/2017 21:19	NH
2-Hexanone	BRL	10		ug/L	246038	1	07/31/2017 21:19	NH
4-Methyl-2-pentanone	BRL	10		ug/L	246038	1	07/31/2017 21:19	NH
Acetone	BRL	50		ug/L	246038	1	07/31/2017 21:19	NH
Benzene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Bromodichloromethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Bromoform	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Bromomethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Carbon disulfide	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Carbon tetrachloride	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Chlorobenzene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Chloroethane	BRL	10		ug/L	246038	1	07/31/2017 21:19	NH

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-29 13-15
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 10:38:00 AM
<b>Lab ID:</b> 1707H23-014	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
Chloroform	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Chloromethane	BRL	10		ug/L	246038	1	07/31/2017 21:19	NH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
cis-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Cyclohexane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Dibromochloromethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Dichlorodifluoromethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Ethylbenzene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Freon-113	BRL	10		ug/L	246038	1	07/31/2017 21:19	NH
Isopropylbenzene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Methyl acetate	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Methyl tert-butyl ether	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Methylcyclohexane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Methylene chloride	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Styrene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Tetrachloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Toluene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
trans-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Trichloroethene	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Trichlorofluoromethane	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Vinyl chloride	BRL	2.0		ug/L	246038	1	07/31/2017 21:19	NH
Xylenes, Total	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
1,2-Dichloroethene, Total	BRL	5.0		ug/L	246038	1	07/31/2017 21:19	NH
Surr: 4-Bromofluorobenzene	79	68.3-122		%REC	246038	1	07/31/2017 21:19	NH
Surr: Dibromofluoromethane	111	70.1-125		%REC	246038	1	07/31/2017 21:19	NH
Surr: Toluene-d8	100	81.4-120		%REC	246038	1	07/31/2017 21:19	NH
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	31.3	0		wt%	R348336	1	07/25/2017 13:00	VH

**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-Aug-17

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-29 15-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 11:00:00 AM
<b>Lab ID:</b> 1707H23-015	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
1,1,1-Trichloroethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,1,2-Trichloroethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,1-Dichloroethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,1-Dichloroethene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,2-Dibromoethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,2-Dichlorobenzene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,2-Dichloroethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,2-Dichloropropane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,3-Dichlorobenzene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,4-Dichlorobenzene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
2-Butanone	BRL	50		ug/L	246038	1	08/01/2017 12:00	NH
2-Hexanone	BRL	10		ug/L	246038	1	08/01/2017 12:00	NH
4-Methyl-2-pentanone	BRL	10		ug/L	246038	1	08/01/2017 12:00	NH
Acetone	BRL	50		ug/L	246038	1	08/01/2017 12:00	NH
Benzene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Bromodichloromethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Bromoform	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Bromomethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Carbon disulfide	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Carbon tetrachloride	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Chlorobenzene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Chloroethane	BRL	10		ug/L	246038	1	08/01/2017 12:00	NH
Chloroform	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Chloromethane	BRL	10		ug/L	246038	1	08/01/2017 12:00	NH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
cis-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Cyclohexane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Dibromochloromethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Dichlorodifluoromethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Ethylbenzene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Freon-113	BRL	10		ug/L	246038	1	08/01/2017 12:00	NH
Isopropylbenzene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Methyl acetate	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Methyl tert-butyl ether	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Methylcyclohexane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Methylene chloride	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Styrene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Tetrachloroethene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH

**Qualifiers:**

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- 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-29 15-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 11:00:00 AM
<b>Lab ID:</b> 1707H23-015	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B (SW5030B)</b>								
Toluene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
trans-1,3-Dichloropropene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Trichloroethene	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Trichlorofluoromethane	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Vinyl chloride	BRL	2.0		ug/L	246038	1	08/01/2017 12:00	NH
Xylenes, Total	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
1,2-Dichloroethene, Total	BRL	5.0		ug/L	246038	1	08/01/2017 12:00	NH
Surr: 4-Bromofluorobenzene	78.3	68.3-122		%REC	246038	1	08/01/2017 12:00	NH
Surr: Dibromofluoromethane	112	70.1-125		%REC	246038	1	08/01/2017 12:00	NH
Surr: Toluene-d8	106	81.4-120		%REC	246038	1	08/01/2017 12:00	NH

**Qualifiers:**

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- > 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

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-29 18-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 10:54:00 AM
<b>Lab ID:</b> 1707H23-016	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
1,1,1-Trichloroethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,1,2,2-Tetrachloroethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,1,2-Trichloroethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,1-Dichloroethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,1-Dichloroethene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,2,4-Trichlorobenzene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,2-Dibromo-3-chloropropane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,2-Dibromoethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,2-Dichlorobenzene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,2-Dichloroethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,2-Dichloropropane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,3-Dichlorobenzene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
1,4-Dichlorobenzene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
2-Butanone	BRL	0.065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
2-Hexanone	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
4-Methyl-2-pentanone	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Acetone	BRL	0.13		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Benzene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Bromodichloromethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Bromoform	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Bromomethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Carbon disulfide	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Carbon tetrachloride	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Chlorobenzene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Chloroethane	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Chloroform	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Chloromethane	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
cis-1,2-Dichloroethene	0.77	0.66		mg/Kg-dry	245927	100	07/27/2017 20:43	NP
cis-1,3-Dichloropropene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Cyclohexane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Dibromochloromethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Dichlorodifluoromethane	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Ethylbenzene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Freon-113	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Isopropylbenzene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
m,p-Xylene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Methyl acetate	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Methyl tert-butyl ether	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Methylcyclohexane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Methylene chloride	BRL	0.026		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
o-Xylene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD

**Qualifiers:**

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- > 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



<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> EB-29 18-20
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017 10:54:00 AM
<b>Lab ID:</b> 1707H23-016	<b>Matrix:</b> Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5035)</b>								
Styrene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Tetrachloroethene	17	0.66		mg/Kg-dry	245927	100	07/27/2017 20:43	NP
Toluene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
trans-1,2-Dichloroethene	0.041	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
trans-1,3-Dichloropropene	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Trichloroethene	0.11	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Trichlorofluoromethane	BRL	0.0065		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Vinyl chloride	BRL	0.013		mg/Kg-dry	246074	1	07/26/2017 13:43	MD
Surr: 4-Bromofluorobenzene	91.7	63-125		%REC	246074	1	07/26/2017 13:43	MD
Surr: 4-Bromofluorobenzene	96.4	63-125		%REC	245927	100	07/27/2017 20:43	NP
Surr: Dibromofluoromethane	97.5	69.9-123		%REC	246074	1	07/26/2017 13:43	MD
Surr: Dibromofluoromethane	95.5	69.9-123		%REC	245927	100	07/27/2017 20:43	NP
Surr: Toluene-d8	97.7	70-122		%REC	246074	1	07/26/2017 13:43	MD
Surr: Toluene-d8	94.3	70-122		%REC	245927	100	07/27/2017 20:43	NP
<b>PERCENT MOISTURE D2216</b>								
Percent Moisture	24.3	0		wt%	R348336	1	07/25/2017 13:00	VH

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**Analytical Environmental Services, Inc**

**Date:** 2-Aug-17

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> Trip Blank
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017
<b>Lab ID:</b> 1707H23-017	<b>Matrix:</b> Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5030B)</b>								
1,1,1-Trichloroethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,1,2-Trichloroethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,1-Dichloroethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,1-Dichloroethene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,2-Dibromoethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,2-Dichlorobenzene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,2-Dichloroethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,2-Dichloropropane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,3-Dichlorobenzene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
1,4-Dichlorobenzene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
2-Butanone	BRL	10		ug/L	246026	1	07/25/2017 19:35	MD
2-Hexanone	BRL	10		ug/L	246026	1	07/25/2017 19:35	MD
4-Methyl-2-pentanone	BRL	10		ug/L	246026	1	07/25/2017 19:35	MD
Acetone	BRL	20		ug/L	246026	1	07/25/2017 19:35	MD
Benzene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Bromodichloromethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Bromoform	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Bromomethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Carbon disulfide	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Carbon tetrachloride	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Chlorobenzene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Chloroethane	BRL	10		ug/L	246026	1	07/25/2017 19:35	MD
Chloroform	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Chloromethane	BRL	10		ug/L	246026	1	07/25/2017 19:35	MD
cis-1,2-Dichloroethene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
cis-1,3-Dichloropropene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Cyclohexane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Dibromochloromethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Dichlorodifluoromethane	BRL	10		ug/L	246026	1	07/25/2017 19:35	MD
Ethylbenzene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Freon-113	BRL	10		ug/L	246026	1	07/25/2017 19:35	MD
Isopropylbenzene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
m,p-Xylene	BRL	10		ug/L	246026	1	07/25/2017 19:35	MD
Methyl acetate	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Methyl tert-butyl ether	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Methylcyclohexane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Methylene chloride	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
o-Xylene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD

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**Analytical Environmental Services, Inc**

**Date:** 2-Aug-17

<b>Client:</b> Sailors Engineering Associates	<b>Client Sample ID:</b> Trip Blank
<b>Project Name:</b> Sandtown Rd	<b>Collection Date:</b> 7/20/2017
<b>Lab ID:</b> 1707H23-017	<b>Matrix:</b> Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>TCL VOLATILE ORGANICS SW8260B (SW5030B)</b>								
Styrene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Tetrachloroethene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Toluene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
trans-1,2-Dichloroethene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
trans-1,3-Dichloropropene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Trichloroethene	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Trichlorofluoromethane	BRL	5.0		ug/L	246026	1	07/25/2017 19:35	MD
Vinyl chloride	BRL	2.0		ug/L	246026	1	07/25/2017 19:35	MD
Surr: 4-Bromofluorobenzene	93.4	66.1-129		%REC	246026	1	07/25/2017 19:35	MD
Surr: Dibromofluoromethane	94.7	83.6-123		%REC	246026	1	07/25/2017 19:35	MD
Surr: Toluene-d8	97	81.8-118		%REC	246026	1	07/25/2017 19:35	MD

**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
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- < Less than Result value
- J Estimated value detected below Reporting Limit

**SAMPLE/COOLER RECEIPT CHECKLIST**

1. Client Name: Sailors Engineering Associates

AES Work Order Number: 1707H23

2. Carrier: FedEx  UPS  USPS  Client  Courier  Other \_\_\_\_\_

	Yes	No	N/A	Details	Comments
3. Shipping container/cooler received in good condition?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	damaged <input type="checkbox"/> leaking <input type="checkbox"/> other <input type="checkbox"/>	
4. Custody seals present on shipping container?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		
5. Custody seals intact on shipping container?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		
6. Temperature blanks present?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
7. Cooler temperature(s) within limits of 0-6°C? [See item 13 and 14 for temperature recordings.]	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Cooling initiated for recently collected samples / ice present <input type="checkbox"/>	
8. Chain of Custody (COC) present?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
9. Chain of Custody signed, dated, and timed when relinquished and received?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
10. Sampler name and/or signature on COC?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
11. Were all samples received within holding time?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
12. TAT marked on the COC?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	If no TAT indicated, proceeded with standard TAT per Terms & Conditions. <input type="checkbox"/>	

13. Cooler 1 Temperature 1.7 °C    Cooler 2 Temperature \_\_\_\_\_ °C    Cooler 3 Temperature \_\_\_\_\_ °C    Cooler 4 Temperature \_\_\_\_\_ °C  
 14. Cooler 5 Temperature \_\_\_\_\_ °C    Cooler 6 Temperature \_\_\_\_\_ °C    Cooler 7 Temperature \_\_\_\_\_ °C    Cooler 8 Temperature \_\_\_\_\_ °C

15. Comments: \_\_\_\_\_

I certify that I have completed sections 1-15 (dated initials). MJ 7/20/17

	Yes	No	N/A	Details	Comments
16. Were sample containers intact upon receipt?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
17. Custody seals present on sample containers?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		
18. Custody seals intact on sample containers?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		
19. Do sample container labels match the COC?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	incomplete info <input type="checkbox"/> illegible <input type="checkbox"/> no label <input type="checkbox"/> other <input type="checkbox"/>	
20. Are analyses requested indicated on the COC?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
21. Were all of the samples listed on the COC received?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	samples received but not listed on COC <input type="checkbox"/> samples listed on COC not received <input type="checkbox"/>	
22. Was the sample collection date/time noted?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
23. Did we receive sufficient sample volume for indicated analyses?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
24. Were samples received in appropriate containers?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
25. Were VOA samples received without headspace (< 1/4" bubble)?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
26. Were trip blanks submitted?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	listed on COC <input checked="" type="checkbox"/> not listed on COC <input type="checkbox"/>	

27. Comments: \_\_\_\_\_

I certify that I have completed sections 16-27 (dated initials). TR 7/21/17

This section only applies to samples where pH can be checked at Sample Receipt.

	Yes	No	N/A	Details	Comments
28. Have containers needing chemical preservation been checked? *	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		
29. Containers meet preservation guidelines?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		
30. Was pH adjusted at Sample Receipt?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		

\* Note: Certain analyses require chemical preservation but must be checked in the laboratory and not upon Sample Receipt such as Coliforms, VOCs and Oil & Grease/TPH.

I certify that I have completed sections 28-30 (dated initials). TR 7/21/17



**Client:** Sailors Engineering Associates  
**Project Name:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 245927**

Sample ID: <b>MB-245927</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/24/2017</b>	Run No: <b>348144</b>							
Sample Type: <b>MBLK</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>245927</b>	Analysis Date: <b>07/24/2017</b>	Seq No: <b>7648694</b>							
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	250									
1,1,2,2-Tetrachloroethane	BRL	250									
1,1,2-Trichloroethane	BRL	250									
1,1-Dichloroethane	BRL	250									
1,1-Dichloroethene	BRL	250									
1,2,4-Trichlorobenzene	BRL	250									
1,2-Dibromo-3-chloropropane	BRL	250									
1,2-Dibromoethane	BRL	250									
1,2-Dichlorobenzene	BRL	250									
1,2-Dichloroethane	BRL	250									
1,2-Dichloropropane	BRL	250									
1,3-Dichlorobenzene	BRL	250									
1,4-Dichlorobenzene	BRL	250									
2-Butanone	BRL	2500									
2-Hexanone	BRL	500									
4-Methyl-2-pentanone	BRL	500									
Acetone	BRL	5000									
Benzene	BRL	250									
Bromodichloromethane	BRL	250									
Bromoform	BRL	250									
Bromomethane	BRL	250									
Carbon disulfide	BRL	500									
Carbon tetrachloride	BRL	250									
Chlorobenzene	BRL	250									
Chloroethane	BRL	500									
Chloroform	BRL	250									
Chloromethane	BRL	500									

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 245927**

Sample ID: <b>MB-245927</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/24/2017</b>	Run No: <b>348144</b>							
SampleType: <b>MBLK</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>245927</b>	Analysis Date: <b>07/24/2017</b>	Seq No: <b>7648694</b>							
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	250									
cis-1,3-Dichloropropene	BRL	250									
Cyclohexane	BRL	250									
Dibromochloromethane	BRL	250									
Dichlorodifluoromethane	BRL	500									
Ethylbenzene	BRL	250									
Freon-113	BRL	500									
Isopropylbenzene	BRL	250									
m,p-Xylene	BRL	250									
Methyl acetate	BRL	250									
Methyl tert-butyl ether	BRL	250									
Methylcyclohexane	BRL	250									
Methylene chloride	BRL	1000									
o-Xylene	BRL	250									
Styrene	BRL	250									
Tetrachloroethene	BRL	250									
Toluene	BRL	250									
trans-1,2-Dichloroethene	BRL	250									
trans-1,3-Dichloropropene	BRL	250									
Trichloroethene	BRL	250									
Trichlorofluoromethane	BRL	250									
Vinyl chloride	BRL	500									
Surr: 4-Bromofluorobenzene	1818	0	2500		72.7	63	125				
Surr: Dibromofluoromethane	2848	0	2500		114	69.9	123				
Surr: Toluene-d8	2594	0	2500		104	70	122				

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 245927**

Sample ID: <b>LCS-245927</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/24/2017</b>	Run No: <b>348144</b>							
SampleType: <b>LCS</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>245927</b>	Analysis Date: <b>07/24/2017</b>	Seq No: <b>7648696</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	3300	250	2500		132	62	142				
Benzene	2610	250	2500	41.00	103	70.2	131				
Chlorobenzene	2594	250	2500		104	72.9	129				
Toluene	2414	250	2500		96.6	70.6	131				
Trichloroethene	2604	250	2500		104	70.1	136				
Surr: 4-Bromofluorobenzene	2044	0	2500		81.8	63	125				
Surr: Dibromofluoromethane	2608	0	2500		104	69.9	123				
Surr: Toluene-d8	2518	0	2500		101	70	122				

Sample ID: <b>1707F45-005AMS</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/24/2017</b>	Run No: <b>348212</b>							
SampleType: <b>MS</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>245927</b>	Analysis Date: <b>07/24/2017</b>	Seq No: <b>7651692</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	2809000	250000	2.47525e+00€		114	55	143				
Benzene	2375000	250000	2.47525e+00€		95.9	68.5	128				
Chlorobenzene	2433000	250000	2.47525e+00€		98.3	67.7	126				
Toluene	2445000	250000	2.47525e+00€		98.8	66.9	128				
Trichloroethene	2491000	250000	2.47525e+00€		101	60.7	133				
Surr: 4-Bromofluorobenzene	2265000	0	2.47525e+00€		91.5	63	125				
Surr: Dibromofluoromethane	2325000	0	2.47525e+00€		93.9	69.9	123				
Surr: Toluene-d8	2360000	0	2.47525e+00€		95.3	70	122				

Sample ID: <b>1707F45-005AMSD</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/24/2017</b>	Run No: <b>348212</b>							
SampleType: <b>MSD</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>245927</b>	Analysis Date: <b>07/24/2017</b>	Seq No: <b>7651693</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	2563000	250000	2.47525e+00€		104	55	143	2809000	9.16	19.3	
Benzene	2435000	250000	2.47525e+00€		98.4	68.5	128	2375000	2.51	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 245927**

Sample ID: <b>1707F45-005AMSD</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/24/2017</b>	Run No: <b>348212</b>							
SampleType: <b>MSD</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>245927</b>	Analysis Date: <b>07/24/2017</b>	Seq No: <b>7651693</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Chlorobenzene	2536000	250000	2.47525e+00€		102	67.7	126	2433000	4.14	20	
Toluene	2521000	250000	2.47525e+00€		102	66.9	128	2445000	3.09	20	
Trichloroethene	2526000	250000	2.47525e+00€		102	60.7	133	2491000	1.40	20	
Surr: 4-Bromofluorobenzene	2259000	0	2.47525e+00€		91.3	63	125	2265000	0	0	
Surr: Dibromofluoromethane	2299000	0	2.47525e+00€		92.9	69.9	123	2325000	0	0	
Surr: Toluene-d8	2347000	0	2.47525e+00€		94.8	70	122	2360000	0	0	

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246021**

Sample ID: <b>MB-246021</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348305</b>							
SampleType: <b>MBLK</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246021</b>	Analysis Date: <b>07/25/2017</b>	Seq No: <b>7653256</b>							
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	100									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	10									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246021**

Sample ID: <b>MB-246021</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348305</b>							
SampleType: <b>MBLK</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246021</b>	Analysis Date: <b>07/25/2017</b>	Seq No: <b>7653256</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

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	20									
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	10									
Surr: 4-Bromofluorobenzene	47.88	0	50.00		95.8	63	125				
Surr: Dibromofluoromethane	52.86	0	50.00		106	69.9	123				
Surr: Toluene-d8	50.70	0	50.00		101	70	122				

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246021**

Sample ID: <b>LCS-246021</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348305</b>							
SampleType: <b>LCS</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246021</b>	Analysis Date: <b>07/25/2017</b>	Seq No: <b>7653257</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	54.90	5.0	50.00		110	62	142				
Benzene	48.59	5.0	50.00		97.2	70.2	131				
Chlorobenzene	47.32	5.0	50.00		94.6	72.9	129				
Toluene	45.90	5.0	50.00		91.8	70.6	131				
Trichloroethene	45.51	5.0	50.00		91.0	70.1	136				
Surr: 4-Bromofluorobenzene	48.34	0	50.00		96.7	63	125				
Surr: Dibromofluoromethane	54.76	0	50.00		110	69.9	123				
Surr: Toluene-d8	50.46	0	50.00		101	70	122				

Sample ID: <b>1707H34-012AMS</b>	Client ID:	Units: <b>mg/Kg-dry</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348305</b>							
SampleType: <b>MS</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246021</b>	Analysis Date: <b>07/25/2017</b>	Seq No: <b>7653265</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	0.07454	0.0068	0.0683		109	55	143				
Benzene	0.06495	0.0068	0.0683		95.1	68.5	128				
Chlorobenzene	0.06430	0.0068	0.0683		94.2	67.7	126				
Toluene	0.06286	0.0068	0.0683		92.1	66.9	128				
Trichloroethene	0.05747	0.0068	0.0683		84.2	60.7	133				
Surr: 4-Bromofluorobenzene	0.06423	0	0.0683		94.1	63	125				
Surr: Dibromofluoromethane	0.07075	0	0.0683		104	69.9	123				
Surr: Toluene-d8	0.06804	0	0.0683		99.6	70	122				

Sample ID: <b>1707H34-012AMSD</b>	Client ID:	Units: <b>mg/Kg-dry</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348305</b>							
SampleType: <b>MSD</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246021</b>	Analysis Date: <b>07/25/2017</b>	Seq No: <b>7653266</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	0.07308	0.0068	0.0683		107	55	143	0.07454	1.98	19.3	
Benzene	0.06445	0.0068	0.0683		94.4	68.5	128	0.06495	0.781	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246021**

Sample ID: <b>1707H34-012AMSD</b>	Client ID:	Units: <b>mg/Kg-dry</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348305</b>
SampleType: <b>MSD</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246021</b>	Analysis Date: <b>07/25/2017</b>	Seq No: <b>7653266</b>

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	0.06580	0.0068	0.0683		96.4	67.7	126	0.06430	2.31	20	
Toluene	0.06253	0.0068	0.0683		91.6	66.9	128	0.06286	0.523	20	
Trichloroethene	0.05758	0.0068	0.0683		84.3	60.7	133	0.05747	0.190	20	
Surr: 4-Bromofluorobenzene	0.06342	0	0.0683		92.9	63	125	0.06423	0	0	
Surr: Dibromofluoromethane	0.07054	0	0.0683		103	69.9	123	0.07075	0	0	
Surr: Toluene-d8	0.06842	0	0.0683		100	70	122	0.06804	0	0	

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246026**

Sample ID: <b>MB-246026</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348257</b>							
SampleType: <b>MBLK</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246026</b>	Analysis Date: <b>07/25/2017</b>	Seq No: <b>7652813</b>							
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									

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246026**

Sample ID: <b>MB-246026</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348257</b>							
SampleType: <b>MBLK</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246026</b>	Analysis Date: <b>07/25/2017</b>	Seq No: <b>7652813</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

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	47.77	0	50.00		95.5	66.1	129				
Surr: Dibromofluoromethane	47.26	0	50.00		94.5	83.6	123				
Surr: Toluene-d8	47.98	0	50.00		96.0	81.8	118				

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246026**

Sample ID: <b>LCS-246026</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348257</b>							
SampleType: <b>LCS</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246026</b>	Analysis Date: <b>07/25/2017</b>	Seq No: <b>7652812</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	42.56	5.0	50.00		85.1	68	139				
Benzene	44.66	5.0	50.00		89.3	74	125				
Chlorobenzene	48.39	5.0	50.00		96.8	75.7	123				
Toluene	45.68	5.0	50.00		91.4	75.9	126				
Trichloroethene	47.78	5.0	50.00		95.6	70.6	129				
Surr: 4-Bromofluorobenzene	46.31	0	50.00		92.6	66.1	129				
Surr: Dibromofluoromethane	46.80	0	50.00		93.6	83.6	123				
Surr: Toluene-d8	48.42	0	50.00		96.8	81.8	118				

Sample ID: <b>1707168-002AMS</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348398</b>							
SampleType: <b>MS</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246026</b>	Analysis Date: <b>07/26/2017</b>	Seq No: <b>7655154</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	71.51	5.0	50.00		143	64.3	149				
Benzene	57.15	5.0	50.00		114	71.6	132				
Chlorobenzene	59.65	5.0	50.00	2.990	113	73.1	126				
Toluene	52.76	5.0	50.00		106	72.5	135				
Trichloroethene	56.97	5.0	50.00		114	70.2	132				
Surr: 4-Bromofluorobenzene	39.82	0	50.00		79.6	66.1	129				
Surr: Dibromofluoromethane	53.89	0	50.00		108	83.6	123				
Surr: Toluene-d8	50.94	0	50.00		102	81.8	118				

Sample ID: <b>1707168-002AMSD</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>07/25/2017</b>	Run No: <b>348398</b>							
SampleType: <b>MSD</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246026</b>	Analysis Date: <b>07/26/2017</b>	Seq No: <b>7655155</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	66.51	5.0	50.00		133	64.3	149	71.51	7.25	30.8	
Benzene	53.67	5.0	50.00		107	71.6	132	57.15	6.28	20.7	

**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: Sandtown Rd  
 Workorder: 1707H23

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 246026

Sample ID: 1707168-002AMSD	Client ID:	Units: ug/L	Prep Date: 07/25/2017	Run No: 348398							
SampleType: MSD	TestCode: TCL VOLATILE ORGANICS SW8260B	BatchID: 246026	Analysis Date: 07/26/2017	Seq No: 7655155							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Chlorobenzene	55.76	5.0	50.00	2.990	106	73.1	126	59.65	6.74	26.6	
Toluene	48.51	5.0	50.00		97.0	72.5	135	52.76	8.39	23.2	
Trichloroethene	52.91	5.0	50.00		106	70.2	132	56.97	7.39	27.7	
Surr: 4-Bromofluorobenzene	38.18	0	50.00		76.4	66.1	129	39.82	0	0	
Surr: Dibromofluoromethane	53.58	0	50.00		107	83.6	123	53.89	0	0	
Surr: Toluene-d8	50.11	0	50.00		100	81.8	118	50.94	0	0	

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246038**

Sample ID: <b>MB-246038</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348350</b>							
SampleType: <b>MBLK</b>	TestCode: <b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B</b>	BatchID: <b>246038</b>	Analysis Date: <b>07/26/2017</b>	Seq No: <b>7653661</b>							
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-Dichloroethene, Total	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									

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246038**

Sample ID: <b>MB-246038</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348350</b>							
SampleType: <b>MBLK</b>	TestCode: <b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B</b>	BatchID: <b>246038</b>	Analysis Date: <b>07/26/2017</b>	Seq No: <b>7653661</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Chloromethane	BRL	10									
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	5.0									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	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									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	45.98	0	50.00		92.0	68.3	122				
Surr: Dibromofluoromethane	47.91	0	50.00		95.8	70.1	125				
Surr: Toluene-d8	49.03	0	50.00		98.1	81.4	120				

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246038**

Sample ID: <b>LCS-246038</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348350</b>							
SampleType: <b>LCS</b>	TestCode: <b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B</b>	BatchID: <b>246038</b>	Analysis Date: <b>07/26/2017</b>	Seq No: <b>7653724</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	48.05	5.0	50.00		96.1	58.8	139				
Benzene	49.84	5.0	50.00		99.7	75.4	127				
Chlorobenzene	52.22	5.0	50.00		104	77.9	122				
Toluene	52.24	5.0	50.00		104	77.4	121				
Trichloroethene	52.33	5.0	50.00		105	72.1	132				
Surr: 4-Bromofluorobenzene	46.71	0	50.00		93.4	68.3	122				
Surr: Dibromofluoromethane	46.52	0	50.00		93.0	70.1	125				
Surr: Toluene-d8	49.19	0	50.00		98.4	81.4	120				

Sample ID: <b>1707H23-014CMS</b>	Client ID: <b>EB-29 13-15</b>	Units: <b>ug/L</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348746</b>							
SampleType: <b>MS</b>	TestCode: <b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B</b>	BatchID: <b>246038</b>	Analysis Date: <b>07/31/2017</b>	Seq No: <b>7661434</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	650.9	50	500.0		130	61.9	137				
Benzene	554.5	50	500.0		111	71.8	130				
Chlorobenzene	590.8	50	500.0		118	72	125				
Toluene	532.4	50	500.0	2.720	106	70.3	130				
Trichloroethene	571.5	50	500.0		114	70.3	133				
Surr: 4-Bromofluorobenzene	399.0	0	500.0		79.8	68.3	122				
Surr: Dibromofluoromethane	529.9	0	500.0		106	70.1	125				
Surr: Toluene-d8	501.7	0	500.0		100	81.4	120				

Sample ID: <b>1707H23-014CMSD</b>	Client ID: <b>EB-29 13-15</b>	Units: <b>ug/L</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348746</b>							
SampleType: <b>MSD</b>	TestCode: <b>SPLP (1312) VOLATILE ORGANICS SW1312/8260B</b>	BatchID: <b>246038</b>	Analysis Date: <b>07/31/2017</b>	Seq No: <b>7661436</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	634.8	50	500.0		127	61.9	137	650.9	2.50	21.8	
Benzene	525.9	50	500.0		105	71.8	130	554.5	5.29	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246038**

Sample ID: **1707H23-014CMSD** Client ID: **EB-29 13-15** Units: **ug/L** Prep Date: **07/26/2017** Run No: **348746**  
 SampleType: **MSD** TestCode: **SPLP (1312) VOLATILE ORGANICS SW1312/8260B** BatchID: **246038** Analysis Date: **07/31/2017** Seq No: **7661436**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	581.2	50	500.0		116	72	125	590.8	1.64	20	
Toluene	482.7	50	500.0	2.720	96.0	70.3	130	532.4	9.79	14.9	
Trichloroethene	528.3	50	500.0		106	70.3	133	571.5	7.86	18	
Surr: 4-Bromofluorobenzene	395.8	0	500.0		79.2	68.3	122	399.0	0	0	
Surr: Dibromofluoromethane	506.8	0	500.0		101	70.1	125	529.9	0	0	
Surr: Toluene-d8	489.5	0	500.0		97.9	81.4	120	501.7	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246074**

Sample ID: <b>MB-246074</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348414</b>							
SampleType: <b>MBLK</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246074</b>	Analysis Date: <b>07/26/2017</b>	Seq No: <b>7654474</b>							
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	100									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	10									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246074**

Sample ID: <b>MB-246074</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348414</b>							
SampleType: <b>MBLK</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246074</b>	Analysis Date: <b>07/26/2017</b>	Seq No: <b>7654474</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

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	20									
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	10									
Surr: 4-Bromofluorobenzene	44.96	0	50.00		89.9	63	125				
Surr: Dibromofluoromethane	52.51	0	50.00		105	69.9	123				
Surr: Toluene-d8	50.02	0	50.00		100	70	122				

<b>Qualifiers:</b>	>	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246074**

Sample ID: <b>LCS-246074</b>	Client ID:	Units: <b>ug/Kg</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348414</b>							
SampleType: <b>LCS</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246074</b>	Analysis Date: <b>07/26/2017</b>	Seq No: <b>7654475</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	51.20	5.0	50.00		102	62	142				
Benzene	44.48	5.0	50.00		89.0	70.2	131				
Chlorobenzene	45.37	5.0	50.00		90.7	72.9	129				
Toluene	43.06	5.0	50.00		86.1	70.6	131				
Trichloroethene	39.78	5.0	50.00		79.6	70.1	136				
Surr: 4-Bromofluorobenzene	45.84	0	50.00		91.7	63	125				
Surr: Dibromofluoromethane	53.62	0	50.00		107	69.9	123				
Surr: Toluene-d8	49.21	0	50.00		98.4	70	122				

Sample ID: <b>1707K84-005AMS</b>	Client ID:	Units: <b>mg/Kg-dry</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348732</b>							
SampleType: <b>MS</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246074</b>	Analysis Date: <b>08/01/2017</b>	Seq No: <b>7662549</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	0.05491	0.0063	0.0632		86.9	55	143				
Benzene	0.05576	0.0063	0.0632		88.3	68.5	128				
Chlorobenzene	0.05588	0.0063	0.0632		88.5	67.7	126				
Toluene	0.05640	0.0063	0.0632		89.3	66.9	128				
Trichloroethene	0.05649	0.0063	0.0632		89.4	60.7	133				
Surr: 4-Bromofluorobenzene	0.05774	0	0.0632		91.4	63	125				
Surr: Dibromofluoromethane	0.05802	0	0.0632		91.8	69.9	123				
Surr: Toluene-d8	0.06212	0	0.0632		98.3	70	122				

Sample ID: <b>1707K84-005AMSD</b>	Client ID:	Units: <b>mg/Kg-dry</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348732</b>							
SampleType: <b>MSD</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246074</b>	Analysis Date: <b>08/01/2017</b>	Seq No: <b>7662551</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	0.05295	0.0063	0.0632		83.8	55	143	0.05491	3.63	19.3	
Benzene	0.05197	0.0063	0.0632		82.3	68.5	128	0.05576	7.04	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:** Sandtown Rd  
**Workorder:** 1707H23

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 246074**

Sample ID: <b>1707K84-005AMSD</b>	Client ID:	Units: <b>mg/Kg-dry</b>	Prep Date: <b>07/26/2017</b>	Run No: <b>348732</b>
SampleType: <b>MSD</b>	TestCode: <b>TCL VOLATILE ORGANICS SW8260B</b>	BatchID: <b>246074</b>	Analysis Date: <b>08/01/2017</b>	Seq No: <b>7662551</b>

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	0.05319	0.0063	0.0632		84.2	67.7	126	0.05588	4.93	20	
Toluene	0.05280	0.0063	0.0632		83.6	66.9	128	0.05640	6.59	20	
Trichloroethene	0.05256	0.0063	0.0632		83.2	60.7	133	0.05649	7.21	20	
Surr: 4-Bromofluorobenzene	0.05660	0	0.0632		89.6	63	125	0.05774	0	0	
Surr: Dibromofluoromethane	0.05819	0	0.0632		92.1	69.9	123	0.05802	0	0	
Surr: Toluene-d8	0.06056	0	0.0632		95.9	70	122	0.06212	0	0	

<b>Qualifiers:</b>	>	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		

# LOG OF BORING

SHEET 1 OF 1  
BORING NO.  
EB-1

CONTRACTED WITH: YNH Properties, LLC

JOB NO. DATE:  
152-018 05/01/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" Asphalt no base					
	Dark brown clayey sand (fill)					
	Grey clayey sand with a little organics (fill)	5				
	Red brown sand with some silt (fill)					
	Light red brown sand with some silt (saprolite)	10				
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

SEA

# LOG OF BORING

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-2

PROJECT NAME: Westside Cleaners

JOB NO.  
152-018

DATE:  
05/01/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" Asphalt no base					
	Light grey sand with some sand and some clay with a trace of organics (fill)	5				
	Brown sand some clay	10				
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

SEA

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.  
EB-3

CONTRACTED WITH: YNH Properties, LLC

JOB NO. DATE:  
152-018 05/01/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" concrete					
	#57 stone	5				
	Red brown silty sand with some clay	10				
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

SEA



# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-4

PROJECT NAME: Westside Cleaners

JOB NO.  
152-018

DATE:  
05/01/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" Asphalt no base					
	Red brown sand with some silt (fill)	5				
	Red brown sand with a little silt (fill)					
	Dark brown sand with some silt and a trace of clay (fill)					
	Red brown sandy clay (fill)	10				
	White grey sand with some clay and some silt (saprolite)					
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

SEA

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-5

PROJECT NAME: Westside Cleaners

JOB NO.

DATE:

152-018

05/01/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" concrete					
	#57 stone (fill)	5				
	Red brown sand with some silt (fill)	10				Strong solvent odor
	Red brown sand with some silt (saprolite)	15				
	Red brown sand with a little silt (saprolite)	20				
	Boring terminated at 25'	25				
		30				
		35				
		40				

SEA

# LOG OF BORING

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-6

PROJECT NAME: Westside Cleaners

JOB NO.

DATE:

152-018

05/01/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt					
	Brown sand with some silt and some clay (fill)					
	Brown sand with some silt and a little organics (fill)	5				
	Red brown silty sand (saprolite)	10				
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

**SEA**

# LOG OF BORING

SHEET 1 OF 1  
BORING NO.  
**EB-7**

CONTRACTED WITH: YNH Properties, LLC

JOB NO.      DATE:  
152-018      05/01/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Brown sand with some silt and little clay and a little of organics (fill)	5				
	Red brown silty sand with a trace of clay (saprolite)	10				
	Boring terminated at 15'	15				
		20				
		25				
		30				
		35				
		40				

**SEA**

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-8

PROJECT NAME: Westside Cleaners

JOB NO.  
152-018

DATE:  
05/01/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Brown sand with a little silt and a little organics (fill)	5				
	Red brown sand silty sand (saprolite)	10				
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

SEA

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.  
EB-9

CONTRACTED WITH: YNH Properties, LLC

JOB NO.      DATE:  
152-018      05/02/17

PROJECT NAME: Westside Cleaners  
LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Dark red brown sand with a little silt (fill)					
	Brown silty sand with a little organics (fill)	5				
	Red brown silty sand (residual)	10				
	Brown sand with some silt (saprolite)	15				
	Boring terminated at 15 feet	20				
		25				
		30				
		35				
		40				

SEA

# LOG OF BORING

SHEET 1 OF 1  
BORING NO.  
EB-10

CONTRACTED WITH: YNH Properties, LLC

JOB NO.      DATE:  
152-018      05/01/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Dark brown mushy silty sand (fill)					
	Dark reddish brown silty sand (residual?)	5				
	Brown silty sand (saprolite)	10				
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

**SEA**

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.  
**EB-11**

CONTRACTED WITH: YNH Properties, LLC

PROJECT NAME: Westside Cleaners JOB NO. 152-018 DATE: 05/02/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Dark red brown sand with a little silt (fill)					
	Brown sand silty sand with a little organics (fill)	5				
	Red brown silty sand (residual)	10				
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

**SEA**



# LOG OF BORING

SHEET 1 OF 1  
BORING NO.  
EB-12

CONTRACTED WITH: YNH Properties, LLC

PROJECT NAME: Westside Cleaners

JOB NO.      DATE:  
152-018      05/02/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt					
	Dark red brown silty sand (fill)					
	Grey sandy silt with a trace organics (fill)	5				
	Red brown sand with some silt (residual?)					
		10				
	Brown sand some silt (saprolite)					
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

**SEA**

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.  
**EB-13**

CONTRACTED WITH: YNH Properties, LLC

JOB NO. DATE:  
152-018 05/02/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Grey sand with some silt and a trace of clay (fill)					
	Red brown sand with some silt (fill)	5				
	Mottled light brown sand with a little silt (residual)	10				
	Brown sand with a little silt (saprolite)					
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

**SEA**

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.  
**EB-14**

CONTRACTED WITH: YNH Properties, LLC

JOB NO. **152-018**  
DATE: **05/02/17**

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Grey sand with a little silt and a trace of rock (fill)					
	Dark brown sand with some silt and trace of rock (fill)					
	Red brown sand with some silt (residual?)	5				
	Light red brown sand with some silt (saprolite)					
		10				
	Brown sandy silty sand (saprolite)					
		15				
	Boring terminated at 15 feet					
		20				
		25				
		30				
		35				
		40				

**SEA**

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-15

PROJECT NAME: Westside Cleaners

JOB NO.  
152-018

DATE:  
05/02/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Dark brown sand with a little silt (fill)					18" recovery
	Red brown silty sand (fill)	5				
	Red brown sand with a little silt (fill?)					
	Red brown sand with some silt (residual)	10				
	Brown silty sand (saprolite)	15				
	Boring terminated at 25 feet	25				
		30				
		35				
		40				

SEA

# LOG OF BORING

SHEET 1 OF 1  
BORING NO.  
EB-16

CONTRACTED WITH: YNH Properties, LLC

JOB NO.      DATE:  
152-018      05/02/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Red brown sand with a little silt (fill)	5				
	Red brown silty sand (saprolite)	10				
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

**SEA**

# LOG OF BORING

SHEET 1 OF 1  
BORING NO. EB-17

CONTRACTED WITH: YNH Properties, LLC

JOB NO. 152-018      DATE: 05/02/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Grey sand with a little silt and trace of rock (fill)					
	Red brown silty sand with a little clay (fill)	5				
	Red brown sand with a little silt (saprolite)	10				
	Boring terminated 15 feet	15				
		20				
		25				
		30				
		35				
		40				

SEA

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.  
**EB-18**

CONTRACTED WITH: YNH Properties, LLC

PROJECT NAME: Westside Cleaners

JOB NO. DATE:  
152-018 05/02/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Grey sand with a little silt (fill)					
	Red brown sand with a little silt (fill)	5				
	Red brown sand with a little silt (saprolite)					
	Red brown silty sand (saprolite)	10				
	Boring terminated 15 feet	15				
		20				
		25				
		30				
		35				
		40				

**SEA**

# LOG OF BORING

SHEET 1 OF 1  
BORING NO.  
EB-19

CONTRACTED WITH: YNH Properties, LLC

JOB NO.      DATE:  
152-018      05/02/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Grey sand with a trace of silt (fill)					
	Dark grey sand with a trace of silt (fill)					
	Red brown silty sand with a trace of clay (fill?)	5				
	Red brown sand with a little silt (saprolite)	10				
	Red brown silty sand (saprolite)					
	Boring terminated 15 feet	15				
		20				
		25				
		30				
		35				
		40				

**SEA**



# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-20

PROJECT NAME: Westside Cleaners

JOB NO.  
152-018

DATE:  
05/02/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Grey sand with a little silt (fill)					
	Red brown sand with a little silt (fill)	5				
	Red brown sand with some silt (saprolite)	10				
	Red brown silty sand (saprolite)	15				
	Boring terminated 15 feet	20				
		25				
		30				
		35				
		40				

SEA

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.  
EB-21

CONTRACTED WITH: YNH Properties, LLC

JOB NO.      DATE:  
152-018      07/20/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Red brown sand with a little silt (fill)					
	Gray sand with a silt and some rock (fill)					
	Brown sand with a trace of silt (fill)					
	Brown silty sand with a trace of clay (fill)	5				
	Brown sand with some silt (fill)					
	Gray brown silty sand with a trace of clay (fill)	10				
	Gray sand with a little silt (saprolite)					
	Boring terminated 15 feet	15				
		20				
		25				
		30				
		35				
		40				

**SEA**

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.  
EB-22

CONTRACTED WITH: YNH Properties, LLC

JOB NO.      DATE:  
152-018      07/20/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Red brown sand with some silt (fill)					
	Gray sand with a little silt and a little rock (fill)					
	Red sand with a trace of silt (fill)					
	Brown sand with a little silt (fill)	5				
	Brown sand with some silt (saprolite)					
		10				
	Red brown sand with some silt (saprolite)					
		15				
	Boring terminated 15 feet					
		20				
		25				
		30				
		35				
		40				

SEA

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-23

PROJECT NAME: Westside Cleaners

JOB NO.  
152-018

DATE:  
07/20/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Red brown sand with some silt (fill)	5				
	Red brown some silt (saprolite)	10				
	Brown sand with a little silt (saprolite)	15				Moist at 13'  Wet at 15'
	Boring terminated at 20'	20				
		25				
		30				
		35				
		40				

SEA

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-24

PROJECT NAME: Westside Cleaners

JOB NO.  
152-018

DATE:  
07/20/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Red brown sand with some silt (fill)	5				
	Red brown sand with a little silt (saprolite)	10				
	Brown silty sand (saprolite)	15				Moist at 13'  Wet at 15'
	Boring terminated at 20'	20				
		25				
		30				
		35				
		40				

SEA

# LOG OF BORING

SHEET 1 OF 1  
BORING NO. EB-25

CONTRACTED WITH: YNH Properties, LLC

PROJECT NAME: Westside Cleaners

JOB NO. DATE:  
152-018 07/20/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt					
	Brown sand with some silt and some clay (fill)					
	Brown sand with some silt and a little organics (fill)	5				
	Red brown silty sand (saprolite)	10				
	Boring terminated at 15 feet	15				
		20				
		25				
		30				
		35				
		40				

SEA

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-26

PROJECT NAME: Westside Cleaners

JOB NO.  
152-018

DATE:  
07/20/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Dark red brown sand with a little silt (fill)					
	Brown silty sand with a little organics (fill)	5				
	Red brown silty sand (residual)					
		10				
	Brown sand with some silt (saprolite)					
		15				
	Boring terminated at 15 feet					
		20				
		25				
		30				
		35				
		40				

SEA

# LOG OF BORING

SHEET 1 OF 1  
BORING NO. EB-27

CONTRACTED WITH: YNH Properties, LLC

JOB NO. DATE:  
152-018 07/20/17

PROJECT NAME: Westside Cleaners

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Brown sand with some silt and little clay and a little of organics (fill)	5				
	Red brown silty sand with a trace of clay (saprolite)	10				
	Boring terminated at 15'	15				
		20				
		25				
		30				
		35				
		40				

SEA



# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.

CONTRACTED WITH: YNH Properties, LLC

EB-28

PROJECT NAME: Westside Cleaners

JOB NO.  
152-018

DATE:  
07/20/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt					
	Dark red brown silty sand (fill)					
	Grey sandy silt with a trace organics (fill)	5				
	Red brown sand with some silt (residual?)					
		10				
	Brown sand some silt (saprolite)					
		15				Wet at 15'
	Boring terminated at 20'	20				
		25				
		30				
		35				
		40				

SEA

# L O G O F B O R I N G

SHEET 1 OF 1  
BORING NO.  
EB-29

CONTRACTED WITH: YNH Properties, LLC

PROJECT NAME: Westside Cleaners

JOB NO.      DATE:  
152-018      07/20/17

LOCATION: 700 Sandtown Rd SW Marietta, GA Cobb County

ELEV. (ft)	DESCRIPTION	DEPTH IN FEET	SAMPLES			NOTES
			No.	TYPE	BLOWS/6"	
	4" asphalt no base					
	Grey sand with a little silt (fill)					
	Red brown sand with a little silt (fill)	5				
	Red brown sand with a little silt (saprolite)					
	Red brown silty sand (saprolite)	10				
		15				Wet at 15'
	Boring terminated at 20'	20				
		25				
		30				
		35				
		40				

**SEA**

**RRS Table 1**

**Westside Cleaners  
700 Sandtown Road, Marietta, Georgia  
HSI #10927  
SEA Job#152-018**

**Risk Reduction Standards Evaluation - Type 1**

CAS	Chemical	NC (mg/Kg)	Type1/3 GW	Type 1/3 GWx100	App3 Table 2	Max NC/ GWx100	Carcinogenic Equ 6	Non- Carcinogenic Equ 7	Default Type 1 RRS
78-93-3	2-Butanone (MEK)	0.79	2	200		200	NA	47697.0502	200.000
67-64-1	Acetone	2.74	4	400		400	NA	192686.1608	400.000
75-25-2	Bromoform	1	0.08	8		8	273.2674	10303.3221	8.000
74-83-9	Bromomethane	0.8	0.01	1		1	NA	7.0219	1.000
56-23-5	Carbon Tetrachloride	0.17	0.005	0.5		0.5	6.5562	162.8706	0.500
67-66-3	Chloroform	0.68	0.1	10		10	3.8698	355.9048	3.870

RRS Table 2

Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

Risk Reduction Standards Evaluation - Type 1

CAS	Compound	MW	H'	H=H'/41	Density (g/cm <sup>3</sup> )	Di,a	Di,w	Koc	Kd	S	VOC	VF	Inhalation RfC (mg/m <sup>3</sup> )	RfDi=RfCi*20/70		Oral RfD - Chronic (mg/kg-day)	IUR (ug/m <sup>3</sup> ) <sup>-1</sup>	Sfi=IUR*70/20*1000		Carcinogen Class	Target Cancer Risk	
														Inhalation RfD - Chronic (mg/kg-day)	Inhalation Slope Factor [1/(mg/kg-day)]			Oral Slope Factor [1/(mg/kg-day)]				
78-93-3	2-Butanone (MEK)	72.11	2.33E-03	5.67E-05	0.7999	9.14E-02	1.02E-05	4.51E+00		2.23E+05		1	7.83E+03	5.00E+00	1.43E+00	6.00E-01		0.00E+00			NA	
67-64-1	Acetone	58.08	1.43E-03	3.49E-05	0.7845	1.06E-01	1.15E-05	2.36E+00		1.00E+06		1	6.72E+03	3.10E+01	8.86E+00	9.00E-01		0.00E+00			NA	
75-25-2	Bromoform	252.73	2.19E-02	5.35E-04	2.88E+00	3.57E-02	1.04E-05	3.18E+01		3.10E+03		1	1.08E+04		2.00E-02	1.10E-06		3.85E-03	7.90E-03	B	1.00E-05	
74-83-9	Bromomethane	94.939	3.00E-01	7.32E-03	1.68E+00	1.00E-01	1.35E-05	1.32E+01		1.52E+04		1	1.02E+03	5.00E-03	1.43E-03	1.40E-03		0.00E+00			NA	
56-23-5	Carbon Tetrachloride	153.82	1.13E+00	2.76E-02	1.594	5.71E-02	9.78E-06	4.39E+01		7.93E+02		1	1.25E+03	1.00E-01	2.86E-02	4.00E-03	6.00E-06		2.10E-02	7.00E-02	B	1.00E-05
67-66-3	Chloroform	119.38	1.50E-01	3.66E-03	1.4788	7.70E-02	1.10E-05	3.18E+01		7.95E+03		1	2.77E+03	9.80E-02	2.80E-02	1.00E-02	2.30E-05		8.05E-02	3.10E-02	B	1.00E-05

### RRS Table 3

**Westside Cleaners  
700 Sandtown Road, Marietta, Georgia  
HSI #10927  
SEA Job#152-018  
Risk Reduction Standards Evaluation - Type 1**

RAGS Equation 6 Residential Soil - Carcinogenic Effects

Adult

C	chemical concentration in soil (mg/kg)		calculated
TR	target cancer risk		chemical specific
SF <sub>o</sub>	oral cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
SF <sub>i</sub>	inhalation cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
AT	averaging time (yr)	70	default
EF	exposure frequency (days/year)	350	default
BW	body weight (Kg)	70	default
ED	exposure duration (yr)	30	default
IR <sub>s</sub>	daily soil ingestion rate (L/day)	114	default
IR <sub>a</sub>	daily inhalation rate (m <sup>3</sup> /day)	15	default
PEF	Particulate emission factor (m <sup>3</sup> /kg)	4.63e9	default
VF	soil to air volatilization factor (m <sup>3</sup> /kg)		from RAGS eq. 8

$$C = \frac{TR \times BW \times AT \times 365 \text{ days/year}}{EF \times ED \times [(SF_o \times 10^{-6} \text{ kg/mg} \times IR_s) + (SF_i \times IR_a \times [1/VF + 1/PEF])]}$$

Chemical	C <sub>adult</sub>	SF <sub>o</sub>	SF <sub>i</sub>	VF	TR
2-Butanone (MEK)	NA			7.83E+03	NA
Acetone	NA			6.72E+03	NA
Bromoform	2.73E+02	7.90E-03	3.85E-03	1.08E+04	1.00E-05
Bromomethane	NA			1.02E+03	NA
Carbon Tetrachloride	6.56E+00	7.00E-02	2.10E-02	1.25E+03	1.00E-05
Chloroform	3.87E+00	3.10E-02	8.05E-02	2.77E+03	1.00E-05

## RRS Table 4

**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

### Risk Reduction Standards Evaluation - Type 1

RAGS Equation 7

Residential Soil - Non-Carcinogenic Effects  
 Adult

C	chemical concentration in soil (mg/L)		calculated	
THI	target hazard index	1	default	
RfD <sub>o</sub>	inhalation cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific	
RfD <sub>i</sub>	oral cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific	
BW	body weight (Kg)	70	default	
AT	averaging time (yr)	30	equal to ED	
EF	exposure frequency (days/year)	350	default	
ED	exposure duration (yr)	30	default	
IR <sub>s</sub>	soil ingestion rate (mg/day)	114	default	
IR <sub>a</sub>	daily inhalation rate (m <sup>3</sup> /day)	15	default	
PEF	Particulate emission factor (m <sup>3</sup> /kg)	4.63E+09	default	
VF	soil to air volatilization factor (m <sup>3</sup> /kg)		from RAGS eq. 8	

$$C = \frac{\text{THI} \times \text{BW} \times \text{AT} \times 365 \text{ days/year}}{\text{EF} \times \text{ED} \times \left[ \left( \frac{1}{\text{RfD}_o} \right) \times 10^{-6} \text{ kg/mg} \times \text{IR}_s + \left( \frac{1}{\text{RfD}_i} \right) \times \text{IR}_a \times \left[ \frac{1}{\text{VF}} + \frac{1}{\text{PEF}} \right] \right]}$$

Chemical	C <sub>adult</sub>		RfD <sub>o</sub>	RfD <sub>i</sub>	VF
2-Butanone (MEK)	4.77E+04		6.00E-01	1.43E+00	7.83E+03
Acetone	1.93E+05		9.00E-01	8.86E+00	6.72E+03
Bromoform	1.03E+04		2.00E-02		1.08E+04
Bromomethane	7.02E+00		1.40E-03	1.43E-03	1.02E+03
Carbon Tetrachloride	1.63E+02		4.00E-03	2.86E-02	1.25E+03
Chloroform	3.56E+02		1.00E-02	2.80E-02	2.77E+03

RRS Table 5

Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

Risk Reduction Standards Evaluation - Type 1

RAGS Equation 8 Soil-to-air Volatilization Factor

VF	volatilization factor (m <sup>3</sup> /kg)		calculated
LS	length of side of contaminated area (m)	45	default
V	wind speed in mixing zone (m/s)	2.25	default
DH	diffusion height (m)	2	default
A	area of contamination (cm <sup>2</sup> )	20,250,000.00	default
D <sub>ei</sub>	effective diffusivity (cm <sup>2</sup> /s)	D <sub>i</sub> x E <sup>0.33</sup>	calculated
E	true soil porosity	0.35	default
K <sub>as</sub>	soil/air partition coefficient (g soil/cm <sup>3</sup> air)	(H/K <sub>d</sub> ) x 41	calculated
p <sub>s</sub>	true soil density or particulate density (g/cm <sup>3</sup> )	2.65	default
T	exposure interval (s)	7.90E+08	default
D <sub>i</sub>	molecular diffusivity (cm <sup>2</sup> /s)		chemical specific
H'	Henry's law constant (dimensionless)		chemical specific
H	Henry's law constant (atm-m <sup>3</sup> /mol)	H'/41	calculated
K <sub>d</sub>	soil-water partition coefficient (cm <sup>3</sup> /g)	K <sub>oc</sub> x OC	calculated
K <sub>oc</sub>	organic carbon partition coefficient (cm <sup>3</sup> /g)		chemical specific
OC	organic carbon content of soil (fraction)	0.02	default
α			calculated

$$VF = \frac{(LS \times V \times DH)}{A} \times \frac{(3.14 \times \alpha \times T)^{1/2}}{(2 \times D_{ei} \times E \times K_{as} \times 10^{-3} \text{ kg/g})}$$

where:

$$\alpha \text{ (cm}^2\text{/s)} = \frac{(D_{ei} \times E)}{E + (p_s)(1-E)/K_{as}}$$

Chemical	VF	D <sub>ei</sub>	K <sub>as</sub>	D <sub>i</sub>	H'	H	K <sub>d</sub>	K <sub>oc</sub>	α
2-Butanone (MEK)	7.83E+03	6.47E-02	2.58E-02	9.14E-02	2.33E-03	5.67E-05	9.02E-02	4.51E+00	3.37E-04
Acetone	6.72E+03	7.49E-02	3.03E-02	1.06E-01	1.43E-03	3.49E-05	4.73E-02	2.36E+00	4.58E-04
Bromoforn	1.08E+04	2.53E-02	3.45E-02	3.57E-02	2.19E-02	5.35E-04	6.36E-01	3.18E+01	1.76E-04
Bromomethane	1.02E+03	7.11E-02	1.13E+00	1.00E-01	3.00E-01	7.32E-03	2.64E-01	1.32E+01	1.33E-02
Carbon Tetrachloride	1.25E+03	4.04E-02	1.29E+00	5.71E-02	1.13E+00	2.76E-02	8.78E-01	4.39E+01	8.39E-03
Chloroforn	2.77E+03	5.45E-02	2.36E-01	7.70E-02	1.50E-01	3.66E-03	6.36E-01	3.18E+01	2.49E-03

RRS Table 6

Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

Residential Risk Reduction Standards Evaluation - Type 2

CAS	Chemical	NC (mg/Kg)	Type1/3 GW	Type 1/3 GWx100	Type 1 RRS (App3 Table 2)	Adult Carcinogenic Equ 6	Adult Non- Carcinogenic Equ 7	Child Carcinogenic Equ 6	Child Non-Carcinogenic Equ 7	Child Type 2 GW (mg/L)	Adult Type 2 GW (mg/L)	Default Type 2 GW (mg/L)	Type 2 SSL	Default Type 2 RRS Soil (mg/Kg)
78-93-3	2-Butanone (MEK)	0.79	2	200		NA	37359.4422	NA	9345.5678	2.2616	7.0645	<b>2.2616</b>	9.4639	<b>9.4639</b>
67-64-1	Acetone	2.74	4	400		NA	163179.0230	NA	32973.2901	7.9897	21.7829	<b>7.9897</b>	32.7346	<b>32.7346</b>
75-25-2	Bromoform	1	0.08	8		NA	NA	NA	NA	NA	NA		0.4249	<b>0.4249</b>
74-83-9	Bromomethane	0.8	0.01	1		NA	5.2806	NA	1.4959	0.0026	0.0087	<b>0.0026</b>	0.0506	<b>0.0506</b>
56-23-5	Carbon Tetrachloride	0.17	0.005	0.5		NA	NA	NA	NA	NA	NA		0.0389	<b>0.0389</b>
67-66-3	Chloroform	0.68	0.1	10		3.8751	272.2017	4.1228	73.2215	0.0288	0.0196	<b>0.0196</b>	0.5541	<b>0.5541</b>



RRS Table 7

Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

Residential Risk Reduction Standards Evaluation - Type 2

Factors Summary

Date	CAS	Compound	MW	H'	H=H'/41	Density (g/cm <sup>3</sup> )	Di,a	Di,w	Koc	Kd	S	VOC	VF	RfDi=RfCi*20/70		Sfi=IUR*70/20*1000			Carcinogen Class	Target Cancer Risk	
														Inhalation RfC (mg/m <sup>3</sup> )	Inhalation RfD - Chronic (mg/kg-day)	Oral RfD - Chronic (mg/kg-day)	IUR (ug/m <sup>3</sup> ) <sup>-1</sup>	Inhalation Slope Factor [1/(mg/kg-day)]			Oral Slope Factor [1/(mg/kg-day)]
Jun-17	78-93-3	2-Butanone (MEK)	72.11	2.33E-03	5.67E-05	0.7999	9.14E-02	1.02E-05	4.51E+00		2.23E+05	1	7.83E+03	5.00E+00	1.43E+00	6.00E-01					NA
Jun-17	67-64-1	Acetone	58.08	1.43E-03	3.49E-05	0.7845	1.06E-01	1.15E-05	2.36E+00		1.00E+06	1	6.72E+03	3.10E+01	8.86E+00	9.00E-01					NA
Nov-17	75-25-2	Bromoform	252.73	2.19E-02	5.35E-04	2.88E+00	3.57E-02	1.04E-05	3.18E+01		3.10E+03		NA								
Jun-17	74-83-9	Bromomethane	94.939	3.00E-01	7.32E-03	1.68E+00	1.00E-01	1.35E-05	1.32E+01		1.52E+04	1	1.02E+03	5.00E-03	1.43E-03	1.40E-03					NA
Nov-17	56-23-5	Carbon Tetrachloride	153.82	1.13E+00	2.76E-02	1.594	5.71E-02	9.78E-06	4.39E+01		7.93E+02		NA								
Jun-17	67-66-3	Chloroform	119.38	1.50E-01	3.66E-03	1.4788	7.69E-02	1.09E-05	3.18E+01		7.95E+03	1	2.77E+03	9.80E-02	2.80E-02	1.00E-02	2.30E-05	8.05E-02	3.10E-02	B	1.00E-05

## RRS Table 8

**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

### Residential Risk Reduction Standards Evaluation - Type 2

RAGS Equation 6

Residential Soil - Carcinogenic Effects

Child

C	chemical concentration in soil (mg/kg)		calculated
TR	target cancer risk		chemical specific
SF <sub>o</sub>	oral cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
SF <sub>i</sub>	inhalation cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
AT	averaging time (yr)	70	default
EF	exposure frequency (days/year)	350	default
BW	body weight (Kg)	15	default
ED	exposure duration (yr)	6	default
IR <sub>s</sub>	daily soil ingestion rate (L/day)	200	default
IR <sub>a</sub>	daily inhalation rate (m <sup>3</sup> /day)	15	default
PEF	Particulate emission factor (m <sup>3</sup> /kg)	4.63E+09	default
VF	soil to air volatilization factor (m <sup>3</sup> /kg)		from RAGS eq. 8

$$C = \frac{TR \times BW \times AT \times 365 \text{ days/year}}{EF \times ED \times [(SF_o \times 10^{-6} \text{ kg/mg} \times IR_s) + (SF_i \times IR_a \times [1/VF + 1/PEF])]}$$

Chemical	C <sub>child</sub>	SF <sub>o</sub>	SF <sub>i</sub>	VF	TR
2-Butanone (MEK)	NA			7.83E+03	NA
Acetone	NA			6.72E+03	NA
Bromoform	NA			NA	0.00E+00
Bromomethane	NA			1.02E+03	NA
Carbon Tetrachloride	NA			NA	0.00E+00
Chloroform	4.12E+00	3.10E-02	8.05E-02	2.77E+03	1.00E-05

## RRS Table 9

**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

### Residential Risk Reduction Standards Evaluation - Type 2

RAGS Equation 7

Residential Soil - Non-Carcinogenic Effects

Child

C	chemical concentration in soil (mg/L)		calculated	
THI	target hazard index	1	default	
RfD <sub>o</sub>	inhalation cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific	
RfD <sub>i</sub>	oral cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific	
BW	body weight (Kg)	15	default	
AT	averaging time (yr)	6	equal to ED	
EF	exposure frequency (days/year)	350	default	
ED	exposure duration (yr)	6	default	
IR <sub>s</sub>	soil ingestion rate (mg/day)	200	default	
IR <sub>a</sub>	daily inhalation rate (m <sup>3</sup> /day)	15	default	
PEF	Particulate emission factor (m <sup>3</sup> /kg)	4.63E+09	default	
VF	soil to air volatilization factor (m <sup>3</sup> /kg)		from RAGS eq. 8	

$$C = \frac{\text{THI} \times \text{BW} \times \text{AT} \times 365 \text{ days/year}}{\text{EF} \times \text{ED} \times \left[ \left( \frac{1}{\text{RfD}_o} \right) \times 10^{-6} \text{ kg/mg} \times \text{IR}_s + \left( \frac{1}{\text{RfD}_i} \right) \times \text{IR}_a \times \left[ \frac{1}{\text{VF}} + \frac{1}{\text{PEF}} \right] \right]}$$

Chemical	C <sub>child</sub>		RfD <sub>o</sub>	RfD <sub>i</sub>	VF
2-Butanone (MEK)	9.35E+03		6.00E-01	1.43E+00	7.83E+03
Acetone	3.30E+04		9.00E-01	8.86E+00	6.72E+03
Bromoform	NA				NA
Bromomethane	1.50E+00		1.40E-03	1.43E-03	1.02E+03
Carbon Tetrachloride	NA				NA
Chloroform	7.32E+01		1.00E-02	2.80E-02	2.77E+03

RRS Table 10

Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

Residential Risk Reduction Standards Evaluation - Type 2

RAGS Equation 8

Soil-to-air Volatilization Factor

VF	volatilization factor (m <sup>3</sup> /kg)		calculated
LS	length of side of contaminated area (m)	45	default
V	wind speed in mixing zone (m/s)	2.25	default
DH	diffusion height (m)	2	default
A	area of contamination (cm <sup>2</sup> )	20,250,000.00	default
D <sub>ei</sub>	effective diffusivity (cm <sup>2</sup> /s)	D <sub>i</sub> x E <sup>0.33</sup>	calculated
E	true soil porosity	0.35	default
K <sub>as</sub>	soil/air partition coefficient (g soil/cm <sup>3</sup> air)	(H/K <sub>d</sub> ) x 41	calculated
p <sub>s</sub>	true soil density or particulate density (g/cm <sup>3</sup> )	2.65	default
T	exposure interval (s)	7.90E+08	default
D <sub>i</sub>	molecular diffusivity (cm <sup>2</sup> /s)		chemical specific
H'	Henry's law constant (dimensionless)		chemical specific
H	Henry's law constant (atm·m <sup>3</sup> /mol)	H'/41	calculated
K <sub>d</sub>	soil-water partition coefficient (cm <sup>3</sup> /g)	K <sub>oc</sub> x OC	calculated
K <sub>oc</sub>	organic carbon partition coefficient (cm <sup>3</sup> /g)		chemical specific
OC	organic carbon content of soil (fraction)	0.02	default
α			calculated

$$VF = \frac{(LS \times V \times DH)}{A} \times \frac{(3.14 \times \alpha \times T)^{1/2}}{(2 \times D_{ei} \times E \times K_{as} \times 10^{-3} \text{ kg/g})}$$

where:

$$\alpha \text{ (cm}^2\text{/s)} = \frac{(D_{ei} \times E)}{E + (p_s)(1-E)/K_{as}}$$

Chemical	VF	D <sub>ei</sub>	K <sub>as</sub>	D <sub>i</sub>	H'	H	K <sub>d</sub>	K <sub>oc</sub>	α
2-Butanone (MEK)	7.83E+03	6.47E-02	2.58E-02	9.14E-02	2.33E-03	5.67E-05	9.02E-02	4.51E+00	3.37E-04
Acetone	6.72E+03	7.49E-02	3.03E-02	1.06E-01	1.43E-03	3.49E-05	4.73E-02	2.36E+00	4.58E-04
Bromoform	NA	2.53E-02	3.45E-02	3.57E-02	2.19E-02	5.35E-04	6.36E-01	3.18E+01	1.76E-04
Bromomethane	1.02E+03	7.11E-02	1.13E+00	1.00E-01	3.00E-01	7.32E-03	2.64E-01	1.32E+01	1.33E-02
Carbon Tetrachloride	NA	4.04E-02	1.29E+00	5.71E-02	1.13E+00	2.76E-02	8.78E-01	4.39E+01	8.39E-03
Chloroform	2.77E+03	5.44E-02	2.36E-01	7.69E-02	1.50E-01	3.66E-03	6.36E-01	3.18E+01	2.49E-03

RRS Table 11

Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

Residential Risk Reduction Standards Evaluation - Type 2

RAGS Equation 1

Residential Water - Carcinogenic Effects

Child

C	chemical concentration in water (mg/L)		calculated
TR	target cancer risk	1x10 <sup>-5</sup>	default
SF <sub>i</sub>	inhalation cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
SF <sub>o</sub>	oral cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
BW	child body weight (Kg)	15	default
AT	averaging time (yr)	70	default
EF	exposure frequency (days/year)	350	default
ED	exposure duration (yr)	6	site specific
IR <sub>a</sub>	daily indoor inhalation rate (m <sup>3</sup> /day)	15	default
IR <sub>w</sub>	daily water ingestion rate (L/day)	1	default
K	Volatilization factor	0.5	default

$$C = \frac{TR \times BW \times AT \times 365 \text{ days/year}}{EF \times ED \times [(SF_i \times K \times IR_a) + (SF_o \times IR_w)]}$$

Chemical	Cw	SF <sub>i</sub>	SF <sub>o</sub>	TR
2-Butanone (MEK)	NA	1.00E+00	1.00E+00	NA
Acetone	NA	1.00E+00	1.00E+00	NA
Bromoform	NA	1.00E+00	1.00E+00	0.00E+00
Bromomethane	NA	1.00E+00	1.00E+00	NA
Carbon Tetrachloride	NA	1.00E+00	1.00E+00	0.00E+00
Chloroform	2.88E-02	8.05E-02	3.10E-02	1.00E-05

## RRS Table 12

**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

### Residential Risk Reduction Standards Evaluation - Type 2

RAGS Equation 2

Residential Water - Non-carcinogenic Effects

Child

C	chemical concentration in water (mg/L)		calculated
THI	Target Health Index	1	default
RfD <sub>i</sub>	inhalation chronic reference dose ((mg/kg-day) <sup>-1</sup> )		chemical specific
RfD <sub>o</sub>	oral chronic reference dose ((mg/kg-day) <sup>-1</sup> )		chemical specific
BW	child body weight (Kg)	15	default
AT	averaging time (yr)	6	site specific
EF	exposure frequency (days/year)	350	default
ED	exposure duration (yr)	6	default
IR <sub>a</sub>	daily indoor inhalation rate (m <sup>3</sup> /day)	15	default
IR <sub>w</sub>	daily water ingestion rate (L/day)	1	default
K	Volatilization factor	0.5	default

$$C = \frac{\text{THI} \times \text{BW} \times \text{AT} \times 365 \text{ days/year}}{\text{EF} \times \text{ED} \times [(1/\text{RfD}_i \times \text{K} \times \text{IR}_a) + (1/\text{RfD}_o \times \text{IR}_w)]}$$

Chemical	C <sub>w</sub>	RfD <sub>i</sub>	RfD <sub>o</sub>
2-Butanone (MEK)	2.26E+00	1.43E+00	6.00E-01
Acetone	7.99E+00	8.86E+00	9.00E-01
Bromoform	NA	1.00E+00	1.00E+00
Bromomethane	2.62E-03	1.43E-03	1.40E-03
Carbon Tetrachloride	NA	1.00E+00	1.00E+00
Chloroform	4.25E-02	2.80E-02	1.00E-02

## RRS Table 13

**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

### Residential Risk Reduction Standards Evaluation - Type 2

Default Type 2  
 Soil Screening Level

$$SSL = C_w * D_{af} * [K_d + (Q_w + Q_a * H') / R_b]$$

Where:

Soil screening level	mg/Kg	SSL	Calculated
Dilution Factor	dimensionless	Daf	20 Default for <1 acre source
Target soil lechate concentration	mg/L	Cw	Chemical specific
soil water partition coefficient	L/Kg	Kd	Calculated (Koc x foc)
Fraction of organic carbon	g/g	foc	0.002 Default
organic carbon partition coefficient	L/Kg	Koc	Chemical specific
Water filled soil porosity	Lw/Ls	Qw	0.3 Default
Air filled soil porosity	La/Ls	Qa	0.13396 Default
Henry's Law constant	dimensionless	H'	Chemical specific
soil bulk density	Kg/L	Rb	1.5 Default

CAS	Compound	SSL	Cw	Kd	Koc	H'
78-93-3	2-Butanone (MEK)	9.46E+00	2.2616	9.02E-03	4.51E+00	2.33E-03
67-64-1	Acetone	3.27E+01	7.9897	4.73E-03	2.36E+00	1.43E-03
75-25-2	Bromoform	4.25E-01	0.0800	6.36E-02	3.18E+01	2.19E-02
74-83-9	Bromomethane	5.06E-02	0.0100	2.64E-02	1.32E+01	3.00E-01
56-23-5	Carbon Tetrachloride	3.89E-02	0.0050	8.78E-02	4.39E+01	1.13E+00
67-66-3	Chloroform	5.54E-01	0.1000	6.36E-02	3.18E+01	1.50E-01

**RRS Table 14**

**Westside Cleaners  
700 Sandtown Road, Marietta, Georgia  
HSI #10927  
SEA Job#152-018**

**Risk Reduction Standards Evaluation - Type 3/4**

CAS	Chemical	NC (mg/Kg)	Type 1/3 GW	Type 1/3 GWx100	Carcinogenic Equ 6	Non-Carcinogenic Equ 7	Type 3 RRS >2' (mg/Kg)	Type 3 RRS ≤2' (mg/Kg)	Type 4 GW (mg/L)	Type 4 SSL (mg/Kg)	Type 4 RRS >2' (mg/Kg)	Type 4 RRS ≤2' (mg/Kg)
78-93-3	2-Butanone (MEK)	0.79	2	200	NA	54557.7959	200.0000	200.0000	11.7923	49.3456		49.3456
67-64-1	Acetone	2.74	4	400	NA	256325.4097	400.0000	400.0000	45.6221	186.9164		186.9164
75-25-2	Bromoform	1	0.08	8	381.2850	23511.5957	8.0000	8.0000	0.5139	2.7300		2.7300
74-83-9	Bromomethane	0.8	0.01	1	NA	1.3067	1.0000	1.0000	0.0132	0.0607		0.0607
56-23-5	Carbon Tetrachloride	0.17	0.005	0.5	8.4347	178.6365	0.5000	0.5000	0.0852	0.6618		0.6618
67-66-3	Chloroform	0.68	0.1	10	4.9024	388.1779	10.0000	4.9024	0.1000	0.5541		0.5541



RRS Table 15  
 Westside Cleaners  
 700 Sandtown Road, Marietta, Georgia  
 HSI #10927  
 SEA Job#152-018

Risk Reduction Standards Evaluation - Type 3/4

	MW	H'	HLC	VP	Density (g/cm <sup>3</sup> )	Di,a	Di,w	Koc	Kd	S	VOC	VF	Inhalation RfC (mg/m <sup>3</sup> )	RfDi=RfCi*20/70	Oral RfD - Chronic (mg/kg-day)	IUR (ug/m <sup>3</sup> ) <sup>-1</sup>	Sfi=IUR*70/20*1000	Oral Slope Factor [1/(mg/kg-day)]	Carcinogen Class	Target Cancer Risk	
														Inhalation RfD - Chronic (mg/kg-day)			Inhalation Slope Factor [1/(mg/kg-day)]				
78-93-3	2-Butanone (MEK)	72.11	2.33E-03	5.69E-05	9.06E+01	0.7999	9.14E-02	1.02E-05	4.51E+00	9.06E+01	2.23E+05	1	7.82E+03	5.00E+00	1.43E+00	6.00E-01	3.00E-03			NA	
67-64-1	Acetone	58.08	1.40E-03	3.50E-05	2.32E+02	0.7845	1.10E-01	1.15E-05	2.36E+00	2.32E+02	1.00E+06	1	6.58E+03	3.10E+01	8.86E+00	9.00E-01	3.00E-03			NA	
75-25-2	Bromoform	252.73	2.19E-02	5.35E-04	5.40E+00	2.88E+00	3.57E-02	1.04E-05	3.18E+01	5.40E+00	3.10E+03	1	1.08E+04	5.00E-03	1.43E-03	2.00E-02	1.10E-06	3.85E-03	7.90E-03	B	1.00E-05
74-83-9	Bromomethane	94.939	3.00E-01	7.34E-03	1.62E+03	1.68E+00	1.00E-01	1.35E-05	1.19E+00	1.62E+03	1.52E+04	1	1.79E+02	5.00E-03	1.43E-03	1.40E-03	3.00E-03				
56-23-5	Carbon Tetrachloride	153.82	1.13E+00	2.76E-02	1.15E+02	1.594	5.71E-02	9.78E-06	4.39E+01	1.15E+02	7.93E+02	1	1.25E+03	1.00E-01	2.86E-02	4.00E-03	6.00E-06	2.10E-02	7.00E-02	B	1.00E-05
67-66-3	Chloroform	119.38	1.50E-01	3.66E-03	1.97E+02	1.4788	7.70E-02	1.10E-05	3.18E+01	1.97E+02	7.95E+03	1	2.77E+03	9.80E-02	2.80E-02	1.00E-02	2.30E-05	8.05E-02	3.10E-02	B	1.00E-05

**RRS Table 16**  
**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

**Risk Reduction Standards Evaluation - Type 3/4**

RAGS Equation 6          Non-Residential Soil - Carcinogenic Effects

Adult

C	chemical concentration in soil (mg/kg)		calculated
TR	target cancer risk		chemical specific
SF <sub>o</sub>	oral cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
SF <sub>i</sub>	inhalation cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
AT	averaging time (yr)	70	default
EF	exposure frequency (days/year)	250	default
BW	body weight (Kg)	70	default
ED	exposure duration (yr)	25	default
IR <sub>s</sub>	daily soil ingestion rate (L/day)	50	default
IR <sub>a</sub>	daily inhalation rate (m <sup>3</sup> /day)	20	default
PEF	Particulate emission factor (m <sup>3</sup> /kg)	4.63e9	default
VF	soil to air volatilization factor (m <sup>3</sup> /kg)		from RAGS eq. 8

$$C = \frac{TR \times BW \times AT \times 365 \text{ days/year}}{EF \times ED \times [(SF_o \times 10^{-6} \text{ kg/mg} \times IR_s) + (SF_i \times IR_a \times [1/VF + 1/PEF])]}$$

Chemical	C <sub>adult</sub>	SF <sub>o</sub>	SF <sub>i</sub>	VF	TR
2-Butanone (MEK)	NA			7.82E+03	NA
Acetone	NA			6.58E+03	NA
Bromoform	3.81E+02	7.90E-03	3.85E-03	1.08E+04	1.00E-05
Bromomethane	NA			1.79E+02	0.00E+00
Carbon Tetrachloride	8.43E+00	7.00E-02	2.10E-02	1.25E+03	1.00E-05
Chloroform	4.90E+00	3.10E-02	8.05E-02	2.77E+03	1.00E-05

**RRS Table 17**  
**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

**Risk Reduction Standards Evaluation - Type 3/4**

RAGS Equation 7                      Non-Residential Soil - Non-Carcinogenic Effects  
Adult

C	chemical concentration in soil (mg/L)		calculated	
THI	target hazard index	1	default	
RfD <sub>o</sub>	inhalation cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific	
RfD <sub>i</sub>	oral cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific	
BW	body weight (Kg)	70	default	
AT	averaging time (yr)	25	equal to ED	
EF	exposure frequency (days/year)	250	default	
ED	exposure duration (yr)	25	default	
IR <sub>s</sub>	soil ingestion rate (mg/day)	50	default	
IR <sub>a</sub>	daily inhalation rate (m <sup>3</sup> /day)	20	default	
PEF	Particulate emission factor (m <sup>3</sup> /kg)	4.63E+09	default	
VF	soil to air volatilization factor (m <sup>3</sup> /kg)		from RAGS eq. 8	

$$C = \frac{\text{THI} \times \text{BW} \times \text{AT} \times 365 \text{ days/year}}{\text{EF} \times \text{ED} \times \left[ \left( \frac{1}{\text{RfD}_o} \right) \times 10^{-6} \text{ kg/mg} \times \text{IR}_s + \left( \frac{1}{\text{RfD}_i} \right) \times \text{IR}_a \times \left[ \frac{1}{\text{VF}} + \frac{1}{\text{PEF}} \right] \right]}$$

Chemical	C <sub>adult</sub>	RfD <sub>o</sub>	RfD <sub>i</sub>	VF
2-Butanone (MEK)	5.46E+04	6.00E-01	1.43E+00	7.82E+03
Acetone	2.56E+05	9.00E-01	8.86E+00	6.58E+03
Bromoform	2.35E+04	2.00E-02		1.08E+04
Bromomethane	1.31E+00	1.40E-03	1.43E-03	1.79E+02
Carbon Tetrachloride	1.79E+02	4.00E-03	2.86E-02	1.25E+03
Chloroform	3.88E+02	1.00E-02	2.80E-02	2.77E+03

**RRS Table 18**  
**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

**Risk Reduction Standards Evaluation - Type 3/4**

RAGS Equation 8      Soil-to-air Volatilization Factor

VF	volatilization factor (m <sup>3</sup> /kg)		calculated
LS	length of side of contaminated area (m)	45	default
V	wind speed in mixing zone (m/s)	2.25	default
DH	diffusion height (m)	2	default
A	area of contamination (cm <sup>2</sup> )	20,250,000.00	default
D <sub>ei</sub>	effective diffusivity (cm <sup>2</sup> /s)	D <sub>i</sub> x E <sup>0.33</sup>	calculated
E	true soil porosity	0.35	default
K <sub>as</sub>	soil/air partition coefficient (g soil/cm <sup>3</sup> air)	(H/K <sub>d</sub> ) x 41	calculated
p <sub>s</sub>	true soil density or particulate density (g/cm <sup>3</sup> )	2.65	default
T	exposure interval (s)	7.90E+08	default
D <sub>i</sub>	molecular diffusivity (cm <sup>2</sup> /s)		chemical specific
H'	Henry's law constant (dimensionless)		chemical specific
H	Henry's law constant (atm-m <sup>3</sup> /mol)	H'/41	calculated
K <sub>d</sub>	soil-water partition coefficient (cm <sup>3</sup> /g)	K <sub>oc</sub> x OC	calculated
K <sub>oc</sub>	organic carbon partition coefficient (cm <sup>3</sup> /g)		chemical specific
OC	organic carbon content of soil (fraction)	0.02	default
α			calculated

$$VF = \frac{(LS \times V \times DH)}{A} \times \frac{(3.14 \times \alpha \times T)^{1/2}}{(2 \times D_{ei} \times E \times K_{as} \times 10^{-3} \text{ kg/g})}$$

where:

$$\alpha \text{ (cm}^2\text{/s)} = \frac{(D_{ei} \times E)}{E + (p_s)(1-E)/K_{as}}$$

Chemical	VF	D <sub>ei</sub>	K <sub>as</sub>	D <sub>i</sub>	H'	H	K <sub>d</sub>	K <sub>oc</sub>	α
2-Butanone (MEK)	7.82E+03	6.47E-02	2.59E-02	9.14E-02	2.33E-03	5.69E-05	9.02E-02	4.51E+00	3.38E-04
Acetone	6.58E+03	7.78E-02	3.04E-02	1.10E-01	1.40E-03	3.50E-05	4.73E-02	2.36E+00	4.77E-04
Bromoform	1.08E+04	2.53E-02	3.45E-02	3.57E-02	2.19E-02	5.35E-04	6.36E-01	3.18E+01	1.76E-04
Bromomethane	1.79E+02	7.11E-02	1.26E+01	1.00E-01	3.00E-01	7.34E-03	2.38E-02	1.19E+00	5.12E-02
Carbon Tetrachloride	1.25E+03	4.04E-02	1.29E+00	5.71E-02	1.13E+00	2.76E-02	8.78E-01	4.39E+01	8.39E-03
Chloroform	2.77E+03	5.45E-02	2.36E-01	7.70E-02	1.50E-01	3.66E-03	6.36E-01	3.18E+01	2.49E-03

**RRS Table 19**  
**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

**Risk Reduction Standards Evaluation - Type 3/4**

RAGS Equation 1

Comercial/Industrial Water - Carcinogenic Effects

C	chemical concentration in water (mg/L)		calculated
TR	target cancer risk	1x10 <sup>-5</sup>	default
SF <sub>i</sub>	inhalation cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
SF <sub>o</sub>	oral cancer slope factor((mg/kg-day) <sup>-1</sup> )		chemical specific
BW	adult body weight (Kg)	70	default
AT	averaging time (yr)	70	default
EF	exposure frequency (days/year)	250	default
ED	exposure duration (yr)	30	default
IR <sub>a</sub>	daily indoor inhalation rate (m <sup>3</sup> /day)	20	default
IR <sub>w</sub>	daily water ingestion rate (L/day)	1	default
K	Volatilization factor	0.5	default

$$C = \frac{TR \times BW \times AT \times 365 \text{ days/year}}{EF \times ED \times [(SF_i \times K \times IR_a) + (SF_o \times IR_w)]}$$

Chemical	Cw	SF <sub>i</sub>	SF <sub>o</sub>	TR
2-Butanone (MEK)	NA	1.00E+00	1.00E+00	NA
Acetone	NA	1.00E+00	1.00E+00	NA

**RRS Table 20**  
**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

**Risk Reduction Standards Evaluation - Type 3/4**

RAGS Equation 2

Comercial/Industrial - Non-carcinogenic Effects

C	chemical concentration in water (mg/L)		calculated
THI	Target Health Index	1	default
RfDi	inhalation chronic reference dose ((mg/kg-day) <sup>-1</sup> )		chemical specific
RfDo	oral chronic reference dose ((mg/kg-day) <sup>-1</sup> )		chemical specific
BW	adult body weight (Kg)	70	default
AT	averaging time (yr)	30	default
EF	exposure frequency (days/year)	250	default
ED	exposure duration (yr)	30	default
IR <sub>a</sub>	daily indoor inhalation rate (m <sup>3</sup> /day)	20	default
IR <sub>w</sub>	daily water ingestion rate (L/day)	1	default
K	Volatilization factor	0.5	default

$$C = \frac{\text{THI} \times \text{BW} \times \text{AT} \times 365 \text{ days/year}}{\text{EF} \times \text{ED} \times [(1/\text{RfD}_i \times \text{K} \times \text{IR}_a) + (1/\text{RfD}_o \times \text{IR}_w)]}$$

Chemical	Cw	RfDi	RfDo
2-Butanone (MEK)	1.18E+01	1.43E+00	6.00E-01
Acetone	4.56E+01	8.86E+00	9.00E-01

## RRS Table 21

**Westside Cleaners**  
**700 Sandtown Road, Marietta, Georgia**  
**HSI #10927**  
**SEA Job#152-018**

### Risk Reduction Standards Evaluation - Type 3/4

Default Type 4  
 Soil Screening Level

$$SSL=Cw * Daf * [Kd + (Qw +Qa * H')/Rb]$$

Where:

Soil screening level	mg/Kg	SSL	█	Calculated
Dilution Factor	dimensionless	Daf	20	Default for <1 acre source
Target soil lechate concentration	mg/L	Cw	█	Chemical specific
soil water partition coefficient	L/Kg	Kd	█	Calculated (Koc x foc)
Fraction of organic carbon	g/g	foc	0.002	Default
organic carbon partition coefficient	L/Kg	Koc	█	Chemical specific
Water filled soil porosity	Lw/Ls	Qw	0.3	Default
Air filled soil porosity	La/Ls	Qa	0.13396	Default
Henry's Law constant	dimensionless	H'	█	Chemical specific
soil bulk density	Kg/L	Rb	1.5	Default

CAS	Compound	SSL	Cw	Kd	Koc	H'
78-93-3	2-Butanone (MEK)	4.93E+01	11.7923	9.02E-03	4.51E+00	2.33E-03
67-64-1	Acetone	1.87E+02	45.6221	4.73E-03	2.36E+00	1.40E-03
75-25-2	Bromoform	2.73E+00	0.5139	6.36E-02	3.18E+01	2.19E-02
74-83-9	Bromomethane	6.07E-02	0.0132	2.38E-03	1.19E+00	3.00E-01
56-23-5	Carbon Tetrachloride	6.62E-01	0.0852	8.78E-02	4.39E+01	1.13E+00
67-66-3	Chloroform	5.54E-01	0.1000	6.36E-02	3.18E+01	1.50E-01

**Former Westside Cleaners  
Marietta, Cobb County, Georgia  
HSI #10927  
SEA Job #152-018  
Summary of Activities and Professional Hours**

**3rd Semi-Annual VRP Progress Report - July 2017 through December 2017**

<b>Activity</b>	<b>Professional Hours Spent</b>
Client Meetings	6
Risk Reduction Standards Evaluation	3
Semi-Annual Report Preparation	25.5



# Georgia Professional Certification Form

“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.

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. Number 1062  
Printed Name and GA PE/PG Number

12/28/2017  
Date



