

Geotechnical Engineering • Hydrogeology • Geoenvironmental Services • Inspection and Testing

May 12, 2017 HWA Project No. 2007-098-2045

Washington State Department of Ecology 3190 160th Ave SE Bellevue, WA 98008

Attention: Sunny Becker

Subject: Further Delineation of Site Boundary for Ultra and Riverside HVOC

Sites

RECONNAISSANCE GROUND WATER SAMPLING LETTER REPORT

Bothell, WA

Dear Ms. Becker:

This letter report details the reconnaissance ground water sampling activities at and near the Ultra Custom Care Cleaners (Ultra) and Bothell Riverside (Riverside) halogenated volatile organic compound (HVOC) Sites located in Bothell, Washington. Both sites are under Agreed Orders between the City and the Washington State Department of Ecology (Ecology).

The work was completed in accordance with the HWA Further Delineation of Site Boundary for Ultra and Riverside HVOC Sites Reconnaissance Ground Water Sampling Work Plan dated January 30, 2017 and approved by Ecology on March 1, 2017.

Several phases of shallow and deep ground water sampling, via geoprobes, temporary and permanent wells, have occurred at both sites. The recent reconnaissance ground water samples were collected from areas between the known extents of the Ultra and Riverside HVOC plumes to address data gaps regarding the extent of tetrachloroethene (PCE) in the deeper portions of the aquifer. The objectives of this study were to:

- Further delineate the Ultra site boundary, especially the southern, eastern and western end of the plume;
- Determine if there is any potential upgradient source of the Riverside HVOC site;
- Determine if there are HVOCs at depths of 25' bgs or deeper

Based on background information and analytical data from previous studies conducted at the Ultra and Riverside Sites, Contaminants of Concern (COC) at both Sites are halogenated volatile organic compounds (HVOCs) consisting of PCE and its degradation products trichloroethene (TCE), (cis) 1,2-dichlorethene (DCE), and vinyl chloride, (VC).

Reconnaissance ground water sampling field activities were conducted from March 20 to April 5, 2017. Ten borings were advanced to depths

May 12, 2017 HWA Project No 2007-098-2045

ranging between 40 and 45.5 feet below ground surface (bgs) utilizing a truck mounted hollow stem auger drill rig. Boring locations are shown on Figures 1 through 4. During the drilling activities, soil samples were collected at 2.5-foot intervals to the completion depth of each boring. HWA conducted field screening of soil from the borings for the presence of volatile organic vapors using a Mini-Rae PGM 75 Photoionization Detector (PID) to assist with determining if the soils had been impacted by HVOCs. Soils encountered during drilling activities generally consisted mainly fine grained sands with varying amounts of silt or silty fine grained sands. In general, the area investigated is comprised predominantly of relatively low permeability alluvial deposits. Ground water velocities are likely slow, and vertical migration of contaminants is likely hindered by numerous, although discontinuous, silt and silty very fine sand layers. Soil descriptions and PID readings are shown on the boring logs provided in Appendix A.

The reconnaissance ground water samples were collected via temporary wells installed at three separate depth intervals in each boring, a shallow (1-20 feet bgs), an intermediate (18-34 feet bgs), and a deep (35-45 feet bgs) ground water interval depth. Sampling intervals within these general ranges were selected based on occurrence of ground water, filed screening indications, and lithology (i.e., preference given to sandier, more permeable layers). The temporary wells were each developed for between 30 to 50 minutes prior to collecting the ground water sample via a low-flow peristaltic pump and disposable polyethylene tubing.

Soil and ground water samples were collected in clean, unused, laboratory-supplied containers, labeled with pertinent sampling information, transferred to an ice-filled, insulated cooler, and transported to the analytical laboratory under chain-of-custody procedures. Ground water samples were submitted for chemical analysis of HVOCs with one follow up soil sample analysis conducted from each boring. Soil samples were selected for analysis based on the highest detections of HVOCs from the corresponding depth ground water sample. All soil and ground water samples were analyzed by OnSite Environmental of Redmond, Washington, an Ecology-accredited third-party analytical laboratory.

Results and Conclusions

Ground water and soil analytical data from the reconnaissance sampling is summarized on Tables 1 and 2. Laboratory results are included in Appendix B. Figures 1a, 1b, and 1c show the most recent PCE ground water concentrations from 2007-2017, including the new data form this study, and iso-concentration contours for PCE in the shallow, intermediate, and deep zones, respectively. Figure 2 shows the most recent VC concentrations in ground water from 2007-2017. Figure 3 shows historical PCE and VC concentrations in ground water (2007 – 2013). Figure 4 shows the most recent concentrations of all HVOCs in ground water, from 2014 – 2017.

None of the soil samples collected from each boring (at depths with the highest HVOC ground water concentrations) contained any HVOC exceeding cleanup levels. Six of the 10 soil samples did not contain any HVOCs above laboratory reporting limits. This suggests no source areas at or near any of the borings.

Based on the ground water analytical results obtained from this investigation, the downgradient, southern end of the HVOC plume from the Ultra Site extends further south and southeast than previously estimated, with low HVOC detections in the intermediate and deeper portions of the aquifer. The PCE concentrations decrease with distance traveled to the southeast, and with depth from the intermediate to the deeper zone. These conclusions are supported by the following:

- Borings UCCB-2 and UCCB-8, the most northern borings advanced during this investigation and within the formerly known limits of the Ultra HVOC plume. both had PCE detections above the Model Toxic Control Act (MTCA) Method A cleanup level in the intermediate and deeper portions of the aguifer. Boring UCCB-8 also had a VC detection above the cleanup level in the intermediate portion of the aquifer. HVOC concentrations in the deeper layers were lower than in the intermediate.
- Boring UCCB-4, located southeast of the previously delineated southeastern extent of the plume, also had detections of PCE above cleanup levels in both the intermediate and deeper portions of the aquifer, while the shallow ground water sample collected from this boring was non-detect for PCE.
- Borings UCCB-5 and UCCB-9, both located to the southeast of UCCB-4, had PCE detections below the cleanup levels in the intermediate and deeper portions of the aquifer and no PCE detected in the shallow ground water sample.
- PCE was not detected in any of the ground water samples collected from borings UCCB-6 and UCCB-7, both located to the southeast of UCCB-4 and UCCB-9, which indicates the HVOC plume likely does not extend this far southeast from the source area.
- Borings UCCB-1 and UCCB-10, located southwest of the previously delineated plume, did not have any HVOCs exceeding cleanup levels, confirming the southwest plume boundary.

It appears that the Ultra Site HVOC plume is not likely a potential upgradient source of HVOC ground water impacts to the Riverside Site. This conclusion is supported by the following:

- Ground water samples collected from the shallow, intermediate, and deep portions of the aquifer in borings UCCB-6 and UCCB-7, located to the northwest of the Riverside Site, did not have any HVOC detections.
- PCE detections from the borings advanced further northwest of the Riverside Site, borings UCCB-5 and UCCB-9, indicate that PCE is either not present or at

concentrations below the cleanup level in the shallow, intermediate, and deep portions of the aquifer.

- Recent ground water samples collected from a monitoring well on the Riverside Site, well RMW-12, had a PCE concentration well above the cleanup level in the shallow portion of the aquifer.
- The highest HVOC concentrations south of Main Street were detected at RMW-12 and some of the Riverside extraction wells. RMW-12 is located adjacent to the strongest anomaly detected by a recent soil gas survey conducted in this area, suggesting a possible HVOC source of the Riverside plume in this area.



We appreciate the opportunity to provide our services to you on this project. Please feel free to call us if you have any questions or need more information.

Sincerely,

HWA GEOSCIENCES INC.

Nicole Kapise

Senior Environmental Geologist

Arnie Sugar, LG, LHG

Principal Hydrogeologist

Attachments:

Figure 1a - PCE in Ground Water, 2007-2017 (most recent), Shallow zone contours

Figure 1b - PCE in Ground Water, 2007-2017 (most recent), Intermediate zone contours

Figure 1c - PCE in Ground Water, 2007-2017 (most recent), Deep zone contours

Figure 2 - VC in Ground Water, 2007-2017 (most recent)

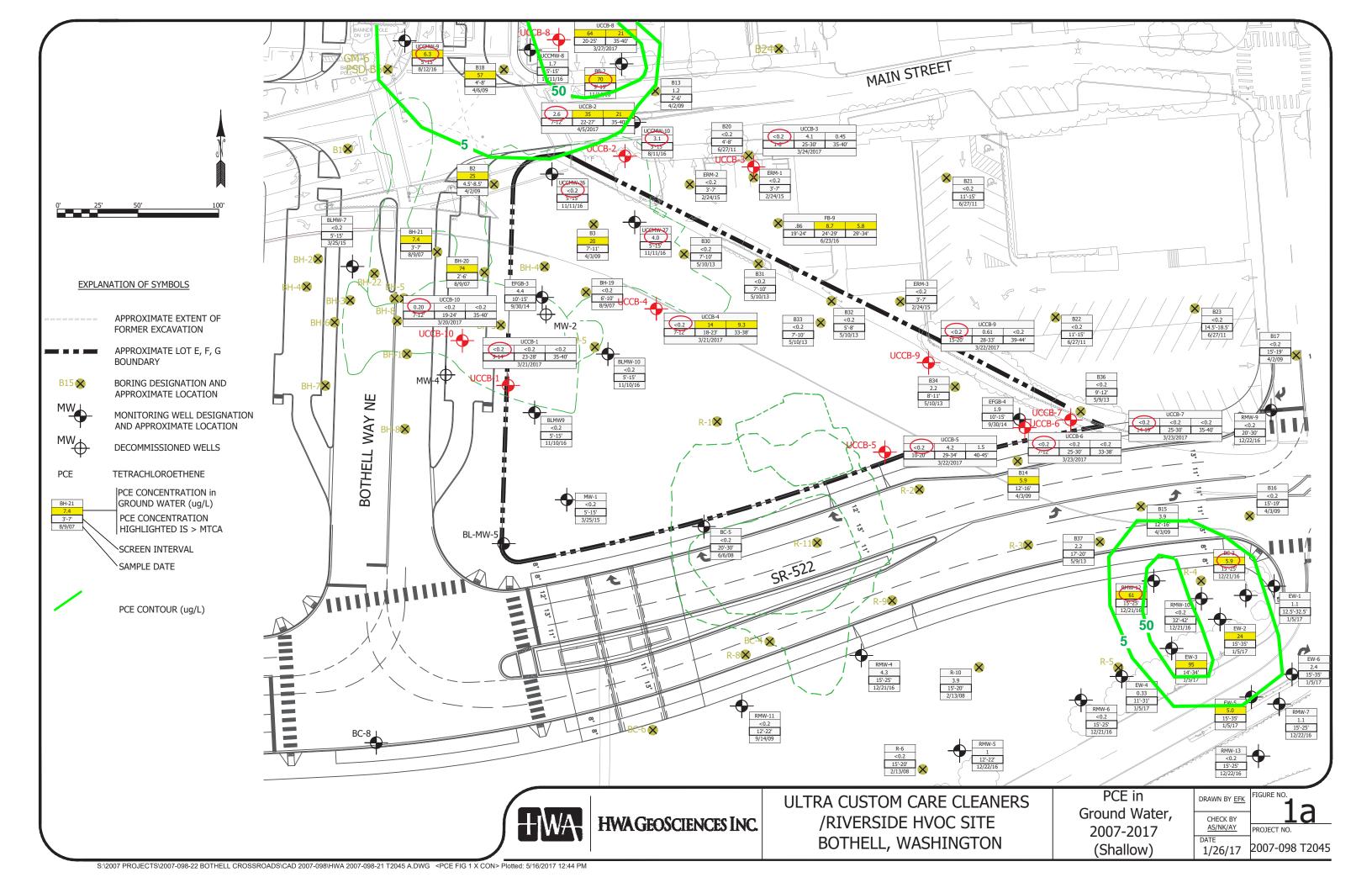
Figure 3 - PCE and VC in Ground Water, 2007 – 2013

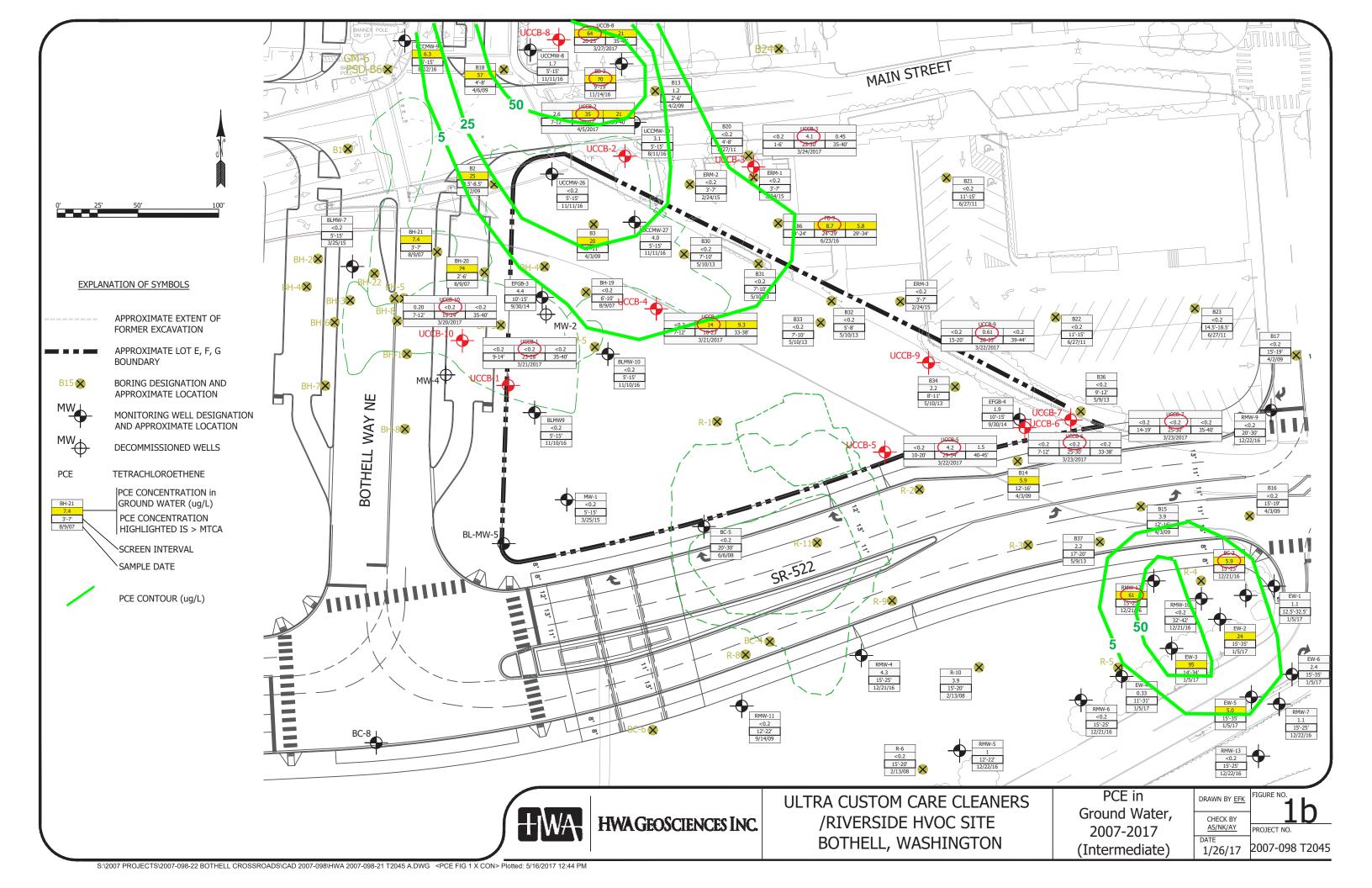
Figure 4 - HVOCs in Ground Water, 2014 - 2017 (most recent)

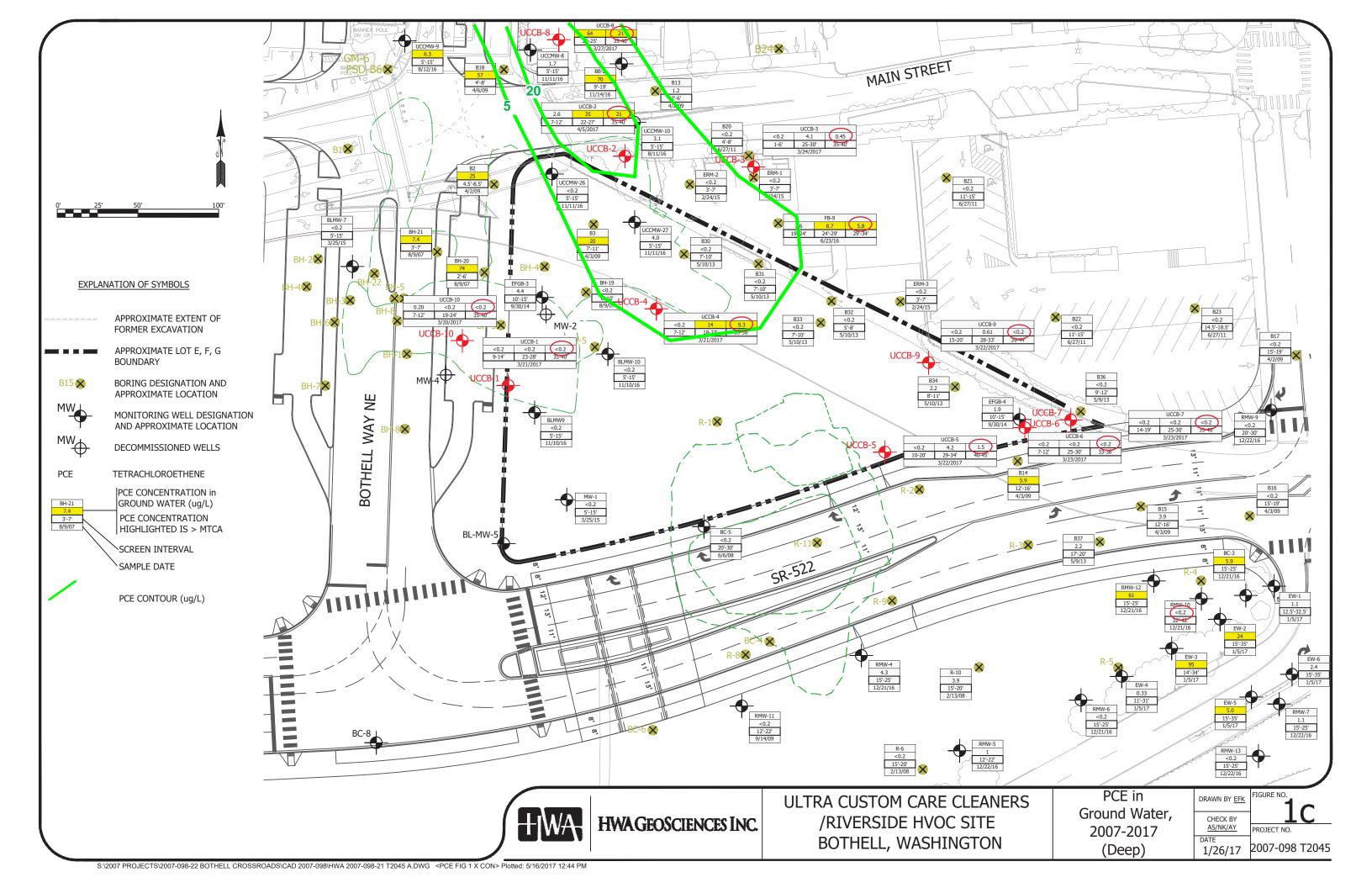
Table 1: Analytical Results for Reconnaissance Ground Water Samples

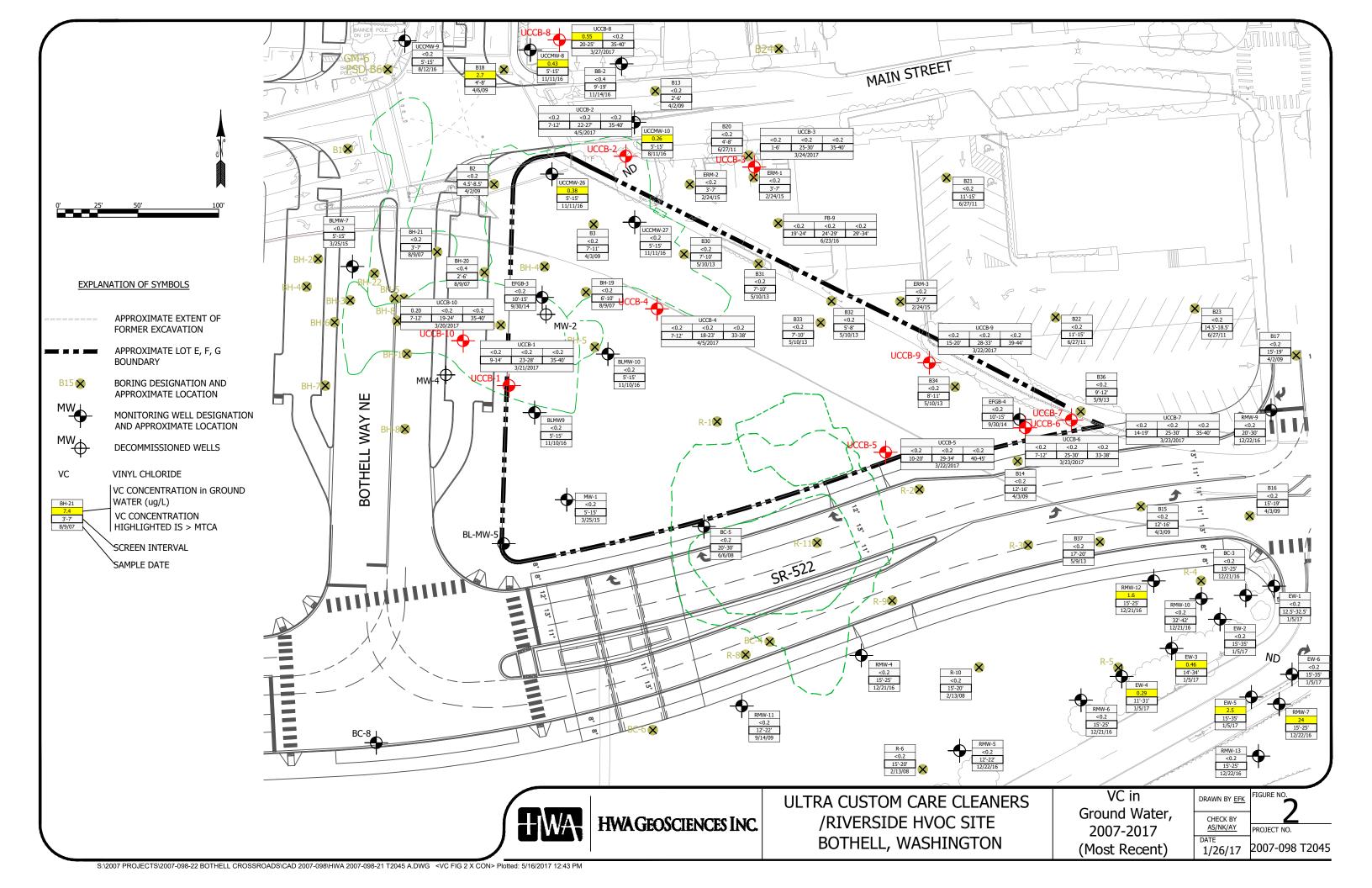
Appendix A: Subsurface Boring Logs

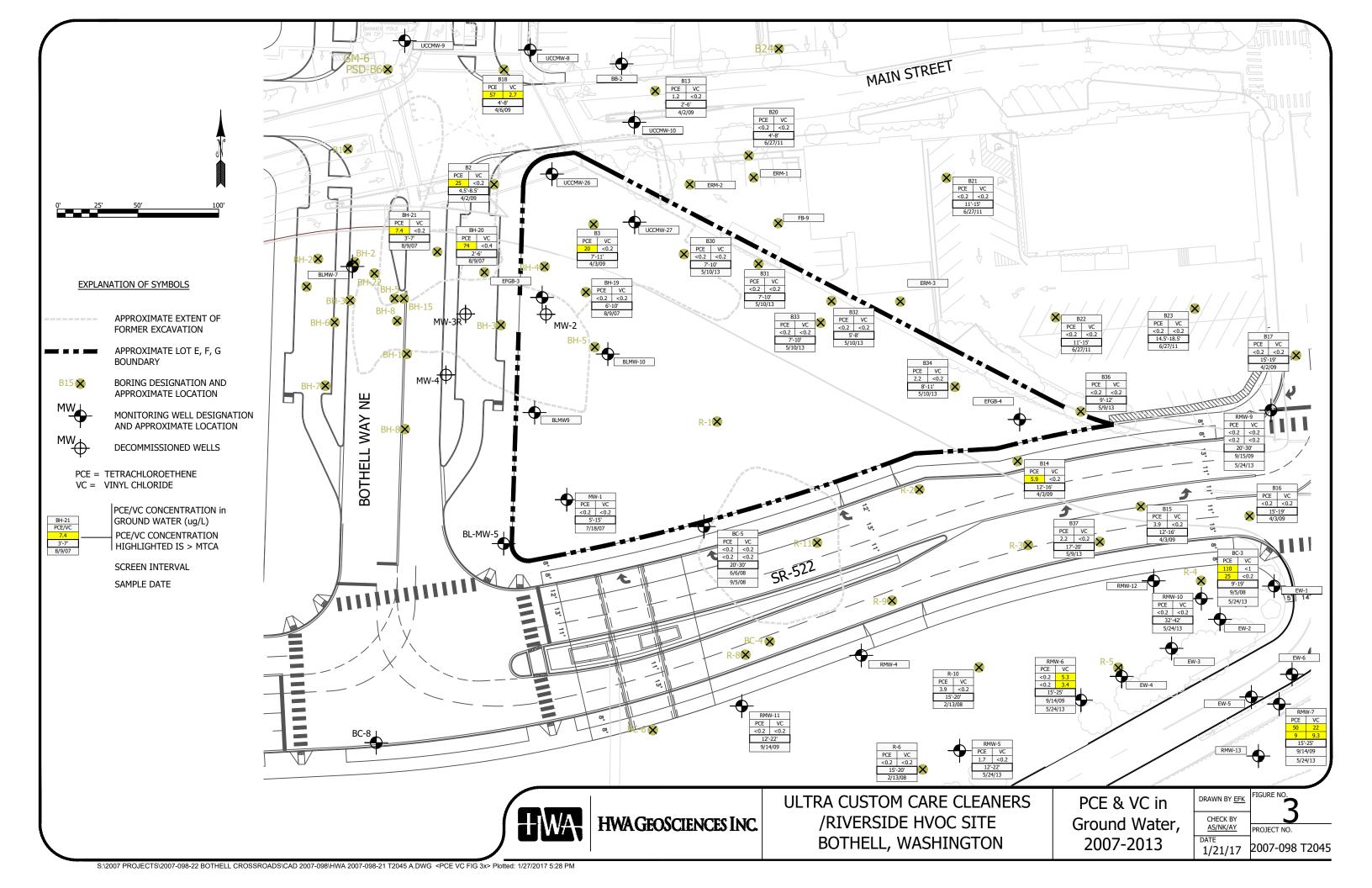
Appendix B: Laboratory Analytical Results











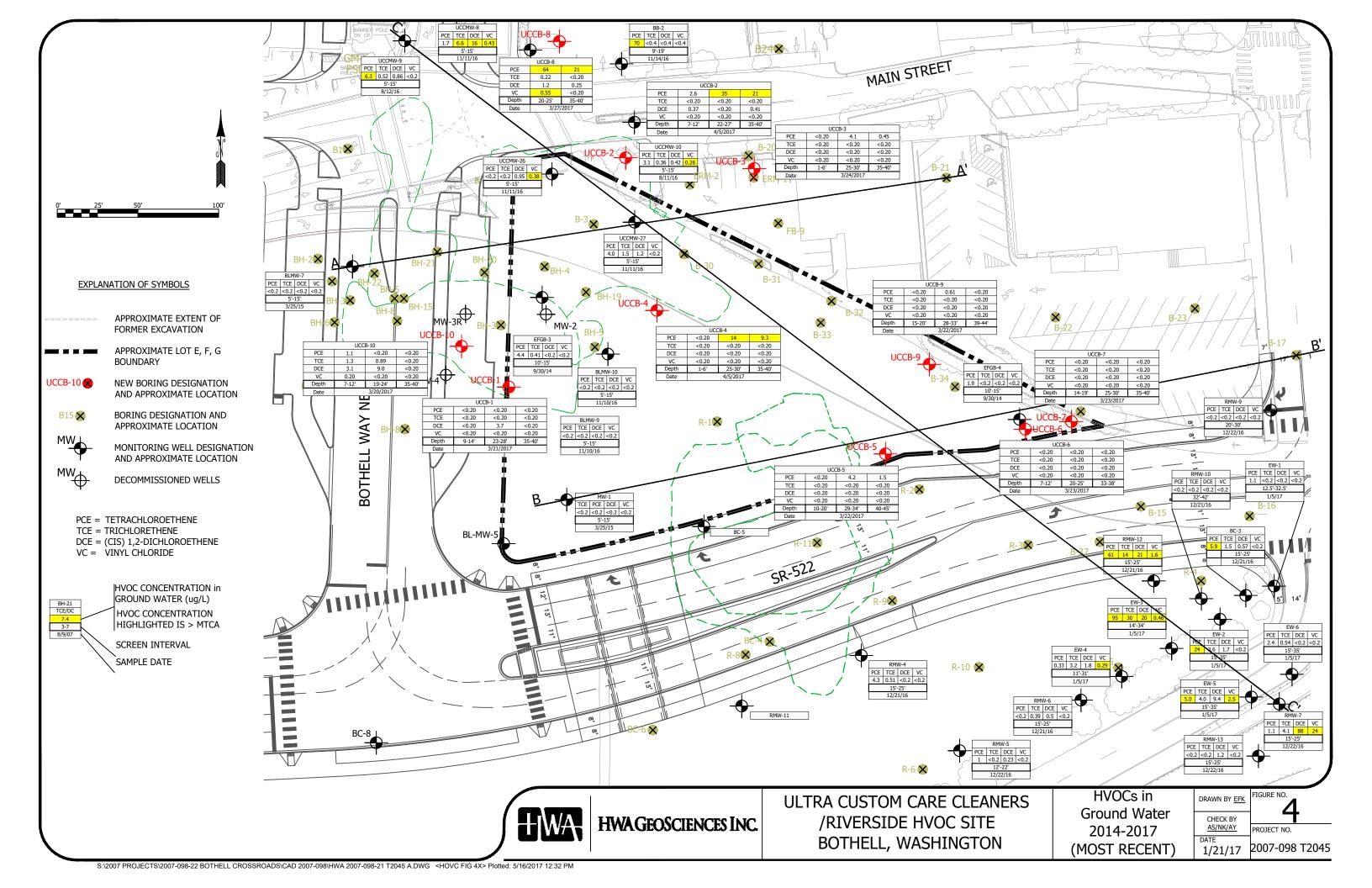


Table 1 UCC/Riverside HVOC Site Ground Water Analytical Data

		Screened Depth,	Tetrachloro- ethene	Trichloro- ethene	(cis) 1,2- Dichloro- ethene	Vinyl Chloride
Sample Location	Sample Date	(ft bgs)	(µg/L)	ethene (μg/L)	(µg/L)	(µg/L)
MTCA Method A/B C	•	, ,				
WAC 173-340-900)			5	5	16 (B)	0.2
Boring						
		9-14	<0.20	<0.20	<0.20	<0.20
UCCB-1	3/21/2017	23-28	<0.20	<0.20	3.7	<0.20
		35-40	<0.20	<0.20	<0.20	<0.20
		7-12	2.6	<0.20	0.37	<0.20
UCCB-2	4/5/2017	22-27	35	<0.20	<0.20	<0.20
		35-40	21	<0.20	0.41	<0.20
		1-6	<0.20	<0.20	<0.20	<0.20
UCCB-3	3/24/2017	25-30	4.1	<0.20	<0.20	<0.20
		35-40	0.45	<0.20	<0.20	<0.20
		7-12	<0.20	<0.20	<0.20	<0.20
UCCB-4	4/5/2017	18-23	14	<0.20	<0.20	<0.20
		33-38	9.3	<0.20	<0.20	<0.20
		10-20	<0.20	<0.20	<0.20	<0.20
UCCB-5	3/22/2017	29-34	4.2	<0.20	<0.20	<0.20
		40-45	1.5	<0.20	<0.20	<0.20
	3/23/2017	7-12	<0.20	<0.20	<0.20	<0.20
UCCB-6		20-25	<0.20	<0.20	<0.20	<0.20
		33-38	<0.20	<0.20	<0.20	<0.20
	3/23/2017	14-19	<0.20	<0.20	<0.20	<0.20
UCCB-7		25-30	<0.20	<0.20	<0.20	<0.20
		35-40	<0.20	<0.20	<0.20	<0.20
		N/A	N/A	N/A	N/A	N/A
UCCB-8	3/27/2017	20-25	64	0.22	1.2	0.55
		35-40	21	<0.20	0.25	<0.20
	3/22/2017	15-20	<0.20	<0.20	<0.20	<0.20
UCCB-9		28-33	0.61	<0.20	<0.20	<0.20
		39-44	<0.20	<0.20	<0.20	<0.20
		7-12	1.1	1.3	3.1	0.20
UCCB-10	3/20/2017	19-24	<0.20	0.89	9.0	<0.20
		35-40	<0.20	<0.20	<0.20	<0.20
Investigation Results	s by Others					
Farallon Consulting						
	6/23/2016	22	0.86	<0.20	<0.20	<0.20
FB-9	6/23/2016	27	8.7	<0.20	<0.20	<0.20
	6/23/2016	32	5.8	<0.20	<0.20	<0.20
QC Samples						
Dup 1 (UCCB-6-22)	3/23/2017		<0.20	<0.20	<0.20	<0.20
Dup 2 (UCCB-4-9.5)	4/5/2014		<0.20 <0.20	<0.20 <0.20	<0.20 <0.20	<0.20 <0.20
Trip Blank Trip Blank	3/20/2017 3/21/2017		<0.20	<0.20	<0.20	<0.20
Trip Blank	3/22/2017		<0.20	<0.20	<0.20	<0.20
Trip Blank	3/23/2017		<0.20	<0.20	<0.20	<0.20
Trip Blank	3/24/2017		<0.20	<0.20	<0.20	<0.20
Trip Blank	3/27/2017		<0.20	<0.20	<0.20	<0.20
Trip Blank	4/5/2017		<0.20	<0.20	<0.20	<0.20

< - Analyte not detected at laboratory's listed reporting limit

Bold indicates analyte detected at a concentration greater than the laboratory reporting limit Yellow highlight indicates analyte meets or exceeds MTCA cleanup level

Blank – not analyzed or not measured at that sampling location

NA – Not applicable

Table 2
UCC/Riverside HVOC Site
Soil Analytical Data

Sample Location	Sample Date	Soil Sample Depth ¹ , (ft bgs)	Tetrachloro- ethene (mg/kg)	Trichloro- ethene (mg/kg)	(cis) 1,2- Dichloro- ethene (mg/kg)	Vinyl Chloride (mg/kg)
MTCA Method A/B Cleanup Level (Table 720- 1, WAC 173-340-900)		0.05	0.03	160 (B)	0.67 (B)	
Boring						
UCCB-1	3/21/2017	25.5	<0.00096	<0.00096	0.0016	<0.00096
UCCB-2	4/5/2017	27.5	0.046	<0.0012	<0.0012	<0.0012
UCCB-3	3/24/2017	32.5	0.0015	<0.0011	<0.0011	<0.0011
UCCB-4	4/5/2017	25	0.034	<0.00099	<0.00099	<0.00099
UCCB-5	3/22/2017	36	<0.0011	<0.0011	<0.0011	<0.0011
UCCB-6	3/23/2017	25.5	<0.0012	<0.0012	<0.0012	<0.0012
UCCB-7	3/23/2017	20	<0.0012	<0.0012	<0.0012	<0.0012
UCCB-8	3/27/2017	25	0.025	<0.0011	<0.0011	<0.0011
UCCB-9	3/22/2017	35.5	<0.0012	<0.0012	<0.0012	<0.0012
UCCB-10	3/20/2017	11	<0.00088	<0.00088	<0.00088	<0.00088

^{1 -} Soil samples were selected for analysis based on the highest detections of HVOCs from the corresponding depth of ground water sample

Bold indicates analyte detected at a concentration greater than the laboratory reporting limit

< - Analyte not detected at laboratory's listed reporting limit

APPENDIX A BORING LOGS

RELATIVE DENSITY OR CONSISTENCY VERSUS SPT N-VALUE

COHESIONLESS SOILS			COHESIVE SOILS		
Density	N (blows/ft)	Approximate Relative Density(%)	Consistency	N (blows/ft)	Approximate Undrained Shear Strength (psf)
Very Loose	0 to 4	0 - 15	Very Soft	0 to 2	<250
Loose	4 to 10	15 - 35	Soft	2 to 4	250 - 500
Medium Dense	10 to 30	35 - 65	Medium Stiff	4 to 8	500 - 1000
Dense	30 to 50	65 - 85	Stiff	8 to 15	1000 - 2000
Very Dense	over 50	85 - 100	Very Stiff	15 to 30	2000 - 4000
			Hard	over 30	>4000

USCS SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS				GROUP DESCRIPTIONS		
Coarse	Gravel and Gravelly Soils	Clean Gravel	*	GW	Well-graded GRAVEL	
Grained Soils		(little or no fines)	600	GP	Poorly-graded GRAVEL	
	More than 50% of Coarse	Gravel with Fines (appreciable	600	GM	Silty GRAVEL	
	Fraction Retained on No. 4 Sieve	amount of fines)		GC	Clayey GRAVEL	
	Sand and	Clean Sand	****	SW	Well-graded SAND	
More than	Sandy Soils	(little or no fines)		SP	Poorly-graded SAND	
on No. 200 Sieve Size	50% or More of Coarse	Sand with Fines (appreciable amount of fines)		SM	Silty SAND	
	Fraction Passing No. 4 Sieve			SC	Clayey SAND	
Fine	Silt and Clay	Liquid Limit Less than 50%		ML	SILT	
Grained Soils				CL	Lean CLAY	
	Silly			OL	Organic SILT/Organic CLAY	
50% or More Passing	Silt	Liquid Limit 50% or More	Ш	МН	Elastic SILT	
	and Clay			СН	Fat CLAY	
No. 200 Sieve Size			$ \omega\omega$	ОН	Organic SILT/Organic CLAY	
	Highly Organic Soils		<u>\(\frac{\fin}}}{\fint}}}}}}}{\fracc}\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac</u>	PT	PEAT	

TEST SYMBOLS

	TEST SYN	ИBOLS			
%F	Percent Fines				
AL	Atterberg Limits:	PL = Plastic Limit LL = Liquid Limit			
CBR	California Bearing Ra	tio			
CN	Consolidation				
DD	Dry Density (pcf)				
DS	Direct Shear				
GS	Grain Size Distribution				
K	Permeability				
MD	Moisture/Density Relationship (Proctor)				
MR	Resilient Modulus				
PID	Photoionization Device	e Reading			
PP	Pocket Penetrometer Approx. Compre	ssive Strength (tsf)			
SG	Specific Gravity				
TC	Triaxial Compression				
TV	Torvane				

SAMPLE TYPE SYMBOLS

UC Unconfined Compression

Approx. Shear Strength (tsf)

op)
ass Rings
t

GROUNDWATER SYMBOLS

Groundwater Level (measured at time of drilling)
Groundwater Level (measured in well or open hole after water level stabilized)

COMPONENT DEFINITIONS

COMPONENT	SIZE RANGE
COMPONENT	SIZE RAINGE
Boulders	Larger than 12 in
Cobbles	3 in to 12 in
Gravel	3 in to No 4 (4.5mm)
Coarse gravel	3 in to 3/4 in
Fine gravel	3/4 in to No 4 (4.5mm)
Sand	No. 4 (4.5 mm) to No. 200 (0.074 mm)
Coarse sand	No. 4 (4.5 mm) to No. 10 (2.0 mm)
Medium sand	No. 10 (2.0 mm) to No. 40 (0.42 mm)
Fine sand	No. 40 (0.42 mm) to No. 200 (0.074 mm)
Silt and Clay	Smaller than No. 200 (0.074mm)

COMPONENT PROPORTIONS

 ∇

 \blacksquare

PROPORTION RANGE	DESCRIPTIVE TERMS	
< 5%	Clean	
5 - 12%	Slightly (Clayey, Silty, Sandy)	
12 - 30%	Clayey, Silty, Sandy, Gravelly	
30 - 50% Very (Clayey, Silty, Sandy, Gravelly)		
Components are arranged in order of increasing quantities.		

NOTES: Soil classifications presented on exploration logs are based on visual and laboratory observation. Soil descriptions are presented in the following general order:

Density/consistency, color, modifier (if any) GROUP NAME, additions to group name (if any), moisture content. Proportion, gradation, and angularity of constituents, additional comments. (GEOLOGIC INTERPRETATION)

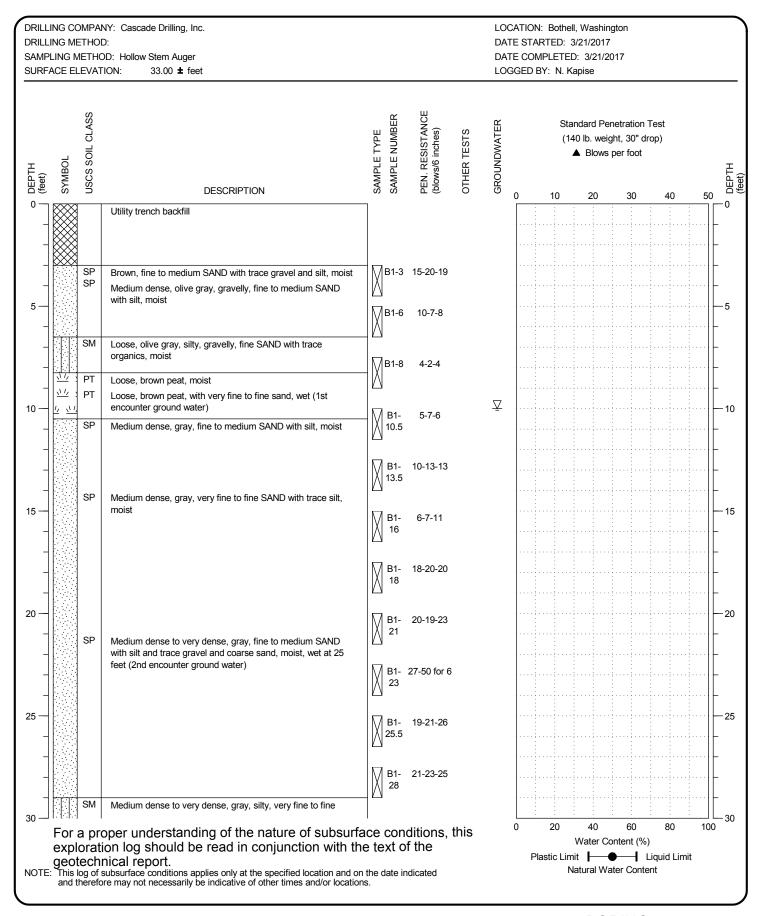
Please refer to the discussion in the report text as well as the exploration logs for a more complete description of subsurface conditions.

MOISTURE CONTENT

DRY	Absence of moisture, dusty, dry to the touch.
MOIST WET	Damp but no visible water. Visible free water, usually soil is below water table.



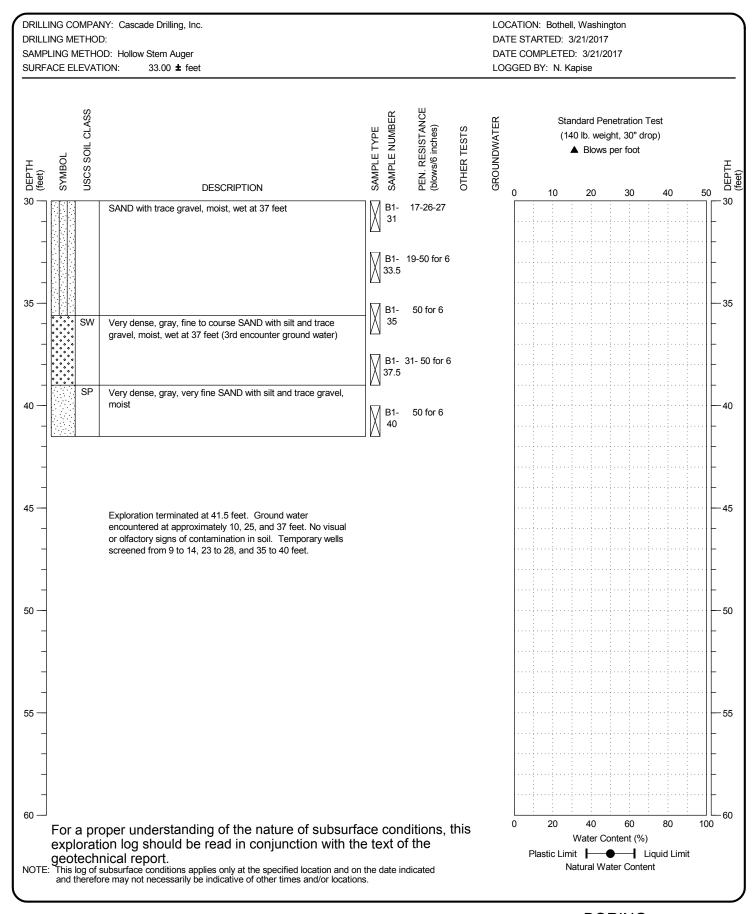
UCC/RIVERSIDE HVOC SITE RECON GROUND WATER SAMPLING BOTHELL, WASHINGTON SYMBOLS USED ON EXPLORATION LOGS





BORING: UCCB-1

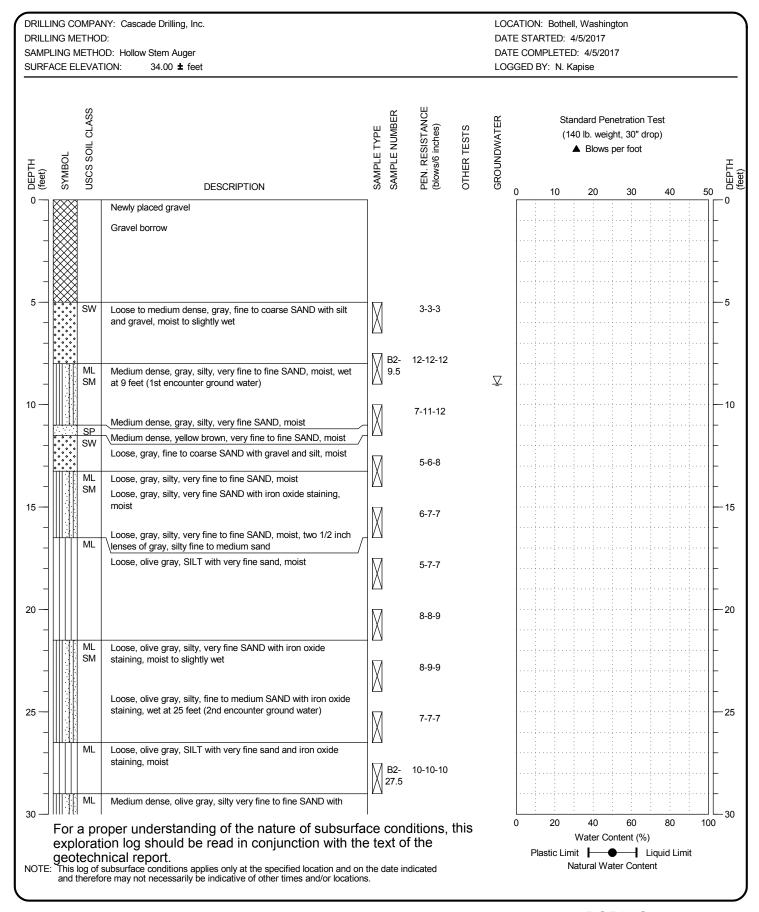
PAGE: 1 of 2





BORING: UCCB-1

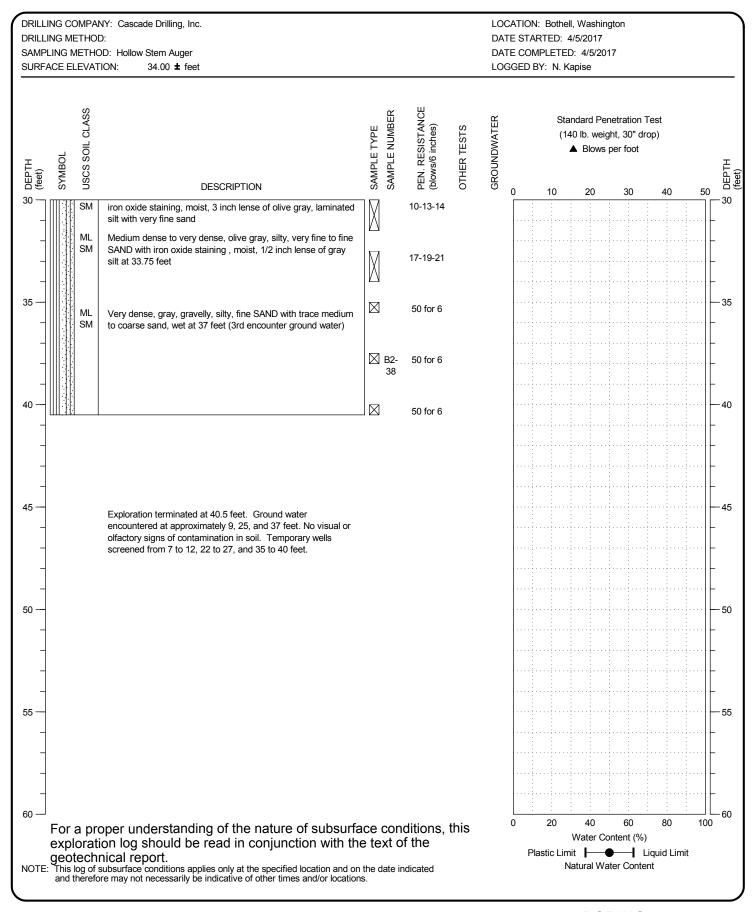
PAGE: 2 of 2





BORING: UCCB-2

PAGE: 1 of 2





BORING: UCCB-2

PAGE: 2 of 2

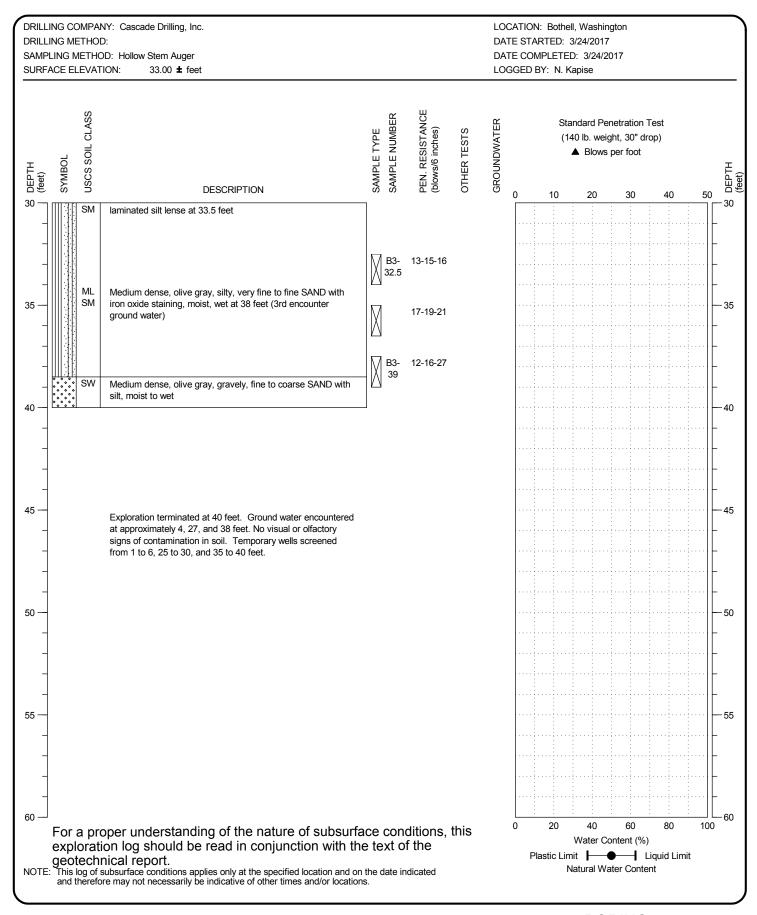
DRILLING COMPANY: Cascade Drilling, Inc. LOCATION: Bothell, Washington DRILLING METHOD: **DATE STARTED: 3/24/2017** DATE COMPLETED: 3/24/2017 SAMPLING METHOD: Hollow Stem Auger SURFACE ELEVATION: 33.00 **±** feet LOGGED BY: N. Kapise PEN. RESISTANCE (blows/6 inches) USCS SOIL CLASS SAMPLE NUMBER Standard Penetration Test GROUNDWATER SAMPLE TYPE OTHER TESTS (140 lb. weight, 30" drop) ▲ Blows per foot SYMBOL DEPTH (feet) DESCRIPTION 10 20 30 40 ML Olive gray, silty, fine to medium SAND, wet at 3.5 to 4 feet SM (1st encounter ground water) ∇ 5 ML ₩B3-5 4-5-6 Loose, yellow brown, silty, fine to medium SAND with trace SM gravel, moist 7-9-9 ML Loose, olive gray, silty, very fine SAND with iron oxide staining, moist 10 10 7-8-8 8-7-10 15 15 8-9-9 Loose, olive gray, silty, very fine to fine SAND with iron oxide ML SM staining, moist 6-6-8 ML Medium dense, olive gray, silty, very fine SAND with iron SM oxide staining, moist to slightly wet 20 20 11-12-13 ML Medium dense, olive gray to gray, silty, very fine SAND with SM iron oxide staining and lamination visible at 25 feet, moist 15-17-19 25 25 11-14-15 Medium dense, olive gray, very fine to fine SAND with silt, moist, wet at 27 feet (2nd encounter ground water) 16-19-22 Medium dense, olive gray, silty, fine SAND, moist, 2 inch 30 60 100 For a proper understanding of the nature of subsurface conditions, this Water Content (%) exploration log should be read in conjunction with the text of the geotechnical report. Plastic Limit Liquid Limit This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations. Natural Water Content



Ultra/Riverside HVOC Site Bothell, Washington

BORING: UCCB-3

PAGE: 1 of 2





BORING: UCCB-3
PAGE: 2 of 2

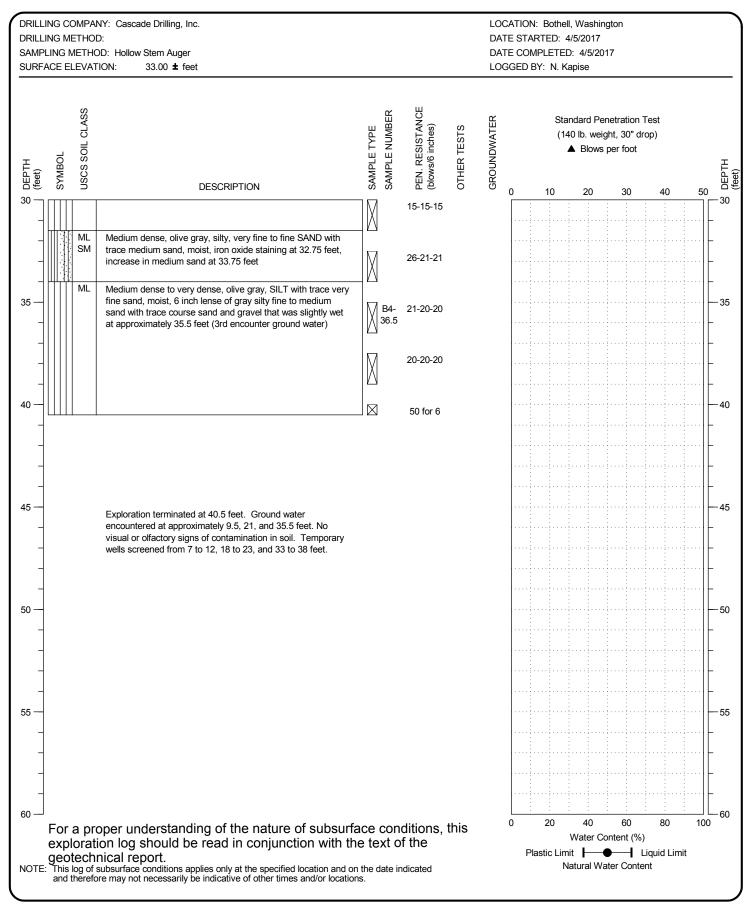
DRILLING COMPANY: Cascade Drilling, Inc. LOCATION: Bothell, Washington DRILLING METHOD: DATE STARTED: 4/5/2017 SAMPLING METHOD: Hollow Stem Auger DATE COMPLETED: 4/5/2017 SURFACE ELEVATION: 33.00 **±** feet LOGGED BY: N. Kapise PEN. RESISTANCE (blows/6 inches) USCS SOIL CLASS SAMPLE NUMBER Standard Penetration Test GROUNDWATER SAMPLE TYPE OTHER TESTS (140 lb. weight, 30" drop) ▲ Blows per foot SYMBOL DEPTH (feet) DESCRIPTION 10 20 30 40 Gravel placed on 4-4-17 Straw Gravel borrow Loose, gray, gravelly, fine to medium SAND with silt, moist, wet at approximately 9.5 feet (1st encounter ground water), two 3 to 6 inch lenses of gray, silty, very fine to fine SAND at 5 8.75 and 10.5 feet, heavy iron oxide staining at 11 to 11.5 feet 5-6-5 5-4-6 ∇ 10 10 7-6-6 B4-10.5 SP Medium dense, olive gray, fine to medium SAND with silt, gravel and trace coarse sand, moist 14-20-20 GW Medium dense, yellow brown GRAVEL with fine to coarse sand and silt, moist to slightly wet 15 15 Medium dense, yellow brown, fine to coarse SAND with gravel 14-15-16 and silt, moist to slightly wet, becomes more gravelly at approximately 16 feet SP Very dense, yellow brown, fine to medium SAND with silt and trace gravel, moist to slightly wet \boxtimes 50 for 6 ML Medium dense to dense, olive gray, silty, fine SAND, moist to SM slightly wet at 21 feet (2nd encounter ground water) 20 20 21-50 for 6 ML Medium dense to dense, olive gray SILT with trace very fine sand and periodic iron oxide staining, moist 16-21-23 25 25 14-14-16 25 17-50 for 6 30 60 100 For a proper understanding of the nature of subsurface conditions, this Water Content (%) exploration log should be read in conjunction with the text of the geotechnical report. Plastic Limit Liquid Limit This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations. Natural Water Content



Ultra/Riverside HVOC Site Bothell, Washington

BORING: UCCB-4

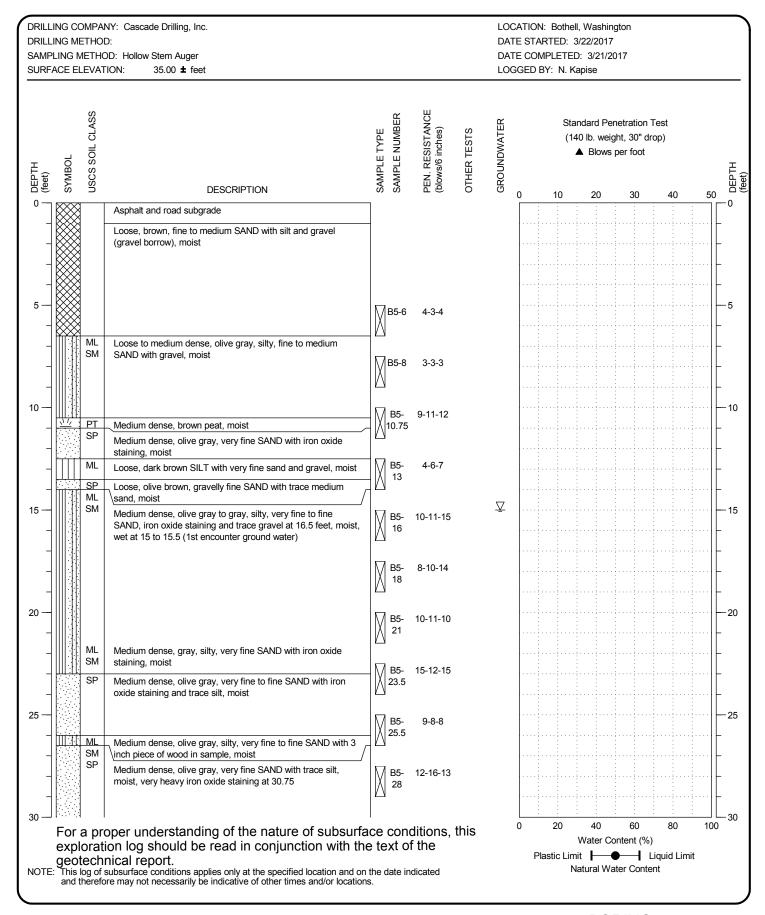
PAGE: 1 of 2





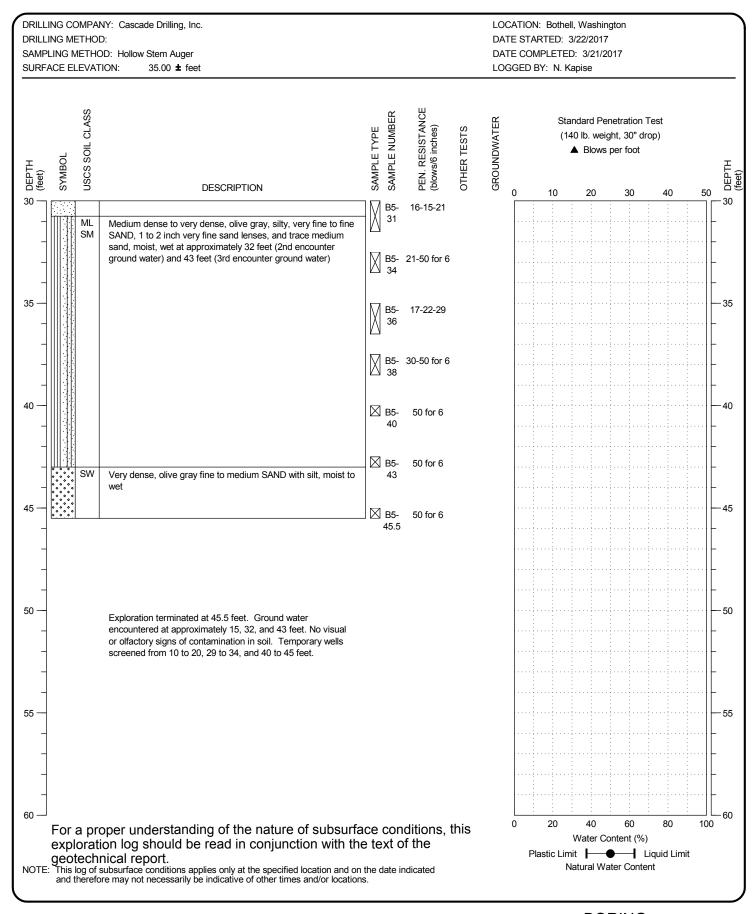
BORING: UCCB-4

PAGE: 2 of 2





BORING: UCCB-5
PAGE: 1 of 2





BORING: UCCB-5

PAGE: 2 of 2

DRILLING COMPANY: Cascade Drilling, Inc. LOCATION: Bothell, Washington DRILLING METHOD: **DATE STARTED: 3/23/2017** DATE COMPLETED: 3/23/2017 SAMPLING METHOD: Hollow Stem Auger SURFACE ELEVATION: 35.00 **±** feet LOGGED BY: N. Kapise PEN. RESISTANCE (blows/6 inches) USCS SOIL CLASS SAMPLE NUMBER Standard Penetration Test GROUNDWATER SAMPLE TYPE OTHER TESTS (140 lb. weight, 30" drop) ▲ Blows per foot SYMBOL DEPTH (feet) DESCRIPTION 10 20 30 40 71 1/ Grass and topsoil ML Loose, brown, silty, fine to medium SAND with gravel and SM organics, moist 5 4-4-6 Loose, olive gray, fine to medium SAND with gravel and silt, ML \moist SM Loose, olive gray, silty, very fine to fine SAND with gravel and ML iron oxide staining, moist 6-6-5 SM Loose, olive gray, silty, very fine to fine SAND with gravel and ∇ iron oxide staining, moist, wet at 9 feet (1st encounter ground SP (water 10 10 Loose, olive gray, very fine SAND with trace silt, iron oxide 5-6-7 staining, moist 5-5-5 ML Medium dense, olive gray, silty, very fine to fine SAND, moist, wet at 22 (2nd encounter ground water), approximately 2 inch 15 - 15 10-9-11 fine to medium sand lenses from 15 to 17 feet and 23 feet, iron oxide staining at 22.5 to 24 feet 10-10-10 20 -20 9-12-12 12-14-15 Medium dense, olive gray, very fine to medium SAND with silt and iron oxide staining, moist 25 25 B6-15-14-17 25.5 Medium dense, olive gray, silty, very fine to $\overline{\text{fine SAND with}}$ ML SM minimal iron oxide staining, lamination visible, moist 15-14-17 Medium dense, olive gray, silty, very fine to fine SAND with 30 60 100 For a proper understanding of the nature of subsurface conditions, this Water Content (%) exploration log should be read in conjunction with the text of the geotechnical report.

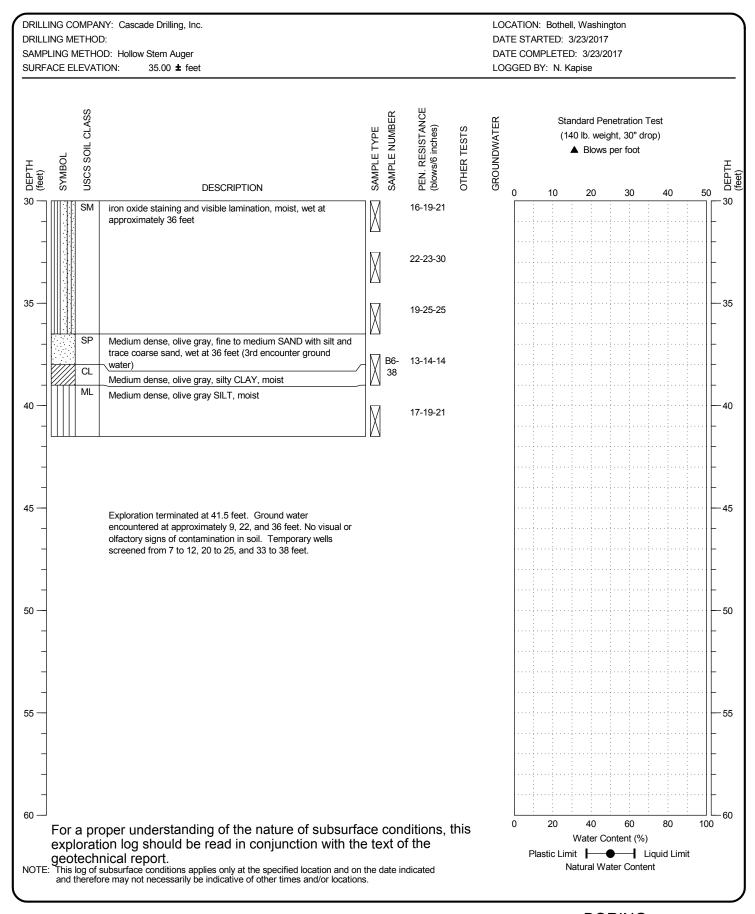
This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations. Plastic Limit Liquid Limit Natural Water Content



Ultra/Riverside HVOC Site Bothell, Washington

BORING: UCCB-6

PAGE: 1 of 2





BORING: UCCB-6

PAGE: 2 of 2

DRILLING COMPANY: Cascade Drilling, Inc. LOCATION: Bothell, Washington DRILLING METHOD: **DATE STARTED: 3/24/2017** SAMPLING METHOD: Hollow Stem Auger DATE COMPLETED: 3/23/2017 SURFACE ELEVATION: 36.00 **±** feet LOGGED BY: N. Kapise PEN. RESISTANCE (blows/6 inches) USCS SOIL CLASS SAMPLE NUMBER Standard Penetration Test GROUNDWATER SAMPLE TYPE OTHER TESTS (140 lb. weight, 30" drop) ▲ Blows per foot SYMBOL DEPTH (feet) DESCRIPTION 10 20 30 40 <u> 11/</u> Grass and topsoil ML Loose, yellow brown, silty, fine SAND, moist SM 4-4-5 ML Loose, olive gray, silty, very fine to fine SAND, iron oxide SM staining at 5 feet, moist, slightly wet from 9 to 11.5 feet 6-5-5 6-7-9 10 10 6-5-5 ML Loose to medium dense, olive gray, very fine SAND with silt, SM moist to slightly wet, trace coarse sand and slightly wetter 6-6-6 from 15 to 16.5 feet, lenses of silty very fine to fine sand with iron oxide staining at approximately 18.5 to 19 feet and 20.75 to 21 feet 15 15 5-8-8 ∇ 8-8-10 20 20 B7-13-12-12 20 10-9-11 25 25 10-10-10 ML Medium dense, olive gray, silty, fine SAND with iron oxide SM staining, wet at 28 feet (2nd encounter ground water) 12-12-13 30 60 100 For a proper understanding of the nature of subsurface conditions, this Water Content (%) exploration log should be read in conjunction with the text of the geotechnical report.

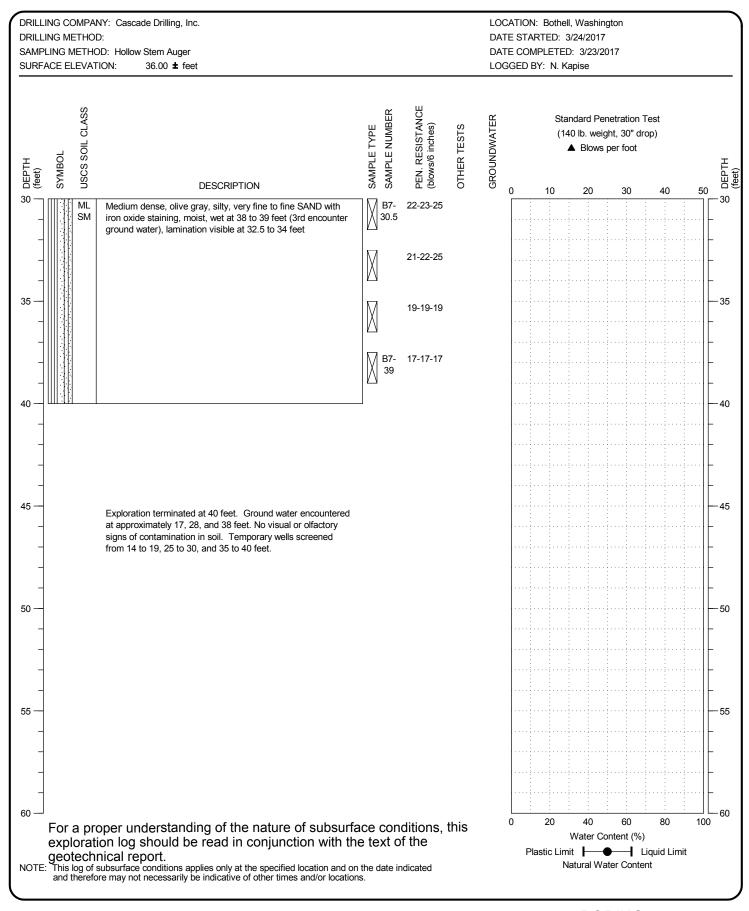
This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations. Plastic Limit Liquid Limit Natural Water Content



Ultra/Riverside HVOC Site Bothell, Washington

BORING: UCCB-7

PAGE: 1 of 2





BORING: UCCB-7
PAGE: 2 of 2

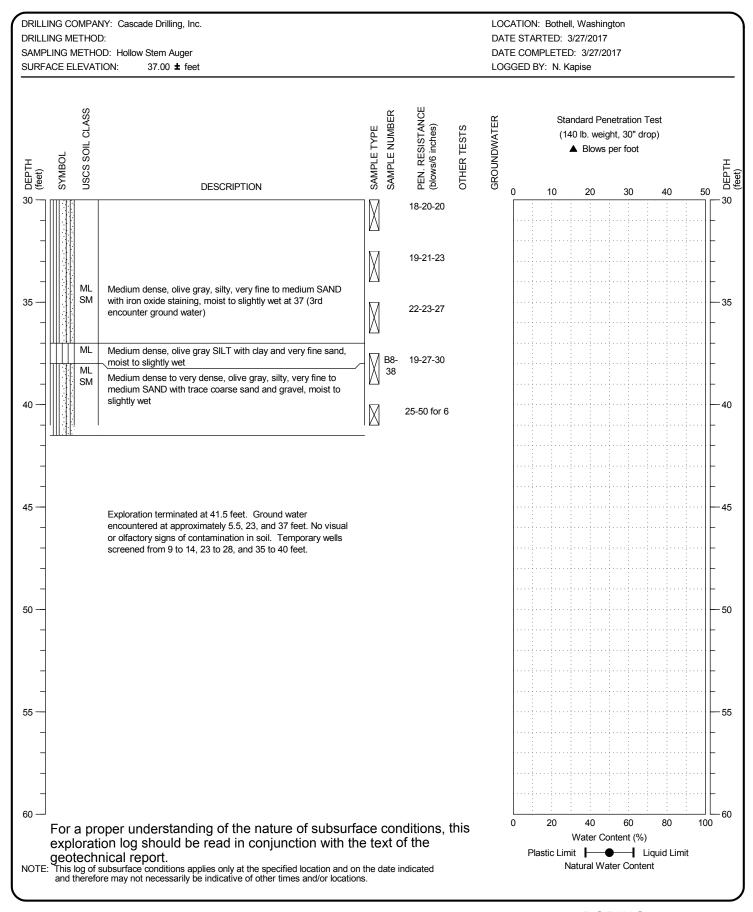
DRILLING COMPANY: Cascade Drilling, Inc. LOCATION: Bothell, Washington DRILLING METHOD: **DATE STARTED: 3/27/2017** SAMPLING METHOD: Hollow Stem Auger DATE COMPLETED: 3/27/2017 SURFACE ELEVATION: LOGGED BY: N. Kapise 37.00 **±** feet PEN. RESISTANCE (blows/6 inches) USCS SOIL CLASS SAMPLE NUMBER Standard Penetration Test GROUNDWATER SAMPLE TYPE OTHER TESTS (140 lb. weight, 30" drop) ▲ Blows per foot SYMBOL DEPTH (feet) DESCRIPTION 10 20 30 40 Loose, gray, gravelly, silty, fine to medium SAND, moist, petroleum odor noted Loose, gray, gravelly SILT with fine to medium sand, wet at 5.5 feet (1st encounter ground water), petroleum odor noted 5 2-2-3 Loose, brown PEAT, moist ₩B8-8 ML 8-12-12 Loose to medium dense, gray, silty, very fine to fine SAND, ∇ SM 10 10 5-7-9 12-21-28 Medium dense, gray, gravelly, silty, fine to coarse SAND, wet 15 15 17-20-20 ML Medium dense, gray, gravelly, silty, very fine to fine SAND SM with trace medium to coarse sand, moist 19-20-23 MLMedium dense, olive gray to olive brown, silty, very fine to fine SM SAND, moist ML 20 20 Medium dense, olive gray, silty, very fine to fine SAND with 21-22-26 SM iron oxide staining and trace medium to coarse sand, moist, slightly wet at 23 feet (2nd encounter ground water), lamination visible from 30 to 34 feet 16-20-30 25 25 B8-17-18-18 25 16-15-16 30 40 60 100 For a proper understanding of the nature of subsurface conditions, this Water Content (%) exploration log should be read in conjunction with the text of the geotechnical report. Plastic Limit Liquid Limit This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations. Natural Water Content



Ultra/Riverside HVOC Site Bothell, Washington

BORING: UCCB-8

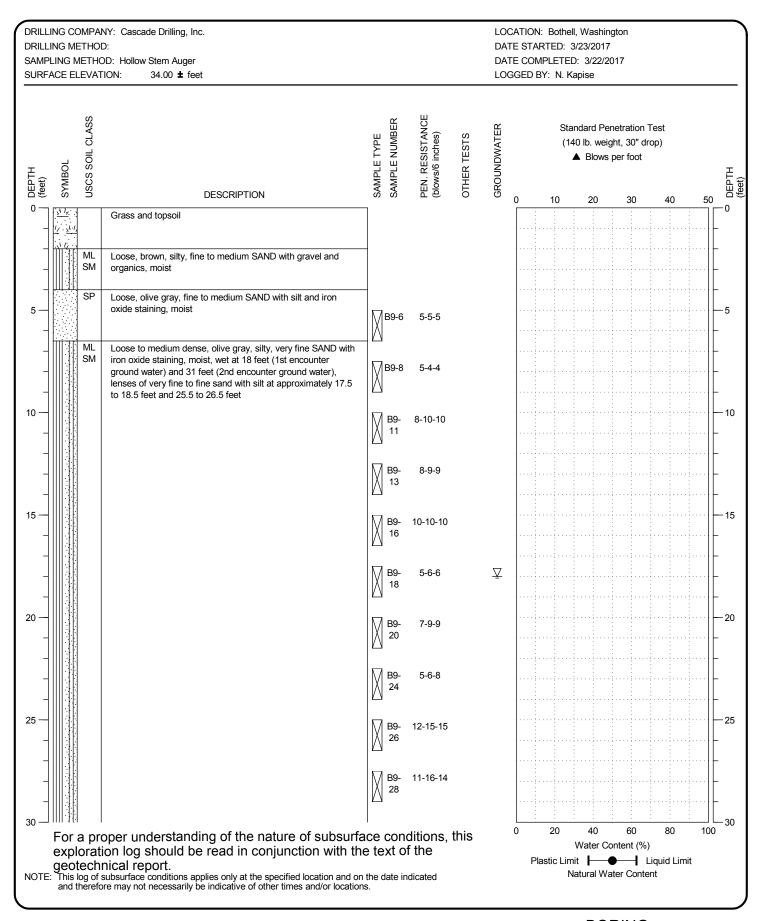
PAGE: 1 of 2





BORING: UCCB-8

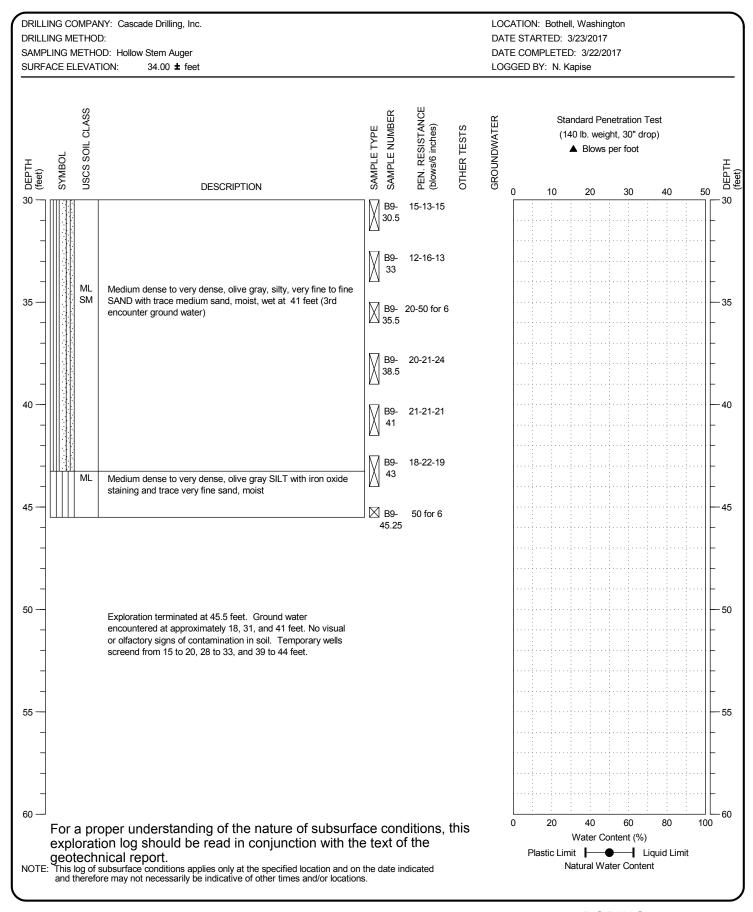
PAGE: 2 of 2





BORING: UCCB-9

PAGE: 1 of 2





BORING: UCCB-9

PAGE: 2 of 2

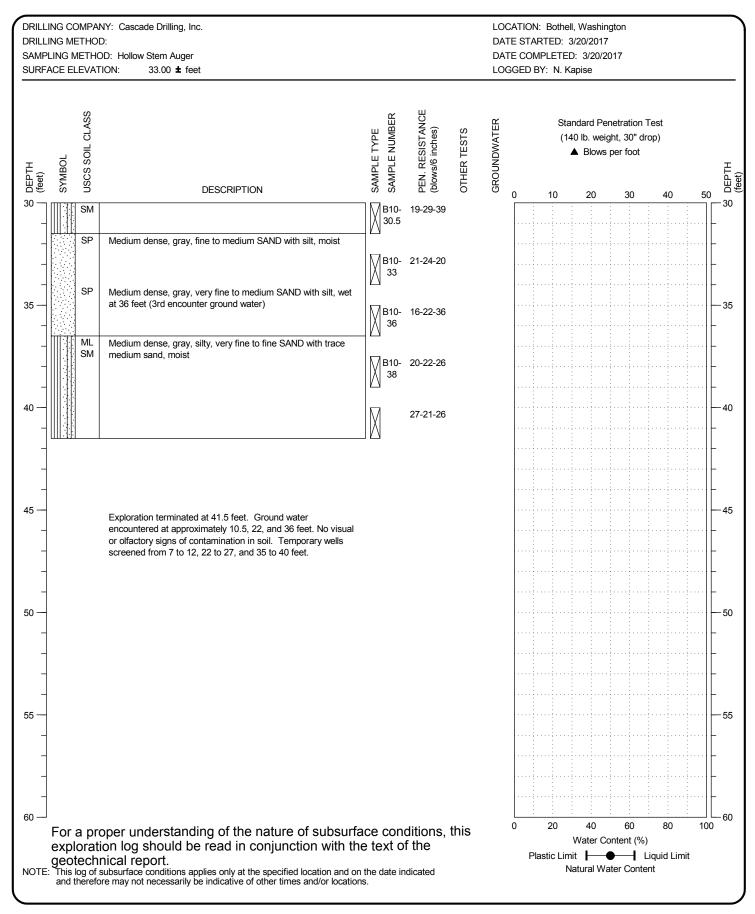
DRILLING COMPANY: Cascade Drilling, Inc. LOCATION: Bothell, Washington DRILLING METHOD: **DATE STARTED: 3/20/2017** SAMPLING METHOD: Hollow Stem Auger DATE COMPLETED: 3/20/2017 SURFACE ELEVATION: 33.00 **±** feet LOGGED BY: N. Kapise PEN. RESISTANCE (blows/6 inches) USCS SOIL CLASS SAMPLE NUMBER Standard Penetration Test GROUNDWATER SAMPLE TYPE OTHER TESTS (140 lb. weight, 30" drop) ▲ Blows per foot SYMBOL DEPTH (feet) DESCRIPTION 10 30 40 Utility trench backfill B10-3 SP Loose to medium dense, brown, fine to medium SAND with 7-9-10 trace silt and gravel, moist 5 B10-10-10-10 6 B10-8 9-9-9 SW Loose to medium dense, brown to olive brown, fine to coarse SAND with silt, wet at 10 feet (1st encounter ground water) 10 10 B10-11 ∇ 8-12-9 Loose to medium dense, gray, fine to medium SAND with silt, B10-13 8-10-10 moist ML Loose, brown to olive gray, silty, very fine to fine SAND, wet SM 15 15 B10-15.5 9-10-9 ML Medium dense, brown to gray, silty, very fine to fine SAND, SM B10- 14-13-15 SP Medium dense to dense, gray, fine to medium SAND with silt, moist to wet at 22 (2nd encounter ground water) 20 -20 B10- 15-15-15 20.5 B10- 19-50 for 6 23.5 SW Medium dense, gray, fine to coarse SAND with gravel and trace silt and very fine sand, moist 25 B10- 16-26-31 B10- 21-21-20 28 Medium dense, gray, silty, very fine to fine SAND, moist 30 60 100 For a proper understanding of the nature of subsurface conditions, this Water Content (%) exploration log should be read in conjunction with the text of the Plastic Limit Liquid Limit geotechnical report.
 This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations. Natural Water Content



Ultra/Riverside HVOC Site Bothell, Washington

BORING: UCCB-10

PAGE: 1 of 2





BORING: UCCB-10

PAGE: 2 of 2

APPENDIX B LABORATORY REPORTS



March 27, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-188

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 21, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on March 20, 2017 and received by the laboratory on March 21, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 27, 2017 Samples Submitted: March 21, 2017 Laboratory Reference: 1703-188 Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB10-10.5-GW					
Laboratory ID:	03-188-16					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloromethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Vinyl Chloride	0.20	0.20	EPA 8260C	3-22-17	3-22-17	
Bromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Iodomethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-22-17	3-22-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(cis) 1,2-Dichloroethene	3.1	0.20	EPA 8260C	3-22-17	3-22-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroform	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Trichloroethene	1.3	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-22-17	3-22-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(trans) 1,3-Dichloropropene	e ND	0.20	EPA 8260C	3-22-17	3-22-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB10-10.5-GW					
Laboratory ID:	03-188-16					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Tetrachloroethene	1.1	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromoform	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Bromobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromo-3-chloropropane	e ND	1.0	EPA 8260C	3-22-17	3-22-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	113	77-129				
Toluene-d8	100	80-127				

Toluene-d8 80-127 100 4-Bromofluorobenzene 96 80-125



Date of Report: March 27, 2017 Samples Submitted: March 21, 2017 Laboratory Reference: 1703-188 Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

- · · · · · · · · · · · · · · · · · · ·				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB10-22-GW					
Laboratory ID:	03-188-17					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloromethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
lodomethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-22-17	3-22-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(cis) 1,2-Dichloroethene	9.0	0.20	EPA 8260C	3-22-17	3-22-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroform	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Trichloroethene	0.89	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-22-17	3-22-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB10-22-GW					
Laboratory ID:	03-188-17					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromoform	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Bromobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromo-3-chloropropane	. ND	1.0	EPA 8260C	3-22-17	3-22-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	114	77-129				
Toluene-d8	97	80-127				



4-Bromofluorobenzene

94

80-125

Date of Report: March 27, 2017 Samples Submitted: March 21, 2017 Laboratory Reference: 1703-188 Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB10-36-GW					
Laboratory ID:	03-188-18					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloromethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Iodomethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-22-17	3-22-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroform	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Trichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-22-17	3-22-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB10-36-GW					
Laboratory ID:	03-188-18					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromoform	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Bromobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Surrogate:	Percent Recovery	Control Limits	_	_		
Dibromofluoromethane	119	77-129				
Toluene-d8	99	80-127				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

	MB0322W1 ND ND	PQL	Method	Date Prepared	Date Analyzed	Flags
	ND	0.00				
	ND	0.00				
· · · · · · · · · · · · · · · · · ·		0.00				
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloromethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
lodomethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-22-17	3-22-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroform	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Trichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-22-17	3-22-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	

Date of Report: March 27, 2017 Samples Submitted: March 21, 2017 Laboratory Reference: 1703-188 Project: 2007-098-T2045

Project. 2007-096-12045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0322W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromoform	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Bromobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	106	77-129				
Toluene-d8	101	80-127				

4-Bromofluorobenzene

91

80-125

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	22W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	11.5	11.2	10.0	10.0	115	112	63-127	3	17	
Benzene	11.0	11.1	10.0	10.0	110	111	76-121	1	12	
Trichloroethene	9.78	9.45	10.0	10.0	98	95	64-114	3	15	
Toluene	11.1	10.9	10.0	10.0	111	109	82-115	2	13	
Chlorobenzene	11.2	10.8	10.0	10.0	112	108	80-115	4	14	
Surrogate:										
Dibromofluoromethane					102	104	<i>77-129</i>			
Toluene-d8					101	100	80-127			
4-Bromofluorobenzene					95	98	80-125			

Date of Report: March 27, 2017 Samples Submitted: March 21, 2017 Laboratory Reference: 1703-188 Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trip Blank					
Laboratory ID:	03-188-19					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloromethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromomethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloroethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Iodomethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-23-17	3-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloroform	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Trichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Dibromomethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-23-17	3-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trip Blank					
Laboratory ID:	03-188-19					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromoform	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Bromobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	107	77-129				

Toluene-d8 101 80-127 4-Bromofluorobenzene 94 80-125



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0323W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloromethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromomethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloroethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
lodomethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-23-17	3-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloroform	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Trichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Dibromomethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-23-17	3-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0323W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromoform	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Bromobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dibromo-3-chloropropane	e ND	1.0	EPA 8260C	3-23-17	3-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	103	77-129				
Toluene-d8	101	80-127				
4-Bromofluorobenzene	96	80-125				

Date of Report: March 27, 2017 Samples Submitted: March 21, 2017 Laboratory Reference: 1703-188 Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	23W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	10.8	10.7	10.0	10.0	108	107	63-127	1	17	
Benzene	10.6	10.8	10.0	10.0	106	108	76-121	2	12	
Trichloroethene	9.81	9.43	10.0	10.0	98	94	64-114	4	15	
Toluene	11.1			10.0	111	109	82-115	2	13	
Chlorobenzene	11.0			10.0	110	105	80-115	5	14	
Surrogate:										
Dibromofluoromethane					101	110	<i>77-129</i>			
Toluene-d8					99	99	80-127			
4-Bromofluorobenzene					94	97	80-125			



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

Page	Page	Page of		
	_	0	Page	
		of	0	

Reviewed/Date	Received	Relinquished	Received	Show I MR	Relinquished RMM RMM	Relinquished XXXXX	signature	0 04610 - 26.0	9 VUB10 - 23.5	8 000810-20,5	7 106310-18.0	0.91-01820	0,61-018 DV	4 UCLBID-11.0	3 100810-8.0	2 1000-60	1 UCCB10-3,0	ab ID Sample Identification	Dampied by: N700 Kan78	Armix Sugar	UHVOLIANAXSITA HVOC SH	7207-098-72045	Project Number: HWR Gen Sciences	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date				HUPHA	17CKHH	, HWA	Company	V 10:35 V 1	10:23	10:12	80,01	9:53	84.6	4 54.8	8:40	8:25	3/20/17 8:20 Soil 1	Date Time Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
Ch	Da		4121 11112/2	3/21/17/21/4/8/4	3/2/17 11:2741													NWTP NWTP Volatil Haloge EDB E Semiv	PH-Dx () es 8260 enated EPA 801 rolatiles	Acid OC Volatile 1 (Wat)		Laboratory Number:
Chromatograms with final report Electronic Data Deliverables (EDDs)	Data Package: Standard K Level III Level IV			7	SYA	SE LITEZIE POPTA (X)	Comments/Special Instructions		<u></u>	<i>—————————————————————————————————————</i>		~ ;		—	×,	>		(with let PAHs a PCBs Organic Organic Chlorin Total F Total M TCLP I	ow-leve 8270D/3 8082A ochlorir ophosp nated A RCRA M //TCA M	I PAHs SIM (Io		s 8270	D/SIM		03-188



Chain of Custody

Page A of A

Reviewed/Date	Received .	Relinquished	Received	Relinquished MmM Um	Received Affantl mg	Relinquished	Signature	19 TRIP BLANK	18 UCCB10 - 36 - GN	17 UCCB10-22-6W	16 UCB10-10.5- GW	15 VUBIO - 38.0	14 VCL B10-36.D	13 00 810 - 33.0	12 000.610 - 30,5	1) 100510-28,0	Lab ID Sample Identification	Sampled by: NICE LANS	Mine Sugar	UHVa PNAVSITO HVOC SAR	2007 - 098 - 72045	Company: HWA GROSCIEMES	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com
Reviewed/Date			02/17	ALANA	ALPHA	THUR	Company	1 1 -	14:30 GN V	12:35 GW	9;25 GW 3	13:10 \	13:05	12:47	12:50	3/20/17 10:48 507 1	Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs)	Data Package: Standard		3/21/17/24	3/21/17 1-2:14/8/6	3/21/17 11:27 400	3/21/17 11.27am	Date Time Comments/Special Instructions	8	×	×	×		×				NWTP NWTP NWTP NWTP Volatil Haloge EDB E Semiv (with le PAHs a PCBs Organ Organ Chlorie Total N TCLP	PH-Dx (less 8260 enated	Acid Acid CVolatile 8270D 1 (Wate 8270D 1 PAHs SSIM (lo	/ SG Cluss 8260C	081B		Laboratory Number: U3 - J & &



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 31, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-188B

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 21, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on March 20, 2017 and received by the laboratory on March 21, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

Matrix: Soil Units: mg/kg

3 3				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB10-11.0					
Laboratory ID:	03-188-04					
Dichlorodifluoromethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	0.0044	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	0.0044	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Iodomethane	ND	0.0044	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	0.0044	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Chloroform	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	0.0044	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB10-11.0					
Laboratory ID:	03-188-04					
1,1,2-Trichloroethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	0.0044	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	0.0044	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.0044	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.00088	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	101	73-134				
Toluene-d8	99	81-124				
4-Bromofluorobenzene	93	80-131				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Matrix: Soil Units: mg/kg

Offits. Hig/kg				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0330S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
lodomethane	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Chloroform	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0330S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	119	73-134				
Toluene-d8	110	81-124				
4-Bromofluorobenzene	109	80-131				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Soil Units: mg/kg

	Percent		cent	Recovery		RPD				
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	30S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0512	0.0556	0.0500	0.0500	102	111	66-127	8	15	
Benzene	0.0557	0.0587	0.0500	0.0500	111	117	76-122	5	15	
Trichloroethene	0.0556	0.0538	0.0500	0.0500	111	108	78-120	3	15	
Toluene	0.0587	0.0591	0.0500	0.0500	117	118	83-120	1	15	
Chlorobenzene	0.0558	0.0573	0.0500	0.0500	112	115	81-120	3	15	
Surrogate:										
Dibromofluoromethane					112	110	73-134			
Toluene-d8					106	107	81-124			
4-Bromofluorobenzene					104	107	80-131			

Project: 2007-098-T2045

% MOISTURE

Date Analyzed: 3-30-17

Client ID Lab ID % Moisture

UCCB10-11.0 03-188-04 10



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical ______.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

Page_	
-	_
<u></u>	
1	j

Revie	Received	Relinc	Received	Relinc	Received	Reling		0	٥	00	7	6	S	2	W	12	_	Lab ID	sampled by:		Project Name:	Project	Company:		
Reviewed/Date	ved	Relinquished	/ed	Relinquished	red	Relinquished	Sign	vubio - 26.0	NUCB10 - 23.5	UCL 810 - 20,5	0.81 - 01922N	9.31 - 018 DU	0, E1-018 DU	UCB10-11.0	UCLB10-8.0	UCLBID-6,0	UCCB10-3,0	Sample	NICOL	Krving	Project Name: UKYOU (N. N. S. 1) N. S	20 - 100	HWA GRO		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmonc
				lan Wink	Com Spil	son kan	Signature	0,0	5.5	Ü	0	3,	0					Sample Identification	Karnise	Sugar	HVOC SAR	72045	Ses Sciences	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
						5		4								_	3/20/17	Date Sampled	[Sta	2 Days	Sar		П
Reviewed/Date		(0	BUPH	ALPH	HW	Company	10:35	10:77	10:12	80,01	9,53	84:6	8:45	8:40	8:25	1 8:20	Time 3 Sampled	(other)		Standard (7 Days) (TPH analysis 5 Days)	ays [Same Day	(Check One)	Turnaround Request (in working days)
le le			77	44	B	1		-		-				7	_	_	81	Matrix		N4-1] 3 Days] 1 Day		uest /s)
																		1	er of (iers			П	_
			W	W.	W-	Çi)	Date											-	PH-Gx/I						Laboratory Nu
			1/2	10	11	2												NWTF	PH-Gx						rato
			7	1	3	J												NWTF	PH-Dx (☐ Acid	d / SG Cle	ean-up)			yro
			12	10	13	7	Time							_				-	les 826	200 W 100					Nun
			4	14	11	2							_	O				-			es 8260C				ımber:
0	0			J.	100	2	0												PA 80		ters Only) D/SIM				
hroma	ata Pa			1			omm)												ow-lev		s) ow-level)			-	ယ
atogra	Data Package:		(8	(>	<),	ents/S											_	8082A		JW-level)				1
ms w			6	F			pecia											Organ	nochlori	ne Pes	ticides 80	081B			∞
Chromatograms with final report	Standard K			12	7	*	Comments/Special Instructions											Organ	ophos	ohorus	Pesticide	s 8270	D/SIM	- 1	00
al repo	多		0	10	J.	2	uction											Chlori	inated A	Acid He	erbicides	8151A			
ort 🗆	Level			<u> </u>	F	Son y	S											Total I	RCRA N	Metals					
Elect			,	7												_			MTCA						
ronic [1	TU CO		£21									_	-			Metals		10044			-	
)ata De	Level IV		,	Wed Stock + DR (STA		7115218		7	7	7	7-	7	/	X	/	×	/	HEM	i) I	grease	e) 1664A			-	
Electronic Data Deliverables (EDDs)			,	(A)	1	the state of the s								+					100						
DDs														0				% Moi	isture						



Chain of Custody

Page of 2

Reviewed/Date	Received	Relinquished	Received	Helinquished	Received Affant My	Relinquished	Signature	9 TRIP BLANK	8 UCCBID - 36 - GNN	7 VCC310-22-6W	6 VCB10-10.5- GW	S VCB10 - 38.0	4 NCC 810-36.D	3 va 810 - 33.0	2 vac 810 - 30,5	1 100.610-28,0	ab ID Sample Identification	Sampled by: NICOLE KANSE	Wine Sugar	UHYOL DULYSITU HVDC SH	2007-098-72045	Project Number: HWA GROSCHEMES		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
				1		2,	Cor	١							_	70017	Date Sampled			Stand (TPH a	2 Days	Same Day		Turr (in
Reviewed/Date			0	21041	ALPHI	HWA	Company	1	14:30	12:35	9:25	3:10	13:05	12:47	12:50	10:48	Time Sampled	(other)		Standard (7 Days) (TPH analysis 5 Days)	si	Day	(Check One)	Turnaround Request (in working days)
			M	8	0			1	GW 1	GW	GW :	<				53	Matrix			s)] 3 Days] 1 Day		est s)
								-	-		CI	4	-				1	er of C		ers				
			1/1	VII	N.,.	W	Da										-	H-HCIE					4	Lal
			3	10	1/2	2	Date								-			H-Gx/E	BTEX				-1	aboratory Nur
			11	11	1	1											NWTP		□ Acid	/ SG Cle	on un'			ator
			7	\	1	7	Time											es 8260		7 30 016	an-up,).	-	Z
			2	N	i	i	16	(Q)	×	×	×									s 8260C			-	ᇤ
			2	3	7	2792		U												ers Only)			-	mber:
Chr	Dat		<	10	de	7												olatiles ow-leve					-	
omato	a Pac						mmei													w-level)				w
ogram	Data Package:						ıts/Sp								-		PCBs	8082A						-
ıs witl							ecial										Organo	ochlorin	e Pest	icides 80	81B			00
n fina	Standard						Instru					1		10	English Section	17760	Organo	ophospi	horus f	Pesticide	s 8270	D/SIM		00
Chromatograms with final report	$\bar{\times}$						Comments/Special Instructions										Chlorir	nated A	cid He	rbicides 8	3151A			
Ā	Level						S										Total R	RCRA M	etals					
Elect																	Total N	ITCA M	etals					
ronic [TCLP I	Metals						
Electronic Data Deliverables (EDDs)	Level IV											×	×	× ·	×-	7	HEM (c	OL	grease)	1664A				
(EDDs)																	% Mois	sture					_	



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 24, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-196

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 21, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on March 21, 2017 and received by the laboratory on March 21, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB1-10-GW					
Laboratory ID:	03-196-17					
Dichlorodifluoromethane	ND	0.28	EPA 8260C	3-3-17	3-22-17	
Chloromethane	ND	1.0	EPA 8260C	3-3-17	3-22-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromomethane	ND	0.31	EPA 8260C	3-3-17	3-22-17	
Chloroethane	ND	1.0	EPA 8260C	3-3-17	3-22-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Iodomethane	ND	1.4	EPA 8260C	3-3-17	3-22-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-3-17	3-22-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Chloroform	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Trichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Dibromomethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-3-17	3-22-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-3-17	3-22-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date		
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags	
Client ID:	UCCB1-10-GW						
Laboratory ID:	03-196-17						
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17		
Tetrachloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17		
Dibromochloromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-3-17	3-22-17		
Chlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17		
Bromoform	ND	1.0	EPA 8260C	3-3-17	3-22-17		
Bromobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17		
2-Chlorotoluene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
4-Chlorotoluene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-3-17	3-22-17		
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17		
Surrogate:	Percent Recovery	Control Limits					
Dibromofluoromethane	111	77-129					



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB1-25-GW					
Laboratory ID:	03-196-18					
Dichlorodifluoromethane	ND	0.28	EPA 8260C	3-3-17	3-22-17	
Chloromethane	ND	1.0	EPA 8260C	3-3-17	3-22-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromomethane	ND	0.31	EPA 8260C	3-3-17	3-22-17	
Chloroethane	ND	1.0	EPA 8260C	3-3-17	3-22-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
lodomethane	ND	1.4	EPA 8260C	3-3-17	3-22-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-3-17	3-22-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
(cis) 1,2-Dichloroethene	3.7	0.20	EPA 8260C	3-3-17	3-22-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Chloroform	0.43	0.20	EPA 8260C	3-3-17	3-22-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Trichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Dibromomethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-3-17	3-22-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-3-17	3-22-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB1-25-GW					
Laboratory ID:	03-196-18					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromoform	ND	1.0	EPA 8260C	3-3-17	3-22-17	
Bromobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-3-17	3-22-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	120	77-129				
Taluana de	OP	90 127				



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB1-37-GW					
Laboratory ID:	03-196-19					
Dichlorodifluoromethane	ND	0.28	EPA 8260C	3-3-17	3-22-17	
Chloromethane	ND	1.0	EPA 8260C	3-3-17	3-22-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromomethane	ND	0.31	EPA 8260C	3-3-17	3-22-17	
Chloroethane	ND	1.0	EPA 8260C	3-3-17	3-22-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
lodomethane	ND	1.4	EPA 8260C	3-3-17	3-22-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-3-17	3-22-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Chloroform	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Trichloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Dibromomethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-3-17	3-22-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-3-17	3-22-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB1-37-GW					
Laboratory ID:	03-196-19					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Bromoform	ND	1.0	EPA 8260C	3-3-17	3-22-17	
Bromobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-3-17	3-22-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-3-17	3-22-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-3-17	3-22-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	121	77-129				
Taluana de	100	90 127				



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
	Managari					
Laboratory ID:	MB0322W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloromethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Iodomethane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-22-17	3-22-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chloroform	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Trichloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromomethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-22-17	3-22-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
(mand, 1,0 Diomoroproporto	110	0.20	2.7.02000	0 22 11	0 22 11	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0322W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Bromoform	ND	1.0	EPA 8260C	3-22-17	3-22-17	
Bromobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-22-17	3-22-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-22-17	3-22-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-22-17	3-22-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	106	77-129				
Toluene-d8	101	80-127				

4-Bromofluorobenzene

80-125

91

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rece	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	22W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	11.5	11.2	10.0	10.0	115	112	63-127	3	17	
Benzene	11.0	11.1	10.0	10.0	110	111	76-121	1	12	
Trichloroethene	9.78	9.45	10.0	10.0	98	95	64-114	3	15	
Toluene	11.1	10.9	10.0	10.0	111	109	82-115	2	13	
Chlorobenzene	11.2	10.8	10.0	10.0	112	108	80-115	4	14	
Surrogate:										
Dibromofluoromethane					102	104	77-129			
Toluene-d8					101	100	80-127			
4-Bromofluorobenzene					95	98	80-125			

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trip Blank					
Laboratory ID:	03-196-27					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloromethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromomethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloroethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Iodomethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-23-17	3-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloroform	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Trichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Dibromomethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-23-17	3-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trip Blank					
Laboratory ID:	03-196-27					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromoform	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Bromobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dibromo-3-chloropropane	. ND	1.0	EPA 8260C	3-23-17	3-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	109	77-129				
Toluene-d8	99	80-127				

94

4-Bromofluorobenzene

80-125

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0323W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloromethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromomethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloroethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Iodomethane	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-23-17	3-23-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chloroform	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Trichloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Dibromomethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-23-17	3-23-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-23-17	3-23-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0323W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Bromoform	ND	1.0	EPA 8260C	3-23-17	3-23-17	
Bromobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-23-17	3-23-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2-Dibromo-3-chloropropane	. ND	1.0	EPA 8260C	3-23-17	3-23-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-23-17	3-23-17	
Surrogate:	Percent Recovery	Control Limits			_	
Dibromofluoromethane	103	77-129				
Toluene-d8	101	80-127				

4-Bromofluorobenzene

96

80-125

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rece	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	23W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	10.8	10.7	10.0	10.0	108	107	63-127	1	17	
Benzene	10.6	10.8	10.0	10.0	106	108	76-121	2	12	
Trichloroethene	9.81	9.43	10.0	10.0	98	94	64-114	4	15	
Toluene	11.1	10.9	10.0	10.0	111	109	82-115	2	13	
Chlorobenzene	11.0	10.5	10.0	10.0	110	105	80-115	5	14	
Surrogate:										
Dibromofluoromethane					101	110	77-129			
Toluene-d8					99	99	80-127			
4-Bromofluorobenzene					94	97	80-125			



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical ______.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Page of 3

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature	10 WBZ-25.5	9 WB2-23.0	8 00.02-21.0	7 weg- 18.05	6 WLB1-16.0	5 WG1 - 13.5	4 wast - 10.5	3 NUB1-8.0	2 1825-6,0	1 WUB1-3.0	Lab ID Sample Identification	Samples by Nicole Lamse	Sampled hir Jew My Sugar	Dispersional Project Manager LANGESTA HVDC S		Company: HWA GLOSCIEMES	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com
Reviewed/Date					1 08%	amon HWA	Company	4 9:35 4	9:32	9,25	9:22	9:15	8:15	8:06	7:57	7:50	32/17 7:48 501	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	3052 (in working days)
				9	3211 (1)ds	3/21/17 16/17/8	Date Time	4						4				NWTP NWTP NWTP Volatil Halogo	PH-HCI PH-Gx/ PH-Gx PH-Dx (es 826 enated	BTEX C Acid OC Volatile	1 / SG Cl			Laboratory Number:
Chromatograms with final report Electronic Data Deliverables (EDDs)	Data Package: Standard Level III Level IV					ALS SE LITERE MODER (X) G	Comments/Special Instructions	<									X	Semiv (with In PAHs PCBs Organ Organ Total In Total In TCLP	rolatiles ow-lev (8270D, 88282A) 8082A (8282A) ochlori ophosi oph	s 8270Eel PAH: /SIM (Id ine Pes phorus Acid He Wetals Metals		081B es 8270	D/SIM	



Page Z of

								1	-					-	-		-	La	0	0	ס ס	τ			
Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature	20 VCB5 - 60	19 ULBI-37- GN	8 DCCB1-25-GW	17 UCLB1-10-GW	6.04 - Tano 9	15 va 81 - 37.5	14 VCB1 - 35,0	3 VWB1-33.5	2 NUB1-31.0	1) ULBI-28.0	Lab ID Sample Identification	Divide K	Arme Sige	Project Name: ANEW SITE H	7-879-1002	HWR GeoSciences	Phone: (425) 883-3881 • www.onsite-env.com	14648 NE 95th Street • Redmond, WA 98052
						& Valin	. 1	3/2/	< -		3/21	←				-	3/21/1	on Sampled	anse	EWY	VOC SHE WAS			onsite-env.com	nd, WA 98052
Reviewed/Date				(SK S	HWA	Company	1 14:20 507 11	12:00 + +	10:35	17 9:00 GW 3	11/16 4 4	11/13	11:07	11:02	10:57	1 9:43 501) 1	Time Sampled Matrix	(other)	Contai	Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
		-			SSC) CINCS	3/21/17 17:55	Date Time		×	>	~							Number of Containers NWTPH-HCID NWTPH-Gx/BTEX NWTPH-Gx NWTPH-Dx (Acid / SG Clean-up) Volatiles 8260C Halogenated Volatiles 8260C EDB EPA 8011 (Waters Only)							Laboratory Number:
Chromatograms with final report [] Electronic Data Deliverables (EDDs	Data Package: Standard Level III Level IV	,					Comments/Special Instructions					<					×	(with PAHs PCBs Organ Organ Chlor Total TCLP	Semivolatiles 8270D/SIM (with low-level PAHs) PAHs 8270D/SIM (low-level) PCBs 8082A Organochlorine Pesticides 8081B Organophosphorus Pesticides 8270D/SIM Chlorinated Acid Herbicides 8151A Total RCRA Metals Total MTCA Metals TCLP Metals HEM (oil and grease) 1664A						00-1-00



Page 3 of 3

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished Walk	Signature		2) Trip Blank	2 00.65-21.0	2 WB-18,0	24 UCL B5 - 16.0	23 VCL95 - 13.0	2A 00.85-10.75	2) VCCBG-8,0	Lab ID Sample Identification	Sampled by NIZAL KAPISA	Arme Sugar	UHVA / GVEYSIZE HOC SITE	2007 - 098 - T2045			14648 NE 95th Street · Redmond, WA 98052
Reviewed/Date					380	TWA.	Company			V 15:48	15,24	1450 L	14:42	14:35	3/21/17 14:28 507	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
					53711111815	3211 17:55	Date Time		(X)							NWTF NWTF NWTF Volatil Halog	PH-Dx (les 826 enated	D BTEX Acid	d / SG Cl	;)		Laboratory Number:
Chromatograms with final report □ Electronic Data Deliverables (EDDs)	Data Package: Standard Level III					7	Comments/Special Instructions		***	<					×	Semiv (with I PAHs PCBs Organ Organ Chlori Total I Total I	rolatiles ow-leviles o	s 8270l el PAH /SIM (lo ine Pes phorus Acid He Wetals	s) ow-level) sticides 8 Pesticide erbicides	081B es 8270			



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 31, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-196B

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 21, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on March 21, 2017 and received by the laboratory on March 21, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB1-25.5					
Laboratory ID:	03-196-10					
Dichlorodifluoromethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	0.0048	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	0.0048	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Iodomethane	ND	0.0048	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	0.0048	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	0.0016	0.00096	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Chloroform	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	0.0048	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB1-25.5					
Laboratory ID:	03-196-10					
1,1,2-Trichloroethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	0.0048	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	0.0048	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.0048	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.00096	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	109	73-134				
Toluene-d8	110	81-124				
4-Bromofluorobenzene	103	80-131				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0330S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Iodomethane	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Chloroform	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0330S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	119	73-134				
Toluene-d8	110	81-124				
4-Bromofluorobenzene	109	80-131				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Soil Units: mg/kg

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	30S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0512	0.0556	0.0500	0.0500	102	111	66-127	8	15	
Benzene	0.0557	0.0587	0.0500	0.0500	111	117	76-122	5	15	
Trichloroethene	0.0556	0.0538	0.0500	0.0500	111	108	78-120	3	15	
Toluene	0.0587	0.0591	0.0500	0.0500	117	118	83-120	1	15	
Chlorobenzene	0.0558	0.0573	0.0500	0.0500	112	115	81-120	3	15	
Surrogate:										
Dibromofluoromethane					112	110	73-134			
Toluene-d8					106	107	81-124			
4-Bromofluorobenzene					104	107	80-131			

Project: 2007-098-T2045

% MOISTURE

Date Analyzed: 3-30-17

Client ID Lab ID % Moisture

UCCB1-25.5 03-196-10 12



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical ______.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Pa	
Page _	_
of	
(\mathcal{U}

						Ι_	T		-	0	00) _	-	100		1 1	101		La	0		ס ס	- 1			
	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Signature	10 wer- 25.5	1 Web 1 - 23.0	WW81-21.0) will - 18.05	6.01 - T8731 9	135 - 1350 Oct - 1350	1 0481-10,5	3 VUB1-8.0	July-60	VUB1-3.0	Lab ID Sample Identification	Sampled by: Night Kamso	Wind Solar	Wha Knewsto HVOC SAP	2007-098-72045	Company: HWA GLOSCIEMUS	Phone: (425) 883-3881 • www.onsite-env.com	14648 NE 95th Street • Redmond, WA 98052
	Reviewed/Date					350	HWA	Company	1 9:35 4 4	9:32 W	9.75	9.22	9:15	8:15	8:06 4	7:57	7:50	3/21/17 7:48 501 1	Date Time Sampled Sampled Matrix :	(other)		Standard (7 Days) TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
						25c1 cilias	3/21/17 12/2	Date Time											NWTP NWTP NWTP Volatile Haloge	H-HCII H-Gx/E H-Gx H-Dx (es 8260	☐ Acid	ers // SG Class 8260C)			Laboratory Number:
Chromatograms with final report L Electronic Data Deliverables (EDDs)		Data Package: Standard Level III Level IV				115 X	115 SE LITERE 100 PAY (X)	Comments/Special Instructions	4									>	Semivi (with le PAHs & PCBs Organo Organo Chlorir Total M TCLP I	olatiles bw-leve as 270D/ as 2	8270D el PAHs SIM (lo ne Pest phorus I acid Her Metals	/SIM	081B es 8270	D/SIM		



Page Z of

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature	20 00085-60	19 UCCB1-37-GW	18 UCCB1-25-GW	17 VCCB1-10-GW	16 vabz - 40:0	15 va 81 - 37.5	14 VCB1-35.0	13 NWB1 - 33.5	12 NUBL-31.0	1) ULBI-28.D	Lab ID Sample Identification	Sampled by: Niche Kanze	Arme Suger	Project Name: Utva/RNAVSite HVX SHR	7-870-1002-1	Company: HWA Geo Sciences		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date					Y Selection	HWA	Company	3/4/17 14:20 567 1	12:00 +	10:35	3/21/17 9:00 GW 3	4 11:16 4 4	11/13	11:07	11:02	10:57	3/21/17 9:43 501) 1	Date Time Sampled Sampled Matrix	(other)	Contain	Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
					S2C) CMCS	321/17 17:55	Date Time		×	>	~							NWTF NWTF Volatil Halog	PH-Dx (les 826 enated	BTEX Acid	d / SG CI es 8260C ters Only))		Laboratory Number:
Chromatograms with final report Electronic Data Deliverables (EDDs)	Data Package: Standard Level III Level IV						Comments/Special Instructions										×	Semiv (with I PAHs PCBs Organ Organ Chlori Total I Total I	rolatiles low-lev 8270D. 8082A nochlorinated / RCRA I	s 82701 el PAH /SIM (II)) (II /SIM (II	D/SIM is) ow-level) sticides 8 s Pesticides	081B es 8270 8151A			03-196



Page 3 of 3

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished Land	Signature		2) Trip blank	2 00.65-21.0	2 WB-18,0	24 UCB5-16.0	23 VCC 85 - 13.0	20 VUBS-10.75	21 100.85-8.0	Lab ID Sample Identification	Sampled by: With Kapise	Arme Sugar	Project Name: 1 Averside HOC Site	7007 - 098 - T2045	Project Number Seo Sciences	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date					380	1 AMA	Company			V 15:23 V	15:44	1450	14:42	1 14:35	3/21/17 14:28 507	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
					SSLI LINERS	25:11 11/25	Date Time		X)						NWTF NWTF NWTF Volati Halog	les 8260 enated	BTEX Acid	d / SG CI es 82600 ters Only))		Laboratory Number:
Chromatograms with final report Electronic Data Deliverables (EDDs)	Data Package: Standard Level III Level IV						Comments/Special Instructions		***						><	Semin (with PAHs PCBs Organ Chlord Total TCLP	volatiles low-leve 8270D/ 88082A nochlori nophose inated A RCRA M MTCA M	8270I el PAH: SIM (la SIM (la	D/SIM s) pw-level) sticides 8 Pesticides	081B es 8270 8151A			03-196



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 4, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-207

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 22, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Date of Report: April 4, 2017 Samples Submitted: March 22, 2017

Laboratory Reference: 1703-207 Project: 2007-098-T2045

Case Narrative

Samples were collected on March 22, 2017 and received by the laboratory on March 22, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260C (soil) Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB5-15-GW					
Laboratory ID:	03-207-11					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Iodomethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroform	1.1	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB5-15-GW					
Laboratory ID:	03-207-11					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.26	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.25	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	92	77-129				
Toluene-d8	110	80-127				
4-Bromofluorobenzene	108	80-125				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB5-32-GW					
Laboratory ID:	03-207-12					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Iodomethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroform	0.43	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB5-32-GW					
Laboratory ID:	03-207-12					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	4.2	0.20	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.26	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.25	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	93	77-129				
Toluene-d8	113	80-127				

Surrogate:	Percent Recovery	Control Limit
Dibromofluoromethane	93	77-129
Toluene-d8	113	80-127
4-Bromofluorobenzene	109	80-125



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB5-43-GW					
Laboratory ID:	03-207-13					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Iodomethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroform	1.6	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB5-43-GW					
Laboratory ID:	03-207-13					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	1.5	0.20	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.26	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.25	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	92	77-129				
Toluene-d8	111	80-127				

Surrogate:	Percent Recovery	Control Limit
Dibromofluoromethane	92	77-129
Toluene-d8	111	80-127
4-Bromofluorobenzene	109	80-125



Date of Report: April 4, 2017 Samples Submitted: March 22, 2017 Laboratory Reference: 1703-207 Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trip Blank					
Laboratory ID:	03-207-14					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
lodomethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroform	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trip Blank					
Laboratory ID:	03-207-14					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.26	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.25	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	90	77-129				
Toluene-d8	112	80-127				

Surrogate:	Percent Recovery	Control Limi
Dibromofluoromethane	90	77-129
Toluene-d8	112	80-127
4-Bromofluorobenzene	112	80-125



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Offits. ug/L				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0330W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
lodomethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroform	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0330W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.26	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.25	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	93	77-129				
Toluene-d8	108	80-127				

4-Bromofluorobenzene

80-125

109

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Water Units: ug/L

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rec	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	30W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	8.29	9.04	10.0	10.0	83	90	63-127	9	17	
Benzene	9.30	10.2	10.0	10.0	93	102	76-121	9	12	
Trichloroethene	8.64	9.71	10.0	10.0	86	97	64-120	12	15	
Toluene	10.1	11.4	10.0	10.0	101	114	82-120	12	13	
Chlorobenzene	9.28	10.2	10.0	10.0	93	102	80-120	9	14	
Surrogate:										
Dibromofluoromethane					94	91	77-129			
Toluene-d8					111	111	80-127			
4-Bromofluorobenzene					114	109	80-125			

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C Page 1 of 2

Matrix: Soil Units: mg/kg

ome. mg/ng				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB5-36.0					
Laboratory ID:	03-207-06					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Chloromethane	ND	0.0057	EPA 8260C	4-3-17	4-3-17	
Vinyl Chloride	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Bromomethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Chloroethane	ND	0.0057	EPA 8260C	4-3-17	4-3-17	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Iodomethane	ND	0.010	EPA 8260C	4-3-17	4-3-17	
Methylene Chloride	ND	0.0057	EPA 8260C	4-3-17	4-3-17	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Bromochloromethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Chloroform	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Trichloroethene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Dibromomethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Bromodichloromethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
2-Chloroethyl Vinyl Ether	ND	0.0057	EPA 8260C	4-3-17	4-3-17	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB5-36.0					
Laboratory ID:	03-207-06					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Tetrachloroethene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Dibromochloromethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Chlorobenzene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Bromoform	ND	0.0057	EPA 8260C	4-3-17	4-3-17	
Bromobenzene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
2-Chlorotoluene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
4-Chlorotoluene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
1,2-Dibromo-3-chloropropane	ND	0.0057	EPA 8260C	4-3-17	4-3-17	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Hexachlorobutadiene	ND	0.0057	EPA 8260C	4-3-17	4-3-17	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	4-3-17	4-3-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	73-134				
Toluene-d8	108	81-124				
4-Bromofluorobenzene	109	80-131				

Date of Report: April 4, 2017 Samples Submitted: March 22, 2017 Laboratory Reference: 1703-207 Project: 2007-098-T2045

> HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0403S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Chloromethane	ND	0.0050	EPA 8260C	4-3-17	4-3-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Bromomethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Chloroethane	ND	0.0050	EPA 8260C	4-3-17	4-3-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Iodomethane	ND	0.0091	EPA 8260C	4-3-17	4-3-17	
Methylene Chloride	ND	0.0050	EPA 8260C	4-3-17	4-3-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Bromochloromethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Chloroform	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Trichloroethene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Dibromomethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	4-3-17	4-3-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0403S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Chlorobenzene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Bromoform	ND	0.0050	EPA 8260C	4-3-17	4-3-17	
Bromobenzene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	4-3-17	4-3-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	4-3-17	4-3-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	4-3-17	4-3-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	95	73-134				
Toluene-d8	108	81-124				
4-Bromofluorobenzene	105	80-131				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Soil Units: mg/kg

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB04	03S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0517	0.0488	0.0500	0.0500	103	98	66-127	6	15	
Benzene	0.0546	0.0534	0.0500	0.0500	109	107	76-122	2	15	
Trichloroethene	0.0575	0.0548	0.0500	0.0500	115	110	78-120	5	15	
Toluene	0.0593	0.0563	0.0500	0.0500	119	113	83-120	5	15	
Chlorobenzene	0.0529	0.0489	0.0500	0.0500	106	98	81-120	8	15	
Surrogate:										
Dibromofluoromethane					94	98	73-134			
Toluene-d8					102	105	81-124			
4-Bromofluorobenzene					105	103	80-131			

Date of Report: April 4, 2017

Samples Submitted: March 22, 2017 Laboratory Reference: 1703-207

Project: 2007-098-T2045

% MOISTURE

Date Analyzed: 4-3-17

Client ID Lab ID % Moisture

UCCB5-36.0 03-207-06 20



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical _____.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

Page	
of	3

																				01		- 00				
паламал рака	Beviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished Missaull	Signature	10 00B5-45.5	9 UCCBS - 43.0	8 vass-40,0	7 UCC B5 - 38,0 ·	6 UCB5-36.0	S 0066-34.0	4 vabs-31.0	3 DCC165-28,0	2 NU 35 - 25.5	1 00035-23.5	Lab ID Sample Identification	NIGH KANSE	Arnie Digar	Project Manager: 1 CNUSIDE HVOI	2007-098-77045	Project Number	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
	Reviewed/Date	4				Onsta	HWA Conscience	Company	16:42	10:40	10:33	10:30	10:15	8:51	8:44	8:38	8:31	3/24/17 8-26 507 1	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
	-					3-22-17 1420	3-22-17	Date Time	4				9						NWTF NWTF NWTF NWTF	iles 826	ID 'BTEX (□ Acc	iners id / SG C		D)		Laboratory Number:
CHIOHATORIAN MITHER LEPORT Electronic para penyeranes (Food)]	Data Package: Standard Level III Level IV	A			OAdded 3/31/17.DS (STA)	(X) Added	Comments/Special Instructions											Semir (with PAHs PCBs Organ Chlor Total Total TCLF	volatile low-lev 8270E 8 8082/ nochlo nophos rinated RCRA MTCA	s 8270 yel PAH	(low-level) esticides { s Pesticides derbicides	8081B les 827		1	er: 03-207
(roos)	(EDDs) W						7													10000						



Chain of Custody

Page 2 of 2

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature		14 Trip Blank	13 VCCBS-43-GW	12 UCLB5-32-6W	11 UCB5-15-6W	Lab ID Sample Identification	Project Manager: AVINU SIGEN Sampled by: Sampled by:	2667 - 098 - T2045	1	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com
Reviewed/Date					Onsite	HWA Geosciences	Company		- GW 1	11/40 4 3	9:48	3/20/17 7:50 GW 3	Date Time berrix Number Sampled Sampled Matrix	(TPH analysis 5 Days)	2 Days Days	(Check One)	(in working days)
					3-22-17 1400	us 3-22-17 1400	Date Time		×	(S)	8	8	NWTPH-HC NWTPH-Gx NWTPH-Gx NWTPH-Dx Volatiles 820 Halogenated	/BTEX (Acid / SG 60C d Volatiles 826	0C)	Laboratory Number:
Chromatograms with final report Electronic Data Deliverables (EDDs)	Data Package: Standard Level III Level IV						Comments/Special Instructions						Semivolatile (with low-lev PAHs 8270L PCBs 8082/ Organochlo Organophos Chlorinated Total RCRA Total MTCA	O/SIM (low-level) A rine Pesticides sphorus Pestic Acid Herbicide Metals Metals	8081B ides 8270		er: 03-207



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 27, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-226

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 23, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on March 22, 2017 and received by the laboratory on March 23, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 27, 2017 Samples Submitted: March 23, 2017 Laboratory Reference: 1703-226 Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

Matrix: Water Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB9-18-GW					
Laboratory ID:	03-226-18					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chloromethane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromomethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chloroethane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Iodomethane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-24-17	3-24-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chloroform	1.2	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Trichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Dibromomethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-24-17	3-24-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB9-18-GW					
Laboratory ID:	03-226-18					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromoform	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Bromobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	120	77-129				
T / /0	400	00.407				

Toluene-d8 103 80-127 4-Bromofluorobenzene 95 80-125



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

Matrix: Water Units: ug/L

				Date	Date			
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags		
Client ID:	UCCB9-31-GW							
Laboratory ID:	03-226-19							
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Chloromethane	ND	1.0	EPA 8260C	3-24-17	3-24-17			
Vinyl Chloride	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Bromomethane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Chloroethane	ND	1.0	EPA 8260C	3-24-17	3-24-17			
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Iodomethane	ND	1.0	EPA 8260C	3-24-17	3-24-17			
Methylene Chloride	ND	1.0	EPA 8260C	3-24-17	3-24-17			
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17			
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Bromochloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Chloroform	0.74	0.20	EPA 8260C	3-24-17	3-24-17			
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-24-17	3-24-17			
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17			
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Trichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17			
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Dibromomethane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
Bromodichloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17			
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-24-17	3-24-17			
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17			
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17			

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB9-31-GW					
Laboratory ID:	03-226-19					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Tetrachloroethene	0.61	0.20	EPA 8260C	3-24-17	3-24-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromoform	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Bromobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	118	77-129				
Toluene-d8	99	80-127				

80-127 Toluene-d8 99 95 80-125 4-Bromofluorobenzene



Date of Report: March 27, 2017 Samples Submitted: March 23, 2017 Laboratory Reference: 1703-226 Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

Matrix: Water Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trip Blank					
Laboratory ID:	03-226-20					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chloromethane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromomethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chloroethane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Iodomethane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-24-17	3-24-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chloroform	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Trichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Dibromomethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-24-17	3-24-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trip Blank					
Laboratory ID:	03-226-20					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromoform	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Bromobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	112	77-129				

Toluene-d8 100 80-127 4-Bromofluorobenzene 94 80-125



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Matrix: Water Units: ug/L

omis. ug/L				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0324W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chloromethane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromomethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chloroethane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Iodomethane	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-24-17	3-24-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chloroform	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Trichloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Dibromomethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-24-17	3-24-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-24-17	3-24-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0324W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Bromoform	ND	1.0	EPA 8260C	3-24-17	3-24-17	
Bromobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-24-17	3-24-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2-Dibromo-3-chloropropane	e ND	1.0	EPA 8260C	3-24-17	3-24-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-24-17	3-24-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	105	77-129				
Toluene-d8	99	80-127				
4-Bromofluorobenzene	95	80-125				

Date of Report: March 27, 2017 Samples Submitted: March 23, 2017 Laboratory Reference: 1703-226 Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Water Units: ug/L

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	24W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	10.8	10.9	10.0	10.0	108	109	63-127	1	17	
Benzene	10.6	11.1	10.0	10.0	106	111	76-121	5	12	
Trichloroethene	9.78	9.60	10.0	10.0	98	96	64-120	2	15	
Toluene	11.0	11.1	10.0	10.0	110	111	82-120	1	13	
Chlorobenzene	10.8	10.9	10.0	10.0	108	109	80-120	1	14	
Surrogate:										
Dibromofluoromethane					103	108	<i>77-129</i>			
Toluene-d8					100	100	80-127			
4-Bromofluorobenzene					94	95	80-125			



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

Page
o

Reviewed/Date	Received	Relinquished	Received	Relinquished Ware Wyslal	Received Received	Relinquished	Signature	10 VCL 89 - 28:0	9 VWB9 - 26,0	8 UCB9-24,0	7 WB9-2010	6 VCC 89 - 18.0	S NOTES-1000	4 VUB9-13.0	3 NTB0-11.0	2 varb9-8.0	1 vub9-6.0	Lab ID Sample Identification	Sampled By: Nitole Ranse	Arme Sugar	Project Manager: Project Manager:	1 2	Company: HWA GeoSciences		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date				L SPEEDY	TO SPERDY	TWA.	Company	V 15:31 V V	15:26	15:20	14:15 4	14:09	14:05	14:00	13:55	13:51	362/17 13:45 Soil	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐	Data Package: Standard ☐ Level III ☐ Level IV ☐		325/17 1153	8-23-17 11:534	3-23-17 11:28A	3/23/17 11:28 am	Date Time Comments/Special Instructions										×	NWTF NWTF NWTF Volati Halog EDB E Semiv (with I PAHs Organ Chlori Total I TCLP	les 826i lenated EPA 80: low-leve 8270D/ 8082A loochlori loophosp inated / RCRA M MTCA M	D Acid Holders	d / SG CI les 82600 tters Only; D/SIM is) ow-level) sticides 8	081B		- 0	Laboratory Number: 03-226



Chain of Custody

9			
9			
ò			

Po	
Page N	
244	$\geq t$
of	1.
1	

% Moisture

Reviewed/Date	Received	Relinquished	Received	Relinquished Wast	Received Diane Wald	Relinquished Walk Land	Signature	20 Trip Blank	19 WUB9 - XX-31-GW	18 NGBG-18-6W	17 00099 - 45.25	16 VCB9 - 43.0	15 VWB9-41.0	14 JULBA - 38.5	13 UCB1-35.5	12 VCLBA - 33.0	1 Vaga - 30.5 31	Lab ID Sample Identification S	MILE Kapise	Sampled his Avnu Sugar	Project Manager: 1 2 Nex Side HVOC Site	07.	Project Number: Project Number:	Company:	14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date		(SPERDY	SPEERY	TWA.	Company	米平 一 と 一	16:20 3	15:00 GW 3	17:10 4 1	17:03 4	16:55	16:50	16.45 4	15:50	3/20/17 15:37 Soi) 1	Date Time Sampled Sampled Matrix	(other)	Contai	Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
			3/23/h 1153	8-23-17 11:53A	22211 11220	3/23/17 11:2800	Date Time	<u> </u>	×	×								NWTF NWTF Volati Halog	iles 826 genated	BTEX (Aci	d / SG Cl	;))		Laboratory Number:
Chromatograms with final report [] Electronic Data Deliverables (EDDs) [Data Package: Standard ☐ Level III ☐ Level IV ☐						Comments/Special Instructions				<						×	(with PAHs PCBs Organ Organ Chlori Total I TCLP	s 8082A nochlor nophos inated RCRA I MTCA	el PAH //SIM (II	ow-level) sticides 8 Pesticides erbicides	es 8270			027-60



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 3, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-226B

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 23, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on March 22, 2017 and received by the laboratory on March 23, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB9-35.5					
Laboratory ID:	03-226-13					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Chloromethane	ND	0.0059	EPA 8260C	3-31-17	3-31-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromomethane	ND	0.0019	EPA 8260C	3-31-17	3-31-17	
Chloroethane	ND	0.0059	EPA 8260C	3-31-17	3-31-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Iodomethane	ND	0.014	EPA 8260C	3-31-17	3-31-17	
Methylene Chloride	ND	0.0059	EPA 8260C	3-31-17	3-31-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromochloromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Chloroform	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Trichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Dibromomethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
2-Chloroethyl Vinyl Ether	ND	0.0059	EPA 8260C	3-31-17	3-31-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	

Date of Report: April 3, 2017 Samples Submitted: March 23, 2017 Laboratory Reference: 1703-226B Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB9-35.5					
Laboratory ID:	03-226-13					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Tetrachloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Chlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromoform	ND	0.0059	EPA 8260C	3-31-17	3-31-17	
Bromobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromo-3-chloropropane	ND	0.0059	EPA 8260C	3-31-17	3-31-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Hexachlorobutadiene	ND	0.0059	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Surrogate:	Percent Recovery	Control Limits	·			
Dibromofluoromethane	97	73-134				
Toluene-d8	109	81-124				

4-Bromofluorobenzene

80-131

108

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0331S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Chloromethane	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromomethane	ND	0.0016	EPA 8260C	3-31-17	3-31-17	
Chloroethane	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Iodomethane	ND	0.012	EPA 8260C	3-31-17	3-31-17	
Methylene Chloride	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromochloromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Chloroform	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Trichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Dibromomethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0331S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Chlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromoform	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
Bromobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	94	73-134				
Toluene-d8	108	81-124				
4-Bromofluorobenzene	108	80-131				

Date of Report: April 3, 2017 Samples Submitted: March 23, 2017 Laboratory Reference: 1703-226B Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Soil Units: mg/kg

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	31S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0526	0.0468	0.0500	0.0500	105	94	66-127	12	15	
Benzene	0.0562	0.0511	0.0500	0.0500	112	102	76-122	10	15	
Trichloroethene	0.0577	0.0533	0.0500	0.0500	115	107	78-120	8	15	
Toluene	0.0599	0.0550	0.0500	0.0500	120	110	83-120	9	15	
Chlorobenzene	0.0531	0.0499	0.0500	0.0500	106	100	81-120	6	15	
Surrogate:										
Dibromofluoromethane					93	93	73-134			
Toluene-d8					104	104	81-124			
4-Bromofluorobenzene					106	106	80-131			

Date of Report: April 3, 2017

Samples Submitted: March 23, 2017 Laboratory Reference: 1703-226B Project: 2007-098-T2045

% MOISTURE

Date Analyzed: 3-30-17

Client ID Lab ID % Moisture

UCCB9-35.5 03-226-13 21



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

Page of 2

Reviewed/Date	Received	Relinquished	Received	Relinquished Ware Wale	Received Reme X sh	Relinquished	Signature	10 vas -23.0	9 VUB9 - 26.0	8 UCB9-24,0	7 WB9-2010	0.81-1820	5 VCCB9-16,0	4 VWB9-13.D	3 WLB9-11.0	2 vacb9-8.0	1 vub9-6.0	Lab ID Sample Identification	Sampled by: NiTOLE Panse	Armie Sigar	Project Manager: Liveriside HVOC Size		Periset Number:		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date				L SPEEDY	U SPERDY	TWA	Company	V 15:31 V V	15:26	15:20	14:15 4	14:09	14:05	14:00	13:55	13:51	3/2/17 13:45 507	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
			423/n 1153	8-23-17 11:534	3-23-17 11:28A	3/23/17 11:28av	Date Time											NWTF NWTF NWTF Volatil Haloge	PH-Dx () les 8260 enated	BTEX Acid	d / SG Cle es 8260C				Laboratory Number:
Chromatograms with final report Electronic Data Deliverables (EDDs)	Data Package: Standard ☐ Level III ☐ Level IV ☐				1	(@Added 3/30/17. DB (STA)	Comments/Special Instructions										×	EDB EPA 8011 (Waters Only) Semivolatiles 8270D/SIM (with low-level PAHs) PAHs 8270D/SIM (low-level) PCBs 8082A Organochlorine Pesticides 8081B Organophosphorus Pesticides 8270D Chlorinated Acid Herbicides 8151A Total RCRA Metals Total MTCA Metals TCLP Metals HEM (oil and grease) 1664A					D/SIM		03-226



Chain of Custody

Page #2 of 2

Reviewed/Date Revi	Received	Relinquished	Received	Relinquished Walst S	Received Diane Waled e	Relinquished \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Signature Company	6 Trip Bland * -	-	18 NGB-18-6W	VCC-45.75	16 VCCB9 - 43.0	15 NMB-41.0	14 JULBA - 38:5 IL		12 VCLBG - 33.0	11 1/2639-30.5	Lab ID Sample Identification Sampled S	VILLE KEDISE	Experience Avinus Sugar	Project Manager: 1 CIVEYSICO WOC SIR ASTANDARD	2007 - 098 - T2045 = 2 Days	Brokest Number See Scilmes same Day	Prione: (425) 883-388 • www.onsite-env.com
Reviewed/Date		(0872 Sh3/h 11:	PEEDY 8-23-17 11:5	speedy and 11:	TWA 323/17 11:	Date Tim	\ =	6:20 3	15:00 GW 3	17:10 4	7:03 4	16:55	16:50	6.4	15:50	15:37 San 1	NWTF NWTF NWTF Volati	les 826	BTEX	d / SG CI		1 Day	(Check One)
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐	Data Package: Standard ☐ Level III ☐ Level IV ☐		\$:53A	728A	:28ep	Comments/Special Instructions				4							EDB I Semin (with PAHs PCBs Organ Organ Chlor Total Total TCLP	EPA 80 volatilet low-lev 8270D 8270D 8082A mochlor mophos inated MTCA Metals (oil anc	111 (Was 8270) s 8270) el PAH in Periode Panel in Periode	s) ow-level) sticides 8 Pesticides erbicides	081B		



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 28, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-244

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 24, 2017.

Please note that this is a *revised* report, and replaces the original due to a revision of the sample identification for sample UCCB9-31-GW, which was changed to UCCB9-41-GW.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely.

David Baumeister Project Manager

Enclosures

Project: 2007-098-T2045

Case Narrative

Samples were collected on March 23, 2017 and received by the laboratory on March 24, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB9-41-GW					
Laboratory ID:	03-244-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	5.7	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	0.23	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB9-41-GW					
Laboratory ID:	03-244-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	77-129				
Taluana de	110	90 127				



HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB6-9-GW					
Laboratory ID:	03-244-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB6-9-GW					
Laboratory ID:	03-244-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	95	77-129				
Talyana do	110	00 107				



HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB6-22-GW					
Laboratory ID:	03-244-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	1.4	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB6-22-GW					
Laboratory ID:	03-244-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	77-129				
Talyana do	111	00 107				



HALOGENATED VOLATILES EPA 8260C

page 1 of 2

	Result	PQL	Method	Date	Date	
Analyte				Prepared	Analyzed	Flags
Client ID:	UCCB6-36-GW					
Laboratory ID:	03-244-07					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	1.8	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB6-36-GW					
Laboratory ID:	03-244-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	99	77-129				
Taluana de	111	00 127				

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB7-17-GW					
Laboratory ID:	03-244-11					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	0.27	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

HALOGENATED VOLATILES EPA 8260C

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB7-17-GW					
Laboratory ID:	03-244-11					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	77-129				
Toluene-d8	112	80-127				



HALOGENATED VOLATILES EPA 8260C

page 1 of 2

	Result	PQL	Method	Date	Date	
Analyte				Prepared	Analyzed	Flags
Client ID:	UCCB7-28-GW					
Laboratory ID:	03-244-12					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	2.3	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB7-28-GW					
Laboratory ID:	03-244-12					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	95	77-129				
Taluana de	107	90 127				



HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB7-38-GW					
Laboratory ID:	03-244-13					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	2.1	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

HALOGENATED VOLATILES EPA 8260C

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB7-38-GW					
Laboratory ID:	03-244-13					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	101	77-129				

Surrogate:	Percent Recovery	Control Limit
Dibromofluoromethane	101	77-129
Toluene-d8	110	80-127
4-Bromofluorobenzene	112	80-125



HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DUP 1					
Laboratory ID:	03-244-14					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	1.6	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DUP 1					
Laboratory ID:	03-244-14					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	98	77-129				
Toluene-d8	113	80-127				

4-Bromofluorobenzene

110

80-125

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	TRIP BLANK					
Laboratory ID:	03-244-15					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	TRIP BLANK					
Laboratory ID:	03-244-15					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits		_	_	•
Dibromofluoromethane	97	77-129				
Toluene-d8	111	80-127				

80-127 Toluene-d8 111 109 80-125 4-Bromofluorobenzene



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Offits. ug/L				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0327W2					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
						_
Laboratory ID:	MB0327W2					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.4	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	96	77-129				
Toluene-d8	113	80-127				
4-Bromofluorobenzene	111	80-125				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	Result		Level	Reco	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	27W2								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	9.09	9.93	10.0	10.0	91	99	63-127	9	17	
Benzene	9.90	10.8	10.0	10.0	99	108	76-121	9	12	
Trichloroethene	9.37	9.91	10.0	10.0	94	99	64-120	6	15	
Toluene	10.9	11.5	10.0	10.0	109	115	82-120	5	13	
Chlorobenzene	10.0	10.8	10.0	10.0	100	108	80-120	8	14	
Surrogate:										
Dibromofluoromethane					97	96	<i>77-129</i>			
Toluene-d8					111	107	80-127			
4-Bromofluorobenzene					111	109	80-125			



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody Turnaround Request

^

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature	10 10007-39.0	3 05-1920 5	8 0487-20.	7 VCC 156-36-	6 VCB6-22-1	5 WLB6-9-1-	89-9970 h	3 VUB6-25.5	2 VCCB10-110	1 VCB9-37-6	Lab ID Sample Identification	Sampled by: Wicel	Ame	Project Name: Ultra / Drurs			
				Dire Wiele	iro Walst	Cole Vali	an an	0	20	0	GW	W	GW	8.0	5		CW 3/23		lahse	Sugar	ando HUBC X	2045	Sciences	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com
Reviewed/Date			ale -	1 SPEEDY	SPEEDY	HWA	Company	17:30 4 4	17:15	16:20 Soil 4	13:53 V 3	11:25 3	10:34 GW 3	12:45	11/01	9:36 507 4	13/17 4:35 GW 3	Date Time Sampled Sampled Sampled Matrix	(other)	Contain	Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(in working days) (Check One)
			Shalls (III)	824-17 11AM	3-24-17 10:35A	3/24/17 10:35a	Date Time			8	×	×	×		8		×	NWTF NWTF NWTF Volatil Haloge	PH-HCI PH-Gx/PH-Gx PH-Dx (es 826 enated	D BTEX Acid	d / SG Cl)		Laboratory Number:
Chromatograms with final report	Data Package: Standard				,	3	Comments/Special Instructions											Semiv (with I PAHs PCBs Organ	volatiles ow-lev 8270D, 8082A ochlori	s 82700 el PAHs /SIM (la	D/SIM	081B es 8270		03-244
eport 🗌 Electronic Data Deliverables (EDDs) 🗸	Level III Level IV					Added 3/30/17. DB (STA)	ions	><	~	*	**			~	*	×		Total F	RCRA I	Metals) 1664A			



Chain of Custody

Page 2 of 2

Reviewed/Date	Received	Relinquished	Received	Relinquished Way Halia	Received Nick Mycled	Relinquished WT W Last	Signature			15 THE BLANK	14 DUP 1	13 UCB7-38-GW	12 VCCB7-28-GW	11 DCB7-17-GW	Lab ID Sample Identification	Sampled by: NiTable Kanse	Arme Sugar	Project Manager: 4 RNEVSITE HOC	2007-098-72045	HWH (ROSCIMOS	Company 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2	Analytical Laboratory Testing Services 14648 NE 95th Street * Redmond, WA 98052
Reviewed/Date		8		SPEEDY	2 SPEEDY	TWA	Company				11:30	7:52	16:58	323/17 16:05 GW	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	☐ 2 Days ☐ 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
			3/24/12 LUD	824-17 /14M	324-17 10:35	3/24/17 10:35 gru	Date Time			×				\(\sigma\)	NWTF NWTF NWTF Volatil	les 8260 enated	BTEX Acid	d / SG Cli es 82600	;)		Laboratory Number:
Chromatograms with final report Electronic Data Deliverables (EDDs)	Data Package: Standard Level III Level IV						Comments/Special Instructions								EDB EPA 8011 (Waters Only) Semivolatiles 8270D/SIM (with low-level PAHs) PAHs 8270D/SIM (low-level) PCBs 8082A Organochlorine Pesticides 8081B Organophosphorus Pesticides 8270D/SIM Chlorinated Acid Herbicides 8151A Total RCRA Metals Total MTCA Metals TCLP Metals HEM (oil and grease) 1664A				03-244			



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 3, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-244B

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 24, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on March 23, 2017 and received by the laboratory on March 24, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB6-25.5					
Laboratory ID:	03-244-03					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Chloromethane	ND	0.0062	EPA 8260C	3-31-17	3-31-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromomethane	ND	0.0020	EPA 8260C	3-31-17	3-31-17	
Chloroethane	ND	0.0062	EPA 8260C	3-31-17	3-31-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Iodomethane	ND	0.015	EPA 8260C	3-31-17	3-31-17	
Methylene Chloride	ND	0.0062	EPA 8260C	3-31-17	3-31-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromochloromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Chloroform	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Trichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Dibromomethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
2-Chloroethyl Vinyl Ether	ND	0.0062	EPA 8260C	3-31-17	3-31-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB6-25.5					
Laboratory ID:	03-244-03					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Tetrachloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Chlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromoform	ND	0.0062	EPA 8260C	3-31-17	3-31-17	
Bromobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromo-3-chloropropane	ND	0.0062	EPA 8260C	3-31-17	3-31-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Hexachlorobutadiene	ND	0.0062	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	95	73-134				
Toluene-d8	108	81-124				

4-Bromofluorobenzene

106

80-131

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

Matrix: Soil Units: mg/kg

ome. mg/ng				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB7-20.0					
Laboratory ID:	03-244-08					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Chloromethane	ND	0.0061	EPA 8260C	3-31-17	3-31-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromomethane	ND	0.0019	EPA 8260C	3-31-17	3-31-17	
Chloroethane	ND	0.0061	EPA 8260C	3-31-17	3-31-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Iodomethane	ND	0.015	EPA 8260C	3-31-17	3-31-17	
Methylene Chloride	ND	0.0061	EPA 8260C	3-31-17	3-31-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromochloromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Chloroform	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Trichloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Dibromomethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
2-Chloroethyl Vinyl Ether	ND	0.0061	EPA 8260C	3-31-17	3-31-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	

HALOGENATED VOLATILES EPA 8260C

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB7-20.0					
Laboratory ID:	03-244-08					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Tetrachloroethene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Chlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Bromoform	ND	0.0061	EPA 8260C	3-31-17	3-31-17	
Bromobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromo-3-chloropropane	ND	0.0061	EPA 8260C	3-31-17	3-31-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Hexachlorobutadiene	ND	0.0061	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	3-31-17	3-31-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	100	73-134				
Toluene-d8	114	81-124				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Matrix: Soil Units: mg/kg

Offits. Hig/kg				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0331S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Chloromethane	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromomethane	ND	0.0016	EPA 8260C	3-31-17	3-31-17	
Chloroethane	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Iodomethane	ND	0.012	EPA 8260C	3-31-17	3-31-17	
Methylene Chloride	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromochloromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Chloroform	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Trichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Dibromomethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0331S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Chlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromoform	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
Bromobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	94	73-134				
Toluene-d8	108	81-124				
4-Bromofluorobenzene	108	80-131				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Soil Units: mg/kg

					Per	cent	Recovery		RPD	
Analyte	Result		Spike Level		Recovery		Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	31S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0526	0.0468	0.0500	0.0500	105	94	66-127	12	15	
Benzene	0.0562	0.0511	0.0500	0.0500	112	102	76-122	10	15	
Trichloroethene	0.0577	0.0533	0.0500	0.0500	115	107	78-120	8	15	
Toluene	0.0599	0.0550	0.0500	0.0500	120	110	83-120	9	15	
Chlorobenzene	0.0531	0.0499	0.0500	0.0500	106	100	81-120	6	15	
Surrogate:										
Dibromofluoromethane					93	93	73-134			
Toluene-d8					104	104	81-124			
4-Bromofluorobenzene					106	106	80-131			

Date of Report: April 3, 2017

Samples Submitted: March 24, 2017 Laboratory Reference: 1703-244B Project: 2007-098-T2045

% MOISTURE

Date Analyzed: 3-30-17

Client ID	Lab ID	% Moisture		
UCCB6-25.5	03-244-03	21		
UCCB7-20.0	03-244-08	18		



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

Page 1 of 2

						T						T	1			1					T -			1
Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature	10 VCCB7-3	3 UCCB7-30	8 UCB7-20.) vab- 36-	6 VCC B6-2:	5 WB6-9	G-9970 h	3 VUB6-2	2 vccB10-11	1 VCB9-34-	Lab ID Sample	Sampled by: Wicel	Ame	Project Name: UHA 12VL	1007-098-	Company: HWA Seo	
			C & A V	Vous Nich	Mrs Halall	John Vali	ature	39,0	20,5	Ö	o-GW	22-GW	-CW	8.0	25.5	10	C.X.	Sample Identification	Kahise	Sugar	rade Hucc	72045	oSciences	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com
Reviewed/Date			SE	Cy SREDY	2 SPEEDY	HWA	Company	V 17:30 V	17:15	16:20 5017	13:53 V	11:25	10:34 GW	12:45	11/01	9:36 507	3/23/17 4:35 GW	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(in working days)
			Straft Clark	WALL 61-40-8	3-24-17 10:35A	3/24/17 10:35	Date Time			8	₩ ×	<i>γ</i>	<u></u>		8	4	× (0)	NWTP NWTP NWTP Volatil	PH-Dx (D BTEX	ers 1/ SG CI es 82600			Laboratory Number:
Chromatograms with final report	Data Package: Standard			23	4	5am & Added 3/	Comments/Special Instructions											Semiv (with le PAHs in PCBs Organi	olatiles ow-leve 8270D/ 8082A ochlori	8270E el PAHs 'SIM (la ne Pes		081B es 8270	D/SIM	er: U3-244
eport ☐ Electronic Data Deliverables (EDDs)	Level III 🗆 Level IV 🗆					Added 3/30/17. DB (STA)	ons	>>	~	7	\$			~	*	×		Total F Total N TCLP	MTCA M	/letals) 1664A	3.01A		
Ds)	•									8					0			% Mai	oturo					



Chain of Custody

Page 2 of 2

s with final report Electronic Data Del		Reviewed/Date	Reviewed/Date
Data Package: Standard ✓ Level III ☐ Level IV ☐			Received
		9	Relinquished
	3/24/17/100	1	Received
	824-17/11AM	SPEEDY	Relinquished Wan Hjalat
	324-17 10:35	2 SPEEDY	Received Wine Nicht
	3/24/17 10:35 and	1 FUA	Relinquished \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Comments/Special Instructions	Date Time	Company	Signature
	~		15 MAD BLANK
	~	V 11:30 V	14 DUP 1
		7:52	13 UCB7-38-GW
		16:58	12 UCCB7-28-GW
	N	3/2/17 16:05 GW	11 DCCB7-17-GW
(with II PAHs PCBs Organ Organ Chlori Total F Total N TCLP	NWTP NWTP NWTP Volatil Haloge	Date Time Sampled Sampled Matrix	Lab ID Sample Identification
8082A nochlori nophosi nated / RCRA I WTCA I	PH-Dx (les 826 enated	(other)	sampled by: Vitable Lange
el PAH /SIM (Id /SIM	D BTEX Acid		Arme Sugar
s) pw-level) sticides 80 Pesticides erbicides	d / SG Clo	Standard (7 Days) (TPH analysis 5 Days)	Project Name: 1/2 / Crewsite HOC
081B es 8270	;	2 Days 3 Days	7007-098-T2045
)	Same Day 1 Day	Company HWA (Rosciences
		(Check One)	Phone: (425) 883-3881 • www.onsite-env.com
03-244	Laboratory Number:	Turnaround Request (in working days)	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 28, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-245

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 24, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on March 24, 2017 and received by the laboratory on March 24, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

Matrix: Water Units: ug/L

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
UCCB3-4-GW					
03-245-04					
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	1.0	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	1.0	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	1.0	EPA 8260C	3-27-17	3-27-17	
ND	1.0	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	2.0	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
ND	0.20	EPA 8260C	3-27-17	3-27-17	
	UCCB3-4-GW 03-245-04 ND	UCCB3-4-GW 03-245-04 ND 0.20 ND 1.0 ND 0.20 ND 0.20 ND 1.0 ND 0.20 ND 1.0 ND 1.0 ND 0.20 ND 0.20	UCCB3-4-GW 03-245-04 0.20 EPA 8260C ND 1.0 EPA 8260C ND 0.20 EPA 8260C ND 0.20 EPA 8260C ND 1.0 EPA 8260C ND 0.20 EPA 8260C ND 0.20 EPA 8260C ND 1.0 EPA 8260C ND 1.0 EPA 8260C ND 1.0 EPA 8260C ND 0.20 EPA 8260C ND 0.20 </td <td>Result PQL Method Prepared UCCB3-4-GW 03-245-04 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 1.0 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 1.0 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 1.0 EPA 8260C 3-27-17 ND 1.0 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND<td>Result PQL Method Prepared Analyzed UCCB3-4-GW 03-245-04 Sepa 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 1.0 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 1.0 EPA 8260C 3-27-17 3-27-17 ND 1.0 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3</td></td>	Result PQL Method Prepared UCCB3-4-GW 03-245-04 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 1.0 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 1.0 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND 1.0 EPA 8260C 3-27-17 ND 1.0 EPA 8260C 3-27-17 ND 0.20 EPA 8260C 3-27-17 ND <td>Result PQL Method Prepared Analyzed UCCB3-4-GW 03-245-04 Sepa 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 1.0 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 1.0 EPA 8260C 3-27-17 3-27-17 ND 1.0 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3</td>	Result PQL Method Prepared Analyzed UCCB3-4-GW 03-245-04 Sepa 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 1.0 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 1.0 EPA 8260C 3-27-17 3-27-17 ND 1.0 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3-27-17 ND 0.20 EPA 8260C 3-27-17 3

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB3-4-GW					
Laboratory ID:	03-245-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	120	77-129				

Toluene-d8 99 80-127 4-Bromofluorobenzene 80-125 94



Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

Matrix: Water Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB3-27-GW					
Laboratory ID:	03-245-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Iodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB3-27-GW					
Laboratory ID:	03-245-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	4.1	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	117	77-129				
Toluene-d8	100	80-127				

Surrogate:	Percent Recovery	Control Limit
Dibromofluoromethane	117	77-129
Toluene-d8	100	80-127
4-Bromofluorobenzene	93	80-125



HALOGENATED VOLATILES EPA 8260C page 1 of 2

Matrix: Water Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB3-38-GW					
Laboratory ID:	03-245-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
lodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB3-38-GW					
Laboratory ID:	03-245-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	0.45	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	118	77-129				
Toluene-d8	100	80-127				

4-Bromofluorobenzene

80-125

91

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

Matrix: Water Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	TRIP BLANK					
Laboratory ID:	03-245-07					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
lodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	TRIP BLANK					
Laboratory ID:	03-245-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	115	77-129				
Toluene-d8	102	80-127				

4-Bromofluorobenzene

80-125

94

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Matrix: Water Units: ug/L

Offics. ug/L				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0327W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloromethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
lodomethane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-27-17	3-27-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chloroform	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Trichloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromomethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chloroethyl Vinyl Ether	ND	2.0	EPA 8260C	3-27-17	3-27-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
, , ,				-	-	

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0327W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Bromoform	ND	1.0	EPA 8260C	3-27-17	3-27-17	
Bromobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-27-17	3-27-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-27-17	3-27-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-27-17	3-27-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	117	77-129				
Toluene-d8	101	80-127				
4-Bromofluorobenzene	94	80-125				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Water Units: ug/L

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rece	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB032	27W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	10.9	10.6	10.0	10.0	109	106	63-127	3	17	
Benzene	10.7	10.6	10.0	10.0	107	106	76-121	1	12	
Trichloroethene	9.90	9.58	10.0	10.0	99	96	64-120	3	15	
Toluene	10.9	10.9	10.0	10.0	109	109	82-120	0	13	
Chlorobenzene	10.6	10.5	10.0	10.0	106	105	80-120	1	14	
Surrogate:										
Dibromofluoromethane					111	107	77-129			
Toluene-d8					99	98	80-127			
4-Bromofluorobenzene					95	94	80-125			



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical _____.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custon

	6	=		
	8	_		
	-	14	_	
		B	7	
	à	_	-	
	- 5	Ξ	4	г
	C		3	
	3	9	2	
	- C		7	
		-	-	-
J	ba	ø	-	
	_	9		

Page_

今

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Signature		7 Trip Blank	6 UCL 63 - 38 - GW	5 UCB3-27-GW	4 UCCB3- 4-GW	3 VCB3-39.0	2 100.63 - 32.5	1 VCB3-5,0	ab ID Sample Identification	Dicou Kanese	Armie Jugar	Project Manager: Reversible HVOC Site	1007-098- 12045	Project Number. HWA GEOSCIEMCES	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Revie							Company			+	1	9	12	1	3/24/17 9	Date Sampled Sa			Standard (7 Days)	2 Days	Same Day	(Che	Turnaro (in wo
Reviewed/Date			88	208gc	Sport	HWA HWA	пу			12:45	1:30	9:00 GW	12:27	12:05	9:25 551	Time Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	3 Days	1 Day	(Check One)	Turnaround Request (in working days)
			M							-	W	S	-		ナ	Ī	ber of (ners				
			3/24	3,2	3.24	3/24	Date									NWTF	PH-HCI PH-Gx/ PH-Gx						Laboratory Nur
			471	Ī	Ĭ	7										NWTF	PH-Dx	(Aci	d / SG Cl	ean-up)		ory I
			/33c	1330	13/8	1300	Time		*	×	×	×				Halog		Volati	les 8260C				Number:
Chr	Dat		0			1	Col									Semi	volatile:	s 8270	D/SIM			1	
Chromatograms with final report	Data Package:						Comments/Special Instructions												ow-level)				S
grams	(age:						s/Spe										8082A						2
with	Standard						cial In	-	_				_				-		sticides 80	_			
final r	15-39				1		struct	-	-										Pesticides erbicides		ar som miner	_	U
eport							ions										RCRA I			0151A			
	Level III																MTCA					-	
ectror																	Metals	22.22 6.00.000					
iic Data	Level IV															HEM	(oil and	greas	e) 1664A				
Electronic Data Deliverables (EDDs)						54															91		
rables								-															
(EDD;								-															
(s								-								0/ 1/-	int. wa						



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 3, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1703-245B

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 24, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on March 24, 2017 and received by the laboratory on March 24, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB3-32.5					
Laboratory ID:	03-245-02					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Chloromethane	ND	0.0055	EPA 8260C	3-31-17	3-31-17	
Vinyl Chloride	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Bromomethane	ND	0.0018	EPA 8260C	3-31-17	3-31-17	
Chloroethane	ND	0.0055	EPA 8260C	3-31-17	3-31-17	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Iodomethane	ND	0.013	EPA 8260C	3-31-17	3-31-17	
Methylene Chloride	ND	0.0055	EPA 8260C	3-31-17	3-31-17	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Bromochloromethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Chloroform	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Trichloroethene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Dibromomethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Bromodichloromethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
2-Chloroethyl Vinyl Ether	ND	0.0055	EPA 8260C	3-31-17	3-31-17	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

Analyte Result PQL Method Prepared Analyzed Flags Client ID: UCCB3-32.5 UCCB3-31.7 3-31-17					Date	Date	
Laboratory ID: 03-245-02	Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
1,1,2-Trichloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Tetrachloroethene 0.0015 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dibromoethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromoethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromoethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,2-Tetrachloroethane ND 0.0055 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropopane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011	Client ID:	UCCB3-32.5					
Tetrachloroethene 0.0015 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Dibromochloromethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromoethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,1,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromoform ND 0.0055 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260	Laboratory ID:	03-245-02					
1,3-Dichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Dibromochloromethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromoethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,1,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromoform ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C	1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Dibromochloromethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromoethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,1,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,1,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromoform ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EP	Tetrachloroethene	0.0015	0.0011	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromoethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Chlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,1,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromoform ND 0.0055 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromo-3-chloropropane ND 0.0055 EPA 8	1,3-Dichloropropane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Chlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,1,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromoform ND 0.0055 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromo-3-chloropropane ND 0.0055 EPA	Dibromochloromethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,1,1,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 Bromoform ND 0.0055 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0055 <td< td=""><td>1,2-Dibromoethane</td><td>ND</td><td>0.0011</td><td>EPA 8260C</td><td>3-31-17</td><td>3-31-17</td><td></td></td<>	1,2-Dibromoethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Bromoform ND 0.0055 EPA 8260C 3-31-17 3-31-17 Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EP	Chlorobenzene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Bromobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011	1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,1,2,2-Tetrachloroethane ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits	Bromoform	ND	0.0055	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichloropropane ND 0.0011 EPA 8260C 3-31-17 3-31-17 2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromo-3-chloropropane ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Hexachlorobutadiene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits	Bromobenzene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
2-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromo-3-chloropropane ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Hexachlorobutadiene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits	1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
4-Chlorotoluene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromo-3-chloropropane ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Hexachlorobutadiene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits Control Limits	1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,3-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromo-3-chloropropane ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Hexachlorobutadiene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits	2-Chlorotoluene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,4-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromo-3-chloropropane ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Hexachlorobutadiene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits	4-Chlorotoluene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,2-Dichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 1,2-Dibromo-3-chloropropane ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Hexachlorobutadiene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits	1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromo-3-chloropropane ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Hexachlorobutadiene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits	1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
1,2,4-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Hexachlorobutadiene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits	1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Hexachlorobutadiene ND 0.0055 EPA 8260C 3-31-17 3-31-17 1,2,3-Trichlorobenzene ND 0.0011 EPA 8260C 3-31-17 3-31-17 Surrogate: Percent Recovery Control Limits	1,2-Dibromo-3-chloropropane	ND	0.0055	EPA 8260C	3-31-17	3-31-17	
1,2,3-TrichlorobenzeneND0.0011EPA 8260C3-31-173-31-17Surrogate:Percent Recovery Control Limits	1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Surrogate: Percent Recovery Control Limits	Hexachlorobutadiene	ND	0.0055	EPA 8260C	3-31-17	3-31-17	
, ,	1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	3-31-17	3-31-17	
Dibromofluoromethane 92 73-134	Surrogate:	Percent Recovery	Control Limits				
	Dibromofluoromethane	92	73-134				
Toluene-d8 109 81-124	Toluene-d8	109	81-124				

4-Bromofluorobenzene

108

80-131

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Matrix: Soil Units: mg/kg

Offits. Hig/kg				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0331S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Chloromethane	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromomethane	ND	0.0016	EPA 8260C	3-31-17	3-31-17	
Chloroethane	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Iodomethane	ND	0.012	EPA 8260C	3-31-17	3-31-17	
Methylene Chloride	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromochloromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Chloroform	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Trichloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Dibromomethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0331S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Chlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Bromoform	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
Bromobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	3-31-17	3-31-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	94	73-134				
Toluene-d8	108	81-124				
4-Bromofluorobenzene	108	80-131				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Soil Units: mg/kg

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	31S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0526	0.0468	0.0500	0.0500	105	94	66-127	12	15	
Benzene	0.0562	0.0511	0.0500	0.0500	112	102	76-122	10	15	
Trichloroethene	0.0577	0.0533	0.0500	0.0500	115	107	78-120	8	15	
Toluene	0.0599	0.0550	0.0500	0.0500	120	110	83-120	9	15	
Chlorobenzene	0.0531	0.0499	0.0500	0.0500	106	100	81-120	6	15	
Surrogate:										
Dibromofluoromethane					93	93	73-134			
Toluene-d8					104	104	81-124			
4-Bromofluorobenzene					106	106	80-131			

Date of Report: April 3, 2017

Samples Submitted: March 24, 2017 Laboratory Reference: 1703-245B Project: 2007-098-T2045

% MOISTURE

Date Analyzed: 3-30-17

Client ID Lab ID % Moisture

UCCB3-32.5 03-245-02 20



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chair

	3
	-
	7
C	7
5	5
	2
	100

Page.

of

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished Mole luni	Signature		7 Trip Blank	6 UCL 63 - 38 - GW	5 UCB3-27-GW	4 UCCB3- 4-GW	3 WCB3-39.0	2 VUB3-32.5	1 VCB3-5.0	Lab ID Sample Identification	Wicol Venus	Sampled his Avine Jugay	Project Manager: 12 Newside HVOC Site	2007-098-12045	Project Number	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date			Edito	208ds	Sinder	AWA	Company			12:45 + 4	11:30	9:00 GW 3	12:27 4 4	1 12:05	3/24/17 9:25 Soil 4	Date Time Sampled Matrix	(other)	Contai	(TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
			3/24/17/330	3,24,17 (330	3.24.17 13/6	3/24/17 1300	Date Time		×	~	~	~		8		NWTF NWTF Volati Halog	les 826 genated	/BTEX	id / SG Cl les 82600 aters Only	2)		Laboratory Number:
Chromatograms with final report Electronic Data Deliverables (EDDs)	Data Package: Standard Level III Level IV					(X)Abled 3/20/17.38/STA)	Comments/Special Instructions									Semiri (with PAHs PCBs Organ Chlor Total TCLP	wolatile low-lev 8270E 88082/ nochloi nophos inated RCRA MTCA	s 8270 yel PAH yel PAH y/SIM (A rine Pe phorus Acid H Metals Metals	D/SIM ds) low-level) sticides 8 s Pesticid	081B es 8270 8151A	Alessa reedits itt		03-245



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 5, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098 T2045

Laboratory Reference No. 1703-260

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on March 27, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098 T2045

Case Narrative

Samples were collected on March 27, 2017 and received by the laboratory on March 27, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260C (soil) Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

HALOGENATED VOLATILES EPA 8260C page 1 of 2

Matrix: Water Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB8-23-GW					
Laboratory ID:	03-260-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	0.55	0.20	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
lodomethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	1.2	0.20	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroform	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	0.22	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB8-23-GW					
Laboratory ID:	03-260-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	64	0.40	EPA 8260C	3-31-17	3-31-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.26	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.25	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	91	77-129				
Toluene-d8	109	80-127				

4-Bromofluorobenzene

80-125

110

HALOGENATED VOLATILES EPA 8260C page 1 of 2

Matrix: Water Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB8-37-GW					
Laboratory ID:	03-260-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
lodomethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	0.25	0.20	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroform	0.66	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB8-37-GW					
Laboratory ID:	03-260-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	21	0.20	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.26	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.25	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				·
Dibromofluoromethane	94	77-129				
Toluene-d8	112	80-127				

4-Bromofluorobenzene

80-125

110

HALOGENATED VOLATILES EPA 8260C page 1 of 2

Matrix: Water Units: ug/L

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
TRIP BLANK					
03-260-07					
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	1.0	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	1.0	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	1.0	EPA 8260C	3-30-17	3-30-17	
ND	1.0	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	1.0	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
ND	0.20	EPA 8260C	3-30-17	3-30-17	
	TRIP BLANK 03-260-07 ND	TRIP BLANK 03-260-07 ND	TRIP BLANK 03-260-07 ND 0.20 EPA 8260C ND 1.0 EPA 8260C ND 0.20 EPA 8260C ND 0.20 EPA 8260C ND 1.0 EPA 8260C ND 0.20 EPA 8260C ND 1.0 EPA 8260C ND 1.0 EPA 8260C ND 1.0 EPA 8260C ND 0.20 EPA 8260C	Result PQL Method Prepared TRIP BLANK 03-260-07 0.20 EPA 8260C 3-30-17 ND 1.0 EPA 8260C 3-30-17 ND 0.20 EPA 8260C 3-30-17 ND 0.20 EPA 8260C 3-30-17 ND 1.0 EPA 8260C 3-30-17 ND 1.0 EPA 8260C 3-30-17 ND 1.0 EPA 8260C 3-30-17 ND 0.20 EPA 8260C 3	Result PQL Method Prepared Analyzed TRIP BLANK 03-260-07 Separate 3-30-17 3-30-17 ND 0.20 EPA 8260C 3-30-17 3-30-17 ND 1.0 EPA 8260C 3-30-17 3-30-17 ND 0.20 EPA 8260C 3-30-17 3-30-17 ND 1.0 EPA 8260C 3-30-17 3-30-17 ND 0.20 EPA 8260C 3-30-17 3-30-17 ND 1.0 EPA 8260C 3-30-17 3-30-17 ND 1.0 EPA 8260C 3-30-17 3-30-17 ND 0.20 EPA 8260C 3-30-17 3-30-17 ND 0.20 EPA 8260C 3-30-17 3-30-17 ND 0.20 EPA 8260C 3-30-17 3-30

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	TRIP BLANK					
Laboratory ID:	03-260-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.26	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.25	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	92	77-129				
Toluene-d8	112	80-127				



4-Bromofluorobenzene

80-125

113

Date of Report: April 5, 2017 Samples Submitted: March 27, 2017 Laboratory Reference: 1703-260

Project: 2007-098 T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0330W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloromethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
lodomethane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chloroform	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Trichloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromomethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	3-30-17	3-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	3-30-17	3-30-17	

> **HALOGENATED VOLATILES EPA 8260C** METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0330W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Bromoform	ND	1.0	EPA 8260C	3-30-17	3-30-17	
Bromobenzene	ND	0.26	EPA 8260C	3-30-17	3-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-30-17	3-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
4-Chlorotoluene	ND	0.25	EPA 8260C	3-30-17	3-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-30-17	3-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-30-17	3-30-17	
Surrogate:	Percent Recovery	Control Limits				_
Dibromofluoromethane	93	77-129				
Toluene-d8	108	80-127				
4-Bromofluorobenzene	109	80-125				

Date of Report: April 5, 2017 Samples Submitted: March 27, 2017 Laboratory Reference: 1703-260

Project: 2007-098 T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

200
ags

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0331W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	3-31-17	3-31-17	
Tetrachloroethene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	3-31-17	3-31-17	
Dibromochloromethane	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	3-31-17	3-31-17	
Chlorobenzene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-31-17	3-31-17	
Bromoform	ND	1.0	EPA 8260C	3-31-17	3-31-17	
Bromobenzene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	3-31-17	3-31-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	3-31-17	3-31-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	3-31-17	3-31-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	102	77-129				
Toluene-d8	101	80-127				
4-Bromofluorobenzene	94	80-125				

Date of Report: April 5, 2017 Samples Submitted: March 27, 2017 Laboratory Reference: 1703-260

Project: 2007-098 T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

						cent	Recovery	RPD		
Analyte	Res	sult	Spike	Level	Rece	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	30W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	8.29	9.04	10.0	10.0	83	90	63-127	9	17	
Benzene	9.30	10.2	10.0	10.0	93	102	76-121	9	12	
Trichloroethene	8.64	9.71	10.0	10.0	86	97	64-120	12	15	
Toluene	10.1	11.4	10.0	10.0	101	114	82-120	12	13	
Chlorobenzene	9.28	10.2	10.0	10.0	93	102	80-120	9	14	
Surrogate:										
Dibromofluoromethane					94	91	77-129			
Toluene-d8					111	111	80-127			
4-Bromofluorobenzene					114	109	80-125			

Date of Report: April 5, 2017 Samples Submitted: March 27, 2017 Laboratory Reference: 1703-260

Project: 2007-098 T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Result		Spike	Spike Level		Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	31W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	9.54	9.47	10.0	10.0	95	95	63-127	1	17	
Benzene	10.0	10.0	10.0	10.0	100	100	76-121	0	12	
Trichloroethene	9.86	9.77	10.0	10.0	99	98	64-120	1	15	
Toluene	10.3	10.4	10.0	10.0	103	104	82-120	1	13	
Chlorobenzene	10.3	10.3	10.0	10.0	103	103	80-120	0	14	
Surrogate:										
Dibromofluoromethane					97	102	77-129			
Toluene-d8					100	100	80-127			
4-Bromofluorobenzene					94	94	80-125			

page 1 of 2

HALOGENATED VOLATILES EPA 8260C

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB8-25.0					
Laboratory ID:	03-260-02					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Chloromethane	ND	0.0056	EPA 8260C	4-4-17	4-5-17	
Vinyl Chloride	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Bromomethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Chloroethane	ND	0.0056	EPA 8260C	4-4-17	4-5-17	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Iodomethane	ND	0.0074	EPA 8260C	4-4-17	4-5-17	
Methylene Chloride	ND	0.0074	EPA 8260C	4-4-17	4-5-17	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Bromochloromethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Chloroform	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Trichloroethene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Dibromomethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Bromodichloromethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
2-Chloroethyl Vinyl Ether	ND	0.0056	EPA 8260C	4-4-17	4-5-17	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB8-25.0					
Laboratory ID:	03-260-02					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Tetrachloroethene	0.025	0.0011	EPA 8260C	4-4-17	4-5-17	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Dibromochloromethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Chlorobenzene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Bromoform	ND	0.0056	EPA 8260C	4-4-17	4-5-17	
Bromobenzene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
2-Chlorotoluene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
4-Chlorotoluene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
1,2-Dibromo-3-chloropropane	ND	0.0056	EPA 8260C	4-4-17	4-5-17	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Hexachlorobutadiene	ND	0.0056	EPA 8260C	4-4-17	4-5-17	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	4-4-17	4-5-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	102	73-134				
Toluene-d8	103	81-124				

4-Bromofluorobenzene

80-131

107

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

Matrix: Soil Units: mg/kg

Offits. Hig/kg				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0404S2					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Chloromethane	ND	0.0050	EPA 8260C	4-4-17	4-5-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Bromomethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Chloroethane	ND	0.0050	EPA 8260C	4-4-17	4-5-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
lodomethane	ND	0.0066	EPA 8260C	4-4-17	4-5-17	
Methylene Chloride	ND	0.0066	EPA 8260C	4-4-17	4-5-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Bromochloromethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Chloroform	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Trichloroethene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Dibromomethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	4-4-17	4-5-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0404S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Chlorobenzene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Bromoform	ND	0.0050	EPA 8260C	4-4-17	4-5-17	
Bromobenzene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	4-4-17	4-5-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	4-4-17	4-5-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	4-4-17	4-5-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	96	73-134				
Toluene-d8	95	81-124				
4-Bromofluorobenzene	96	80-131				

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

Matrix: Soil Units: mg/kg

					Per	cent	Recovery		RPD	
Analyte	Result		Spike Level		Rece	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB04	04S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0441	0.0419	0.0500	0.0500	88	84	66-127	5	15	
Benzene	0.0488	0.0489	0.0500	0.0500	98	98	76-122	0	15	
Trichloroethene	0.0513	0.0496	0.0500	0.0500	103	99	78-120	3	15	
Toluene	0.0506	0.0501	0.0500	0.0500	101	100	83-120	1	15	
Chlorobenzene	0.0484	0.0492	0.0500	0.0500	97	98	81-120	2	15	
Surrogate:										
Dibromofluoromethane					100	100	73-134			
Toluene-d8					101	99	81-124			
4-Bromofluorobenzene					98	103	80-131			

Date of Report: April 5, 2017

Samples Submitted: March 27, 2017 Laboratory Reference: 1703-260 Project: 2007-098 T2045

% MOISTURE

Date Analyzed: 4-4-17

Client ID Lab ID % Moisture

UCCB8-25.0 03-260-02 18



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical _____.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

Page	
-	-
9	
-	

-			_			_	_		_	 _		_	_											_	
	Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished URUL Land	Signature			7 Trip Blank	6 UCC 38 - 37 - GW	5 UCCB - 23 - GW	4 UCCB8-5.5-GW	3 UCCB8-38.0	2 VCLB8-25.0	1 VCB8-8.0	Lab ID Sample Identification	Sampled by: NICOLE Lans	Project Managers. Sugar		T2045	Project Number: HWA GRO Sciences	Phone: (425) 883-3881 • www.onsite-env.com	14648 NE 95th Street • Redmond, WA 98052
	Reviewed/Date					1800) HWA	Сотрану			1	¥ 11:20 ↓	9,40	8,00 GW	10:30	1 9:25	3/27/17 7:40 Soi	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
						3/22/17	3/27/17	Date			50-00	<		2	<		79	NWTP NWTP	PH-HCII PH-Gx/E PH-Gx	BTEX	ers / SG CI				Laboratory N
	Chromatograms with final report	Data Package: Standard				iszs	15:25 (X) Added	Time Comments/Special Instructions			×	· /-				8		Volatil Halogo EDB E Semiv (with I PAHs PCBs	les 8260 enated EPA 801 volatiles low-leve 8270D/ 8082A nochlori	Volatile 11 (Wate 8270D PAHs /SIM (Io	s 82600 ers Only /SIM	081B			umber: U3-20
- 1	final report ☐ Electronic Data Deliverables (EDDs) ☐	dard Level III Level IV				п	(ATS) 80. +14/4 babba()	structions								+	><	Chlori Total F Total N TCLP HEM (MTCA Metals	Acid Hei Metals Metals	rbicides	8151A			C
+																(X)		% Moi	isture						



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 12, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1704-060

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on April 6, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Date of Report: April 12, 2017 Samples Submitted: April 6, 2017 Laboratory Reference: 1704-060

Project: 2007-098-T2045

Case Narrative

Samples were collected on April 5, 2017 and received by the laboratory on April 6, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: April 12, 2017 Samples Submitted: April 6, 2017 Laboratory Reference: 1704-060

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB2-9.0-GW					
Laboratory ID:	04-060-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloromethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Vinyl Chloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Iodomethane	ND	1.4	EPA 8260C	4-7-17	4-7-17	
Methylene Chloride	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(cis) 1,2-Dichloroethene	0.37	0.20	EPA 8260C	4-7-17	4-7-17	
Bromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroform	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Trichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromodichloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB2-9.0-GW					
Laboratory ID:	04-060-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Tetrachloroethene	2.6	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromoform	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Bromobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromo-3-chloropropane	ND ND	1.0	EPA 8260C	4-7-17	4-7-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	99	77-129				
Toluene-d8	104	80-127				

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB2-25.0-GW					
Laboratory ID:	04-060-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloromethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Vinyl Chloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Iodomethane	ND	1.4	EPA 8260C	4-7-17	4-7-17	
Methylene Chloride	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroform	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Trichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromodichloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(trans) 1,3-Dichloropropene	. ND	0.20	EPA 8260C	4-7-17	4-7-17	

Date of Report: April 12, 2017 Samples Submitted: April 6, 2017 Laboratory Reference: 1704-060

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB2-25.0-GW					
Laboratory ID:	04-060-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Tetrachloroethene	35	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromoform	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Bromobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromo-3-chloropropane	e ND	1.0	EPA 8260C	4-7-17	4-7-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	100	77-129				
Toluene-d8	101	80-127				



HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB2-37.0-GW					
Laboratory ID:	04-060-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloromethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Vinyl Chloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
lodomethane	ND	1.4	EPA 8260C	4-7-17	4-7-17	
Methylene Chloride	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(cis) 1,2-Dichloroethene	0.41	0.20	EPA 8260C	4-7-17	4-7-17	
Bromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroform	0.48	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Trichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromodichloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB2-37.0-GW					
Laboratory ID:	04-060-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Tetrachloroethene	21	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromoform	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Bromobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromo-3-chloropropane	e ND	1.0	EPA 8260C	4-7-17	4-7-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	103	77-129				
Toluene-d8	101	80-127				

4-Bromofluorobenzene

80-125

99

HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB4-9.5-GW					
Laboratory ID:	04-060-10					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloromethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Vinyl Chloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Iodomethane	ND	1.4	EPA 8260C	4-7-17	4-7-17	
Methylene Chloride	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroform	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Trichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromodichloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB4-9.5-GW					
Laboratory ID:	04-060-10					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Tetrachloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromoform	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Bromobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	100	77-129				
Toluene-d8	100	80-127				

4-Bromofluorobenzene 99 80-125

HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB4-21.0-GW					
Laboratory ID:	04-060-11					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloromethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Vinyl Chloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Iodomethane	ND	1.4	EPA 8260C	4-7-17	4-7-17	
Methylene Chloride	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroform	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Trichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromodichloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB4-21.0-GW					
Laboratory ID:	04-060-11					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Tetrachloroethene	14	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromoform	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Bromobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromo-3-chloropropane	e ND	1.0	EPA 8260C	4-7-17	4-7-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Surrogate:	Percent Recovery	Control Limits				·
Dibromofluoromethane	102	77-129				
Toluene-d8	100	80-127				

100

4-Bromofluorobenzene

80-125

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB4-35.5-GW					
Laboratory ID:	04-060-12					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloromethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Vinyl Chloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
lodomethane	ND	1.4	EPA 8260C	4-7-17	4-7-17	
Methylene Chloride	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroform	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Trichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromodichloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB4-35.5-GW					
Laboratory ID:	04-060-12					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Tetrachloroethene	9.3	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromoform	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Bromobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromo-3-chloropropane	e ND	1.0	EPA 8260C	4-7-17	4-7-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	100	77-129				
Toluene-d8	101	80-127				



4-Bromofluorobenzene

99

80-125

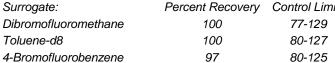
HALOGENATED VOLATILES EPA 8260C page 1 of 2

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
Trip Blank					
04-060-13					
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	1.0	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	1.0	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	1.4	EPA 8260C	4-7-17	4-7-17	
ND	1.0	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	1.0	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
ND	0.20	EPA 8260C	4-7-17	4-7-17	
	Trip Blank 04-060-13 ND	Trip Blank 04-060-13 ND 0.20 ND 1.0 ND 0.20 ND 0.20 ND 1.0 ND 0.20 ND 1.4 ND 1.0 ND 0.20 N	Trip Blank 04-060-13 ND 0.20 EPA 8260C ND 1.0 EPA 8260C ND 0.20 EPA 8260C ND 0.20 EPA 8260C ND 1.0 EPA 8260C ND 0.20 EPA 8260C ND 1.4 EPA 8260C ND 1.0 EPA 8260C ND 1.0 EPA 8260C ND 0.20 EPA 8260C	Result PQL Method Prepared Trip Blank 04-060-13 0.20 EPA 8260C 4-7-17 ND 1.0 EPA 8260C 4-7-17 ND 0.20 EPA 8260C 4-7-17 ND 0.20 EPA 8260C 4-7-17 ND 1.4 EPA 8260C 4-7-17 ND 1.0 EPA 8260C 4-7-17 ND 0.20 EPA 8260C 4-7-17	Result PQL Method Prepared Analyzed Trip Blank 04-060-13 ND 0.20 EPA 8260C 4-7-17 4-7-17 ND 1.0 EPA 8260C 4-7-17 4-7-17 ND 0.20 EPA 8260C 4-7-17 4-7-17 ND 0.20 EPA 8260C 4-7-17 4-7-17 ND 1.0 EPA 8260C 4-7-17 4-7-17 ND 0.20 EPA 8260C 4-7-17 4-7-17 ND 0.20 EPA 8260C 4-7-17 4-7-17 ND 0.20 EPA 8260C 4-7-17 4-7-17 ND 1.4 EPA 8260C 4-7-17 4-7-17 ND 1.0 EPA 8260C 4-7-17 4-7-17 ND 0.20 EPA

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trip Blank					
Laboratory ID:	04-060-13					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Tetrachloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromoform	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Bromobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	100	77-129				
Toluene-d8	100	80-127				



HALOGENATED VOLATILES EPA 8260C page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Dup-2					
Laboratory ID:	04-060-14					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloromethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Vinyl Chloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Iodomethane	ND	1.4	EPA 8260C	4-7-17	4-7-17	
Methylene Chloride	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroform	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Trichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromodichloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Dup-2					
Laboratory ID:	04-060-14					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Tetrachloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromoform	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Bromobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	100	77-129				

Surrogate: Percent Recovery Control Lim Dibromofluoromethane 100 77-129 Toluene-d8 99 80-127 4-Bromofluorobenzene 98 80-125

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

omio. ag/L				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0407W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloromethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Vinyl Chloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroethane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
lodomethane	ND	1.4	EPA 8260C	4-7-17	4-7-17	
Methylene Chloride	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chloroform	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Trichloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromomethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromodichloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-7-17	4-7-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-7-17	4-7-17	

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0407W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Tetrachloroethene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Dibromochloromethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Chlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Bromoform	ND	1.0	EPA 8260C	4-7-17	4-7-17	
Bromobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-7-17	4-7-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-7-17	4-7-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-7-17	4-7-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	102	77-129				
Toluene-d8	100	80-127				

4-Bromofluorobenzene

80-125

98

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Result		Spike Level		Rece	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB04	07W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	8.74	9.49	10.0	10.0	87	95	63-127	8	17	
Benzene	9.75	10.4	10.0	10.0	98	104	76-121	6	12	
Trichloroethene	9.09	9.56	10.0	10.0	91	96	64-120	5	15	
Toluene	9.85	10.6	10.0	10.0	99	106	82-120	7	13	
Chlorobenzene	9.78	10.6	10.0	10.0	98	106	80-120	8	14	
Surrogate:										
Dibromofluoromethane					100	100	77-129			
Toluene-d8					98	98	80-127			
4-Bromofluorobenzene					96	99	80-125			



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical _____.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



Received Reviewed/Date	Relinquished	Received	Relinquished	Received	Relinquished	Signature	1	9 NWB4-	8 VCB4-2	7 UCCB4-10	6 VCCB2-37.0	S 1482-250	1 VC62-9.	3 00032-38.0	2 VCG2-27,5	1 00032-9.5	Lab ID Sample i	Sampled by: Nicole	Armie S	Utra Wtom Cu Project Manager:	2007-098-	Broject Number: HWA God		Analytical Laboratory Testing Services	Environm
		7	them lose	Hom (flas)	all loon	ure	9.5-6W	6.5	15.0	10.5	0-GW	5-6W	9.0-GW	,O	2	01	Sample Identification	lanke	Igan	Leavers / Riverside Hu	-72045	20 Sciences	Phone: (425) 883-3881 • www.onsite-env.com	nalytical Laboratory Testing Services	ontol Inc
						0	4								_	4/5/17	Date Sampled	[Stan	2 Days	Sam		Tu Tu	
Reviewed/Date		(0%)	AKRHA	ACPHA	HIM	Company	12:50 GW	1510	14:00	12:30 507	10:50 V	9:10	8:05 GW	9:45	8:45	7:65 80	Time Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	iys 3 Days	Same Day 1 Day	(Check One)	Turnaround Request	

W

<

7

1

Date

Time

Comments/Special Instructions

1. C.05.4

1005 1.051

Data Package: Standard Level III

Level IV

Chromatograms with final report

Electronic Data Deliverables (EDDs)

20.05

4

n of Custody

	ID Sample Identification	Niese lance	Avnue Sugar	JIHVA CUSTOM CULLINUS MANEY SIELE HY	ject Name:	2007-098-72045	HWA GOSCIMCES	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Environmental Inc.
The state of the s	Date Time Sampled Sampled Matrix	(other)		(TPH analysis 5 Days)	Standard (7 Dave)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)	olidiii ol odotody
100	Numb	er of	Conta	ainers						-
	NWTP	ADAPCES 0.00 PE							La	
	NWTP	0.00 5-0,000	/BTE)	(oora	כנכ
	NWTP		/ 🗆 A	cid / S0	2 (1	oan-ur	2)		tor	
	Volatil			ciu / Sc	3 01	ean-u) ———	_	Laboratory Numl	4
				tiles 82	60C	;		-	lmk	
	EDB E	PA 80)11 (V	Vaters C	Only))			per:	
	Semiv (with le			OD/SIM	1				0	i.
				(low-le	vel)				4	
	PCBs	8082	A						4	
	Organ	ochlo	rine P	esticide	es 8	081B			04-060)
	Organ	ophos	sphor	us Pest	icide	es 827	OD/SIN	1	C	
	Chlori	nated	Acid	Herbici	des	8151	Α			
	Total F	RCRA	Meta	ls						
	Total N			ls						Pag
	TCLP	1.0000						_		0
	HEM (oil an		ase) 166	54A			_		-
		1	10	5						of
										1
								-		1
-	% Moi	sture								
									-	

			MIN	
14648 NE 95th Street • Redmond, WA 98	Analytical Laboratory Testing Services	Environmental inc.	Onsite	

Chain of Custody

Page _	
1	J
of	

Reviewed/Date	Received	Relinquished	Received	Relinquished Ulman Clan	Received Bland Umi	Relinquished	Signature		1		4 Dup - 2	3 Trip Blank	2 UCCB4-35.5-6W	1 Vaby-21.0-GW	b ID Sample Identification	Sumpled by: NIGHT LADIX	Wind Sugar	VCC/RYUSIZL AVOC	2007-098-T2045	miest Number: HWA Geo Sciences	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date			300	ALPHA	ALPHA	HWA	Company				4/5/17 12:55 GW	1	1 15:50	4/6/17 14:35 GW	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days) (TPH analysis 5 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
			4/6/0	4/9/18	4/6/17	4/6/17	Date				CN	_	<u> </u>	S	Number NWTPI	H-HCIE H-Gx/B H-Gx		ers				Laboratory Number:
Chromatogra			1005	10,051	9:05A	9:05A	Time Comments/S								Semivo (with lo PAHs & PCBs &	platiles w-leve 3270D/3	Volatiles 8270D/ I PAHs) SIM (Iov	s 8260C SIM w-level)	81B		_	Number: 04 -
Chromatograms with final report							Comments/Special Instructions				X	×	X		Organo	phosph ated Ad CRA M ITCA M Metals	orus Pe cid Heri letals letals	sticides 8	3270D/S	SIM		-060
															% Mois	sture						

Data Package: Standard | Level III | Level IV |

Electronic Data Deliverables (EDDs)



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 17, 2017

Arnie Sugar HWA GeoSciences, Inc. 21312 30th Drive SE, Suite 110 Bothell, WA 98021

Re: Analytical Data for Project 2007-098-T2045

Laboratory Reference No. 1704-060B

Dear Arnie:

Enclosed are the analytical results and associated quality control data for samples submitted on April 6, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister Project Manager

Enclosures



Project: 2007-098-T2045

Case Narrative

Samples were collected on April 5, 2017 and received by the laboratory on April 6, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB2-27.5					
Laboratory ID:	04-060-02					
Dichlorodifluoromethane	ND	0.0021	EPA 8260C	4-14-17	4-14-17	
Chloromethane	ND	0.0058	EPA 8260C	4-14-17	4-14-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Bromomethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Chloroethane	ND	0.0058	EPA 8260C	4-14-17	4-14-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Iodomethane	ND	0.0058	EPA 8260C	4-14-17	4-14-17	
Methylene Chloride	ND	0.0084	EPA 8260C	4-14-17	4-14-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Bromochloromethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Chloroform	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Trichloroethene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Dibromomethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0058	EPA 8260C	4-14-17	4-14-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB2-27.5					
Laboratory ID:	04-060-02					
1,1,2-Trichloroethane	ND	0.0015	EPA 8260C	4-14-17	4-14-17	
Tetrachloroethene	0.046	0.0012	EPA 8260C	4-14-17	4-14-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Chlorobenzene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Bromoform	ND	0.0058	EPA 8260C	4-14-17	4-14-17	
Bromobenzene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0015	EPA 8260C	4-14-17	4-14-17	
1,2,3-Trichloropropane	ND	0.0015	EPA 8260C	4-14-17	4-14-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0077	EPA 8260C	4-14-17	4-14-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Hexachlorobutadiene	ND	0.0058	EPA 8260C	4-14-17	4-14-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	4-14-17	4-14-17	
Surrogate:	Percent Recovery	Control Limits	·			
Dibromofluoromethane	99	73-134				
Toluene-d8	105	81-124				

4-Bromofluorobenzene

113

80-131

HALOGENATED VOLATILES EPA 8260C

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB4-25.0					
Laboratory ID:	04-060-08					
Dichlorodifluoromethane	ND	0.0018	EPA 8260C	4-14-17	4-14-17	
Chloromethane	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
Vinyl Chloride	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Bromomethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Chloroethane	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
Trichlorofluoromethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,1-Dichloroethene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Iodomethane	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
Methylene Chloride	ND	0.0072	EPA 8260C	4-14-17	4-14-17	
(trans) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,1-Dichloroethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
2,2-Dichloropropane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
(cis) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Bromochloromethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Chloroform	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,1,1-Trichloroethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Carbon Tetrachloride	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,1-Dichloropropene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,2-Dichloroethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Trichloroethene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,2-Dichloropropane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Dibromomethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Bromodichloromethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
(cis) 1,3-Dichloropropene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
(trans) 1,3-Dichloropropene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	

HALOGENATED VOLATILES EPA 8260C

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	UCCB4-25.0					
Laboratory ID:	04-060-08					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	4-14-17	4-14-17	
Tetrachloroethene	0.034	0.00099	EPA 8260C	4-14-17	4-14-17	
1,3-Dichloropropane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Dibromochloromethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,2-Dibromoethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Chlorobenzene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,1,1,2-Tetrachloroethane	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Bromoform	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
Bromobenzene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	4-14-17	4-14-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	4-14-17	4-14-17	
2-Chlorotoluene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
4-Chlorotoluene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,3-Dichlorobenzene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,4-Dichlorobenzene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,2-Dichlorobenzene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0066	EPA 8260C	4-14-17	4-14-17	
1,2,4-Trichlorobenzene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
1,2,3-Trichlorobenzene	ND	0.00099	EPA 8260C	4-14-17	4-14-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	108	73-134				
Toluene-d8	109	81-124				

4-Bromofluorobenzene

120

80-131

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0414S1					
Dichlorodifluoromethane	ND	0.0018	EPA 8260C	4-14-17	4-14-17	
Chloromethane	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Bromomethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Chloroethane	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Iodomethane	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
Methylene Chloride	ND	0.0073	EPA 8260C	4-14-17	4-14-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Bromochloromethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Chloroform	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Trichloroethene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Dibromomethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

Page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0414S1					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	4-14-17	4-14-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Chlorobenzene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Bromoform	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
Bromobenzene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	4-14-17	4-14-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	4-14-17	4-14-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
1,2-Dibromo-3-chloropropane	ND	0.0067	EPA 8260C	4-14-17	4-14-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	4-14-17	4-14-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	4-14-17	4-14-17	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	104	73-134				
Toluene-d8	104	81-124				
4-Bromofluorobenzene	118	80-131				

Project: 2007-098-T2045

HALOGENATED VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB04	14S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0470	0.0536	0.0500	0.0500	94	107	66-127	13	15	
Benzene	0.0470	0.0499	0.0500	0.0500	94	100	76-122	6	15	
Trichloroethene	0.0502	0.0521	0.0500	0.0500	100	104	78-120	4	15	
Toluene	0.0475	0.0506	0.0500	0.0500	95	101	83-120	6	15	
Chlorobenzene	0.0444	0.0477	0.0500	0.0500	89	95	81-120	7	15	
Surrogate:										
Dibromofluoromethane					87	91	73-134			
Toluene-d8					92	99	81-124			
4-Bromofluorobenzene					103	112	80-131			

% MOISTURE

Date Analyzed: 4-13-17

Client ID	Lab ID	% Moisture				
UCCB2-27.5	04-060-02	22				
UCCB4-25.0	04-060-08	16				



Data Qualifiers and Abbreviations

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



Reviewed/Date	Received	Received	Relinquished Attended	Received Ham Han	Relinquished	Signature	,	9 NUB4-36.5	8 VCB4-25.0	7 VCB4-10.5	6 UCUB2-37.0-GW	S UUB2-250-6W	4 UCG2-9.0-GW	3 00032-38.0	2 10082-27,5	1 UCCB2-9.5	NIESE Lange Lab ID Sample Identification	Project Name: Uthra custom Cleanurs / River side this Project Manager: Armie Sugar Sampled by:	Project Number 2007-098-72045	Company: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street - Redmond, WA 98052	Environmental Inc.
Reviewed/Date		(0%E	AKRHA	ALPHA	HUR	Company	V 12:50 GW 3	1510 4	14:00	12:30 501 4	10:50 V V	9:10	8:05 GW 3	4:45 4 4	8:45	4/5/17 7:55 800 4	Date Time Number of Sampled Sampled Matrix Number of Num	(TPH analysis 5 Days) Containers	Same Day 1 Day 2 Days 3 Days	(Check One)	Turnaround Request (in working days)	Chain of Custody
		4/6/17 100	4/6/17 10:05	4/4/17 9:05	4/6/17 9:05	Date Time											NWTPH-Gx NWTPH-Gx NWTPH-Dx Volatiles 82	v/BTEX ∢ ∢ (an-up)		Laboratory Number:	ustody
Chromatograms with final report Electronic Data Deliverables (EDDs)	Data Package: Standard Level III		8	1	A SAJALA 4/3),7, DB (STA)	Comments/Special Instructions			8		×				8		Semivolatili (with low-lee PAHs 8270) PCBs 8082 Organochloc Organopho Chlorinated Total RCRA Total MTCA	D/SIM (low-level) A prine Pesticides 80 sphorus Pesticide A Acid Herbicides 6 Metals A Metals	s 8270D/SIM	1	er: 04-060	Page of2

Chain of Custody



Chain of Custody

Page 2 of 1

Reviewed/Date	Received	Relinquished	Received	Relinquished Why Cha	Received Blom Um	Relinquished	Signature				14 Dup - 2	13 Trip Blank	12 UCB4-35.5-6W	11 Vaby-21.0-GW	Lab ID Sample Identification	Sampled by: NIGH Labix	Will Sugar	Project Name: / N. W. S. Z. A. A. VOC	2007 - 093 - T2045	Company: HWA Geo Schemes		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date			2000	ALPHA	K Auphi	ri Hwa	Company			-	4/5/17 12:55 (1	15:50	4/6/17 14:35 (Date Time Sampled Sampled M	(other)		Standard (7 Days) (TPH analysis 5 Days)			(Check One)	Turnaround Request (in working days)
			1/6	S/s/	4/6	4/6/	Date				6W 3	< -	<	3 3	Numb NWTP NWTP	H-HCIE H-Gx/E		ers	3 Days	1 Day		Labora
Chi			1005	11 10:05 1	11 9:05 A	17 9:05A	Time Co								Semive (with lo	es 8260 enated platiles ow-leve	Volatiles 8270D/ I PAHs)	s 8260C 'SIM w-level)				Laboratory Number: 0
Chromatograms with final report \Box							Comments/Special Instructions				(Organo Chlorin Total F Total N TCLP	phosph phosph ated A CRA M TCA M	cid Her detals	cides 80 sticides 8 bicides 8	8270D/S	SIM		04-060
											×	× '	×	×	% Moi	sture	0 (6				

Data Package: Standard | Level III | Level IV |

Electronic Data Deliverables (EDDs) \Box -