

### **MEMORANDUM**

To: Jerome B. Cruz, Ph.D.

Toxics Cleanup Program, Northwest Regional Office

3190 - 160th SE Bellevue, WA 98008 Tel: (425) 649-7094 Fax: (425) 649-7098

Jerome.Cruz@ecy.wa.gov

From: John R. Kane

Date: August 19, 2019

Re: Amendment: Vadose Soil Excavation in ERH Treatment Area

Bothell Service Center Simon & Son

18107 Bothell Way NE

Bothell, WA

WA Ecology Facility/Site ID: 33215922

This memorandum provides a description of the vadose zone soil excavation and soil sampling activities conducted in the Electrical Resistance Heating (ERH) treatment area, in the western extent of the BSCSS Site, between June 18, 2019 and August 13, 2019 and describes work that goes beyond the previously approved Scope of Work dated June 7, 2019.

### **Background**

This task was initiated according to the Work Plan document titled *Vadose Soil Excavation in ERH Treatment Area*, dated June 7, 2019. Following operation of the ERH system, a series of direct push (DP) soil borings was completed to identify zones of vadose zone soils which still contained halogenated volatile organic compounds (HVOCs) at concentrations exceeding the established cleanup levels (CULs). Based on the DP data, the Work Plan called for completion of four excavation trenches approximately 4 feet wide, 10 feet long, and up to seven feet deep, with the excavated soil hauled away for offsite disposal. Trenches were to be extended until soil confirmation sampling of trench sidewalls and bottoms indicated the extents of the trenches were in compliance with applicable CULs.

CULs for cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride (VC) were reduced below former established CULs during the recent updates to the BSCSS CAP dated July 19, 2019. This change was reflected in the analysis of soils from DP borings and in the written *Work Plan*.

### **Excavation Activities**

Excavation activities commenced on June 18, 2019. Kane Environmental oversaw environmental excavation contractor Mr. Bill Spooner (Spooner Contracting), as concrete was cut and broken to access underlying soils and excavated soil was placed in roll-off bins provided by Waste Management for offsite disposal. Initially, two separate excavations were centered around DP locations KSB-57 and KSB-58, and around DP location KSB-61. Based on initial data, it appeared that the excavation(s) would likely need to extend horizontally and extend deeper than originally expected and presented in the Work Plan. To

accommodate this requirement, additional roll-off bins were ordered to haul contaminated soils. While additional excavation days were scheduled, some days were excluded, with no excavation completed, due to contractor schedules, holiday schedules, and onsite constraints.

In addition to June 18, 2019, excavation activities were conducted on June 19, 20, 21, 26, and 28, July 1, 3, 8, 25, 26, and 30, and August 1, 2, 5, 6, 7, 9, 12, and 13. Daily excavation activities were driven by the results of the previous soil samples collected.

During the excavation process, care was taken to preserve the integrity of all installed wells within excavation areas, and no wells were adversely impacted from the excavation activities. These included ERH electrode wells, groundwater monitoring wells, soil vapor extraction wells, and bioremediation injection wells.

As the size and depth of the excavation increased, due to sidewall and bottom samples remaining contaminated with HVOCs in excess of the established CULs, some constraints were encountered:

- Access to the northern extent of the excavation was inhibited by the presence of the large Puget Sound Energy (PSE) electrical box, and the power conduit serving it, which were placed on the Property to accommodate the requirements of the ERH system. PSE was contacted regarding removal of this feature. It is scheduled to be removed from the Site on Tuesday July 23, 2019, which will allow the excavator to continue the excavation to the north, as needed.
- A thick concrete footing is present at the northern extent of the current excavation. It will be removed following removal of the PSE electrical box, to allow further excavation to the north.
- As the excavation widened, the excavator became unable to reach the western extent of the excavation from the eastern side.

Also, as the excavation deepened, it became difficult for the excavator to reach the bottom as slough from sidewalls fell in the excavation. Therefore, after confirmation of a clean bottom sample in the north-central portion of the excavation at 7.5 feet bgs (S14 E15:7.5) some clean backfill was placed in the excavation to allow the collected contaminated slough to be excavated out from a shallower depth.

Excavation in the area of KSB-49 commenced on August 2, 2019 and was completed to approximately 4 feet below ground surface (bgs). This southern excavation was approximately 41 ft<sup>2</sup>, encompassing the location of DP boring KSB-49 and extended to a depth of 4 feet bgs.

By the end of the excavation day on August 13, 2019, the northern excavation was approximately 1,643 ft<sup>2</sup> encompassing the locations of DP borings KSB-57, KSB-58, and KSB-61. Excavation depths ranged from 12 feet bgs in the southwestern and western portions of the excavation, to approximately 5.5 feet bgs and 7.5 feet bgs in northern and eastern portions of the excavation. Figure 1 depicts the current extent of the northern excavation.

As of August 13, 2019, 34 roll-off bins have been filled and collected by Waste Management for offsite disposal.

### **Analytical Results**

Kane Environmental submitted soil samples to Onsite Environmental Analytical Laboratory in Redmond, WA. All excavation samples were submitted with an expedited turnaround time to ensure that analytical results were received early the following day to guide further excavation. (In some cases, when no excavation was scheduled for the following day, samples were submitted with an extended turnaround

time.) Samples were also collected directly from the roll-off bins prior to their retrieval by Waste Management. No soil samples resulted in concentrations of HVOCs that would characterize the soil as hazardous.

Analytical data (summarized in Table 1) are cross referenced with the sample collection locations depicted on Figure 1. The numbered locations on Figure 1 correspond to the *Sample Location* on Table 1, with the *Sample Name* on Table 1 including coordinate data (to the south and east of a fixed origin) and depth below ground surface. Figure 1 depicts the sidewall and bottom soil samples where HVOC concentrations exceed their respective CULs. Select soil clearance samples were used for this memorandum to show that most of the excavation has reached compliance, with soils above CULs shown in red.

Analytical data from the northern excavation (around KSB-57, KSB-58, and KSB-61) show that the southern, western, and northern sidewalls of the excavation are in compliance. Bottom samples in the southwestern and western regions of the excavation (Sample Location 54 and 86, respectively) contain concentrations of cis-1,2 DCE in exceedance of the established CUL to a depth of 12 feet bgs. At both locations, soils were excavated to below the groundwater table, which generally ranges between 8 to 10 feet bgs. At the southwestern location, hand auger samples were collected from depths of 13, 14, and 15 feet bgs (Locations 71 through 73, respectively), to assess the vertical extent of cis-1,2 DCE in saturated soils. Concentrations of cis-1,2 DCE in exceedance of the established CUL were detected in all three samples. Due to the location of these soil samples beneath the groundwater table, Kane Environmental will remediate these saturated soils through the bioremediation injections presently occurring on the BSCSS Site. Compliance will be assessed during quarterly groundwater monitoring.

Analytical data results show that some near surface soils remain contaminated in the eastern extent of the eastern portion of the excavation (Sample Locations 111 and 112) at 2.5 feet bgs and 5.5 feet bgs, respectively, and in the southern extent of the eastern portion of the excavation (Sample Locations 116 and 119) at 2.5 feet bgs. In sample locations 111 and 112, HVOC contamination appears to be associated with a sanitary sewer utility line which runs generally northeast-southwest along the northern portion of the former building footprint. A small test pit was advanced to the east of the excavation on August 6, 2019 (Locations 93 through 97), in a location of previously detected near surface HVOC contamination (at 1 foot bgs). This location is within the soil vapor extraction system (SVE) area of influence, which is positioned parallel to the sanitary sewer utility line. Analytical results from sidewall and bottom samples confirmed that no concentrations of HVOCs were detected above the laboratory detection limit at this location.

Excavation in the area of KSB-49 commenced on August 2, 2019 and was completed to approximately 4 feet bgs. Analytical data results (Locations 81 through 85, and 92) show that the northern, western, southern and eastern sidewalls and bottom of the excavation are in compliance.

### **Remaining Excavation Required**

In order to complete the planned excavations in the region of DP borings KSB-57, KSB-58, and KSB-61, additional excavation to the south and east will be required. This excavation will be in addition to the 250 tons originally estimated in July 2019. Prior to any additional excavation, Kane Environmental will advance three test pits on the BSCSS Site to assess the horizontal extent of near surface HVOC contamination. Proposed test pits are located to the south of the eastern portion of the excavation, and to the east of the eastern portion of the excavation, along the sewer utility line, between the current eastern edge of the excavation and the western-most SVE well. Three total test pits are proposed, with up to two soil samples collected from each test pit. Proposed test pit locations are depicted in Figure 1.

Costs in addition to those previously approved will be incurred to complete the scope of work presented in the Work Plan and amended in this document. Additional costs are required for the following:

- Additional excavation Excavator operator, equipment, expenses;
- Additional excavation oversight Kane Environmental field work including sample collection and delivery to laboratory;
- Additional soil disposal Waste Management will provide additional roll-off bins and retrieve them for offsite disposal;
- Additional concrete disposal Pending analytical results, additional concrete generated will be recycled at an appropriate facility. If necessary, some concrete may need disposal through Waste Management;
- Procurement of additional clean backfill and compaction Additional backfill material will be
  hauled on site from a quarry and used to backfill the current excavation as well as any further
  expansion and additional excavation.

### **Remaining Remedial Activity**

Additionally, Kane Environmental proposes that prior to excavation backfill, approximately 1,000-gallons of Carbstrate bioremediation product mixed with clean water be placed in the excavation. Furthermore, Kane Environmental recommends up to two approximately 30 foot long sections of slotted 2 or 4-inch diameter PVC pipe be placed along the base of the northern excavation oriented northeast-southwest, to act and infiltration galleries for the injection of bioremediation product into the subsurface. Access to the infiltration gallery will be from vertical PVC pipe connected to the horizontal pipe in the eastern portion of the excavation, and connected to the Bioremediation trailer along the surface. Additional injection locations will help to expedite the bioremediation process as the injected product infiltrates to groundwater and assists in the remediation of saturated soils and groundwater.

### **ATTACHMENTS**

Figure 1 Site Plan with Excavation Boundary and Sampling Locations

 Table 1
 Summary of PCE and Breakdown Products in Soil

Attachment A Laboratory Analytical Reports

**FIGURES** 



Approximate location of ERH monitoring well

Approximate location of ERH electrode

Approximate location of SVE well

Approximate extent of excavation

- Approximate location of soil sample with HVOC concentrations greater than established CULs
  - Approximate location of soil sample with HVOC concentrations below established CULs
- Approximate location of proposed test pit



Figure 1 **Bothell Service Center Simon & Son** Site Plan with Northern 18107 Bothell Way NE **Excavation Boundary and** Bothell, Washington Sampling Locations

**TABLES** 

TABLE 1 Summary of PCE and Breakdown Products in Soil 18107 Bothell Way NE Bothell, Washington

Botneii,	wasnington							
Sample Local	Sample 10	Sample Date	Sample Do.	Soth Viny Chloride	<sup>C/6-7,2</sup> D <sub>C/E</sub>	<sup>Trichlor</sup> oethene	<sup>7</sup> errachloroethene	
			feet	mg/kg	mg/kg	mg/kg	mg/kg	
54	S35 E12:12	7/25/2019	12	nd	0.012	nd	nd	
71	S35 E13:13	7/30/2019	13	0.000045	0.023	nd	0.0041	
72	S35 E13:14	7/30/2019	14	0.000049	0.031	nd	0.00089	
73	S35 E13:15	7/30/2019	15	nd	0.019	0.00089	0.0014	
81	S95 E08:4	8/2/2019	4	nd	nd	nd	0.0014	
82	S96 E5.5:2	8/2/2019	2	nd	nd	nd	0.003	
83	S93.5 E7.5:2	8/2/2019	2	nd	nd	0.0056	0.056	
84	S95 E11.5:2	8/2/2019	2	nd	nd	nd	0.0023	
85	S98 E10:2	8/2/2019	2	nd	nd	nd	0.0018	
86	S20 E7.5:12	8/2/2019	12	nd	0.012	0.0011	0.0058	
92	S91 E07:2ft	8/6/2019	2	nd	0.001	0.013	0.034	
93	N15 E80:1.75ft	8/6/2019	1.75	nd	nd	nd	nd	
94	N14 E79:1ft	8/6/2019	1	nd	nd	nd	nd	
95	N15.5 E81:1ft	8/6/2019	1	nd	nd	nd	nd	
96	N16.5 E80:1ft	8/6/2019	1	nd	nd	nd	nd	
97	N13.5 E80.5:1ft	8/6/2019	1	nd	nd	nd	nd	
110	N1 E41:2.5	8/12/2019	2.5	nd	nd	nd	0.014	
111	S5 E46.5:2.5	8/12/2019	2.5	nd	nd	nd	0.056	
112	S9 E44:5.5	8/12/2019	5.5	nd	nd	nd	0.063	
113	S17 E47.5:2.5	8/12/2019	2.5	nd	nd	nd	0.0059	
114	S25 E43:2.5	8/12/2019	2.5	nd	nd	nd	0.0072	
115	S20.5 E51:5ft	8/13/2019	5	nd	nd	nd	0.013	
116	S25 E40:2.5ft	8/13/2019	2.5	nd	nd	0.004	0.066	
117	S25 E40:3ft	8/13/2019	3	nd	nd	0.007	0.019	
118	S25 E36:5.5ft	8/13/2019	5.5	nd	nd	0.005	0.03	
119	S29 E30:2.5ft	8/13/2019	2.5	nd	nd	0.018	0.16	
120	S18 E45:7ft	8/13/2019	7	nd	nd	nd	0.0024	
	Site Specific Clear	nup Levels		0.0000885	0.00515	0.03	0.05	

Notes:

mg/kg = milligrams per kilogram (equivalent to parts per million [ppm]).

nd = not detected at Method Reporting Limit.

Shaded and Bold concentrations are above the Site Specific Cleanup Levels.

# ATTACHMENT A ANALYTICAL REPORTS



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

July 26, 2019

Jeff Jensen Kane Environmental, Inc. 4015 13th Avenue West Seattle, WA 98119

Re: Analytical Data for Project 82302-9.3

Laboratory Reference No. 1907-291

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 25, 2019.

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: 82302-9.3

### **Case Narrative**

Samples were collected on July 25, 2019 and received by the laboratory on July 25, 2019. 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: 82302-9.3

### **VOLATILE ORGANICS EPA 8260C**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S35 E12:12					
Laboratory ID:	07-291-01					
Dichlorodifluoromethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Chloromethane	ND	0.0043	EPA 8260C	7-25-19	7-25-19	
Vinyl Chloride	ND	0.000043	EPA 8260C/SIM	7-25-19	7-25-19	
Bromomethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Chloroethane	ND	0.0043	EPA 8260C	7-25-19	7-25-19	
Trichlorofluoromethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,1-Dichloroethene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Iodomethane	ND	0.0043	EPA 8260C	7-25-19	7-25-19	
Methylene Chloride	ND	0.0043	EPA 8260C	7-25-19	7-25-19	
(trans) 1,2-Dichloroethene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,1-Dichloroethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
2,2-Dichloropropane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
(cis) 1,2-Dichloroethene	0.012	0.00086	EPA 8260C	7-25-19	7-25-19	
Bromochloromethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Chloroform	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,1,1-Trichloroethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Carbon Tetrachloride	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,1-Dichloropropene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,2-Dichloroethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Trichloroethene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,2-Dichloropropane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Dibromomethane	ND	0.0012	EPA 8260C	7-25-19	7-25-19	
Bromodichloromethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
2-Chloroethyl Vinyl Ether	ND	0.0043	EPA 8260C	7-25-19	7-25-19	
(cis) 1,3-Dichloropropene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
(trans) 1,3-Dichloropropene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	

Project: 82302-9.3

## **VOLATILE ORGANICS EPA 8260C**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S35 E12:12					
Laboratory ID:	07-291-01					
1,1,2-Trichloroethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Tetrachloroethene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,3-Dichloropropane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Dibromochloromethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,2-Dibromoethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Chlorobenzene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,1,1,2-Tetrachloroethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Bromoform	ND	0.0043	EPA 8260C	7-25-19	7-25-19	
Bromobenzene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,1,2,2-Tetrachloroethane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,2,3-Trichloropropane	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
2-Chlorotoluene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
4-Chlorotoluene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,3-Dichlorobenzene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,4-Dichlorobenzene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,2-Dichlorobenzene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
1,2-Dibromo-3-chloropropane	ND	0.0043	EPA 8260C	7-25-19	7-25-19	
1,2,4-Trichlorobenzene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Hexachlorobutadiene	ND	0.0043	EPA 8260C	7-25-19	7-25-19	
1,2,3-Trichlorobenzene	ND	0.00086	EPA 8260C	7-25-19	7-25-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	94	76-131				
Toluene-d8	95	78-128				
4-Bromofluorobenzene	93	71-130				

Project: 82302-9.3

### VOLATILE ORGANICS EPA 8260C METHOD BLANK QUALITY CONTROL

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0725S2					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Chloromethane	ND	0.0050	EPA 8260C	7-25-19	7-25-19	
Vinyl Chloride	ND	0.000050	EPA 8260C/SIM	7-25-19	7-25-19	
Bromomethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Chloroethane	ND	0.0050	EPA 8260C	7-25-19	7-25-19	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Iodomethane	ND	0.0050	EPA 8260C	7-25-19	7-25-19	
Methylene Chloride	ND	0.0050	EPA 8260C	7-25-19	7-25-19	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Bromochloromethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Chloroform	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Trichloroethene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Dibromomethane	ND	0.0014	EPA 8260C	7-25-19	7-25-19	
Bromodichloromethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	7-25-19	7-25-19	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	

Project: 82302-9.3

### VOLATILE ORGANICS EPA 8260C METHOD BLANK QUALITY CONTROL

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0725S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Tetrachloroethene	ND	0.0010	EPA 8260C	7-25-19 7-25-19	7-25-19 7-25-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Dibromochloromethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Chlorobenzene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Bromoform	ND	0.0050	EPA 8260C	7-25-19	7-25-19	
Bromobenzene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
2-Chlorotoluene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
4-Chlorotoluene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	7-25-19	7-25-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	7-25-19	7-25-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	7-25-19	7-25-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	99	76-131				
Toluene-d8	99	78-128				
4-Bromofluorobenzene	92	71-130				

Project: 82302-9.3

# VOLATILE ORGANICS 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:	SB07	25S2								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0488	0.0483	0.0500	0.0500	98	97	57-133	1	18	
Benzene	0.0482	0.0479	0.0500	0.0500	96	96	71-129	1	16	
Trichloroethene	0.0554	0.0517	0.0500	0.0500	111	103	71-122	7	16	
Toluene	0.0498	0.0476	0.0500	0.0500	100	95	74-125	5	15	
Chlorobenzene	0.0571	0.0544	0.0500	0.0500	114	109	72-120	5	14	
Surrogate:										
Dibromofluoromethane					94	95	76-131			
Toluene-d8					97	97	78-128			
4-Bromofluorobenzene					100	98	71-130			

### % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
S35 E12:12	07-291-01	15	7-25-19
S28 E2:5	07-291-02	4	7-25-19
S28 E1: 2.5	07-291-03	6	7-25-19
S32 E2:3	07-291-04	6	7-25-19
S18 E2:5	07-291-05	5	7-25-19
S18 E1:2.5	07-291-06	12	7-25-19
S18 E8:5	07-291-07	4	7-25-19



### **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-naphthalene) 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 methods 8260 & 8270, 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





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Property	Data Package: Standard ☐ Level III ☐ Level IV ☐ Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐			Reviewed/Date	Received Reviewed/Date
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Red by:  Sample Identification  Sampled Sampled Sampled Matrix  Number of Containers  NWTPH-HCID  NWTPH-Gx/BTEX  NWTPH-Gx/BTEX  NWTPH-Gx/BTEX  NWTPH-Gx/BTEX  NWTPH-Dx ([] Acid / SG Clean-up)  Volatiles 8260C  Halogenated Volatiles 8260C  EDB EPA 8011 (Waters Only)  Semivolatiles 8270D/SIM (with low-level PAHs)  PAHs 8270D/SIM (low-level)  PCBs 8082A  Organophosphorus Pesticides 8070D/SIM  Chlorinated Acid Herbicides 8151A  Total RCRA Metals		×		1140	S18 E1
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Phone: (425) 883-3881 * www.onsite-env.com (Check One)  Red by:  Sample Identification  Sampled Sampled Matrix  Number of Containers  NWTPH-HCID  NWTPH-Gx/BTEX  NWTPH-Gx/BTEX  NWTPH-Dx ( Acid / SG Clean-up)  Volatiles 8260C  Halogenated Volatiles 8270D/SIM (with low-level PAHs)  PAHs 8270D/SIM (low-level)  PCBs 8082A  Organophosphorus Pesticides 8270D/SIM (chlorinated Acid Herbicides 8151A)  Total RCRA Metals		×	2	2460	EIZ
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14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

July 31, 2019

Jeff Jensen Kane Environmental, Inc. 4015 13th Avenue West Seattle, WA 98119

Re: Analytical Data for Project 82302-9.3

Laboratory Reference No. 1907-336

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 30, 2019.

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: 82302-9.3

### **Case Narrative**

Samples were collected on July 30, 2019 and received by the laboratory on July 30, 2019. 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.

### **VOLATILE ORGANICS EPA 8260C/SIM**

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S35 E13:13					
Laboratory ID:	07-336-02					
Dichlorodifluoromethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Chloromethane	ND	0.0036	EPA 8260C	7-30-19	7-30-19	
Vinyl Chloride	0.000045	0.000036	EPA 8260C/SIM	7-30-19	7-30-19	
Bromomethane	ND	0.00095	EPA 8260C	7-30-19	7-30-19	
Chloroethane	ND	0.0036	EPA 8260C	7-30-19	7-30-19	
Trichlorofluoromethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,1-Dichloroethene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Iodomethane	ND	0.0050	EPA 8260C	7-30-19	7-30-19	
Methylene Chloride	ND	0.0036	EPA 8260C	7-30-19	7-30-19	
(trans) 1,2-Dichloroethene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,1-Dichloroethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
2,2-Dichloropropane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
(cis) 1,2-Dichloroethene	0.023	0.00073	EPA 8260C	7-30-19	7-30-19	
Bromochloromethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Chloroform	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,1,1-Trichloroethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Carbon Tetrachloride	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,1-Dichloropropene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,2-Dichloroethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Trichloroethene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,2-Dichloropropane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Dibromomethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Bromodichloromethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
2-Chloroethyl Vinyl Ether	ND	0.0036	EPA 8260C	7-30-19	7-30-19	
(cis) 1,3-Dichloropropene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
(trans) 1,3-Dichloropropene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	

### **VOLATILE ORGANICS EPA 8260C/SIM**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S35 E13:13					
Laboratory ID:	07-336-02					
1,1,2-Trichloroethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Tetrachloroethene	0.0041	0.00073	EPA 8260C	7-30-19	7-30-19	
1,3-Dichloropropane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Dibromochloromethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,2-Dibromoethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Chlorobenzene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,1,1,2-Tetrachloroethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Bromoform	ND	0.0036	EPA 8260C	7-30-19	7-30-19	
Bromobenzene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,1,2,2-Tetrachloroethane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,2,3-Trichloropropane	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
2-Chlorotoluene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
4-Chlorotoluene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,3-Dichlorobenzene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,4-Dichlorobenzene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,2-Dichlorobenzene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
1,2-Dibromo-3-chloropropane	ND	0.0036	EPA 8260C	7-30-19	7-30-19	
1,2,4-Trichlorobenzene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Hexachlorobutadiene	ND	0.0036	EPA 8260C	7-30-19	7-30-19	
1,2,3-Trichlorobenzene	ND	0.00073	EPA 8260C	7-30-19	7-30-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	94	76-131				
Toluene-d8	97	78-128				

4-Bromofluorobenzene

96

71-130

### **VOLATILE ORGANICS EPA 8260C/SIM**

page 1 of 2

orner ingrig				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S35 E13:14					
Laboratory ID:	07-336-03					
Dichlorodifluoromethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Chloromethane	ND	0.0027	EPA 8260C	7-30-19	7-30-19	
Vinyl Chloride	0.000049	0.000027	EPA 8260C/SIM	7-30-19	7-30-19	
Bromomethane	ND	0.00071	EPA 8260C	7-30-19	7-30-19	
Chloroethane	ND	0.0027	EPA 8260C	7-30-19	7-30-19	
Trichlorofluoromethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,1-Dichloroethene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Iodomethane	ND	0.0037	EPA 8260C	7-30-19	7-30-19	
Methylene Chloride	ND	0.0027	EPA 8260C	7-30-19	7-30-19	
(trans) 1,2-Dichloroethene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,1-Dichloroethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
2,2-Dichloropropane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
(cis) 1,2-Dichloroethene	0.031	0.00054	EPA 8260C	7-30-19	7-30-19	
Bromochloromethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Chloroform	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,1,1-Trichloroethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Carbon Tetrachloride	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,1-Dichloropropene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,2-Dichloroethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Trichloroethene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,2-Dichloropropane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Dibromomethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Bromodichloromethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
2-Chloroethyl Vinyl Ether	ND	0.0027	EPA 8260C	7-30-19	7-30-19	
(cis) 1,3-Dichloropropene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
(trans) 1,3-Dichloropropene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	

### **VOLATILE ORGANICS EPA 8260C/SIM**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S35 E13:14					
Laboratory ID:	07-336-03					
1,1,2-Trichloroethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Tetrachloroethene	0.00089	0.00054	EPA 8260C	7-30-19	7-30-19	
1,3-Dichloropropane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Dibromochloromethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,2-Dibromoethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Chlorobenzene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,1,1,2-Tetrachloroethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Bromoform	ND	0.0027	EPA 8260C	7-30-19	7-30-19	
Bromobenzene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,1,2,2-Tetrachloroethane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,2,3-Trichloropropane	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
2-Chlorotoluene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
4-Chlorotoluene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,3-Dichlorobenzene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,4-Dichlorobenzene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,2-Dichlorobenzene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
1,2-Dibromo-3-chloropropane	ND	0.0027	EPA 8260C	7-30-19	7-30-19	
1,2,4-Trichlorobenzene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Hexachlorobutadiene	ND	0.0027	EPA 8260C	7-30-19	7-30-19	
1,2,3-Trichlorobenzene	ND	0.00054	EPA 8260C	7-30-19	7-30-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	92	76-131				
Toluene-d8	98	78-128				

4-Bromofluorobenzene 101 71-130

### **VOLATILE ORGANICS EPA 8260C/SIM**

page 1 of 2

			Date	Date	
Analyte Result	PQL	Method	Prepared	Analyzed	Flags
Client ID: S35 E13:15					
Laboratory ID: 07-336-04					
Dichlorodifluoromethane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Chloromethane ND	0.0042	EPA 8260C	7-30-19	7-30-19	
Vinyl Chloride ND	0.000042	EPA 8260C/SIM	7-30-19	7-30-19	
Bromomethane ND	0.0011	EPA 8260C	7-30-19	7-30-19	
Chloroethane ND	0.0042	EPA 8260C	7-30-19	7-30-19	
Trichlorofluoromethane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,1-Dichloroethene ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Iodomethane ND	0.0057	EPA 8260C	7-30-19	7-30-19	
Methylene Chloride ND	0.0042	EPA 8260C	7-30-19	7-30-19	
(trans) 1,2-Dichloroethene ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,1-Dichloroethane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
2,2-Dichloropropane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
(cis) 1,2-Dichloroethene 0.019	0.00083	EPA 8260C	7-30-19	7-30-19	
Bromochloromethane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Chloroform ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,1,1-Trichloroethane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Carbon Tetrachloride ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,1-Dichloropropene ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,2-Dichloroethane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Trichloroethene 0.00089	0.00083	EPA 8260C	7-30-19	7-30-19	
1,2-Dichloropropane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Dibromomethane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Bromodichloromethane ND	0.00083	EPA 8260C	7-30-19	7-30-19	
2-Chloroethyl Vinyl Ether ND	0.0042	EPA 8260C	7-30-19	7-30-19	
(cis) 1,3-Dichloropropene ND	0.00083	EPA 8260C	7-30-19	7-30-19	
(trans) 1,3-Dichloropropene ND	0.00083	EPA 8260C	7-30-19	7-30-19	

### **VOLATILE ORGANICS EPA 8260C/SIM**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S35 E13:15					
Laboratory ID:	07-336-04					
1,1,2-Trichloroethane	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Tetrachloroethene	0.0014	0.00083	EPA 8260C	7-30-19	7-30-19	
1,3-Dichloropropane	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Dibromochloromethane	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,2-Dibromoethane	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Chlorobenzene	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,1,1,2-Tetrachloroethane	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Bromoform	ND	0.0042	EPA 8260C	7-30-19	7-30-19	
Bromobenzene	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,1,2,2-Tetrachloroethane	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,2,3-Trichloropropane	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
2-Chlorotoluene	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
4-Chlorotoluene	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,3-Dichlorobenzene	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,4-Dichlorobenzene	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,2-Dichlorobenzene	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
1,2-Dibromo-3-chloropropane	ND	0.0042	EPA 8260C	7-30-19	7-30-19	
1,2,4-Trichlorobenzene	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Hexachlorobutadiene	ND	0.0042	EPA 8260C	7-30-19	7-30-19	
1,2,3-Trichlorobenzene	ND	0.00083	EPA 8260C	7-30-19	7-30-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	95	76-131				
Toluene-d8	98	78-128				

4-Bromofluorobenzene

101

71-130

### **VOLATILE ORGANICS EPA 8260C/SIM** METHOD BLANK QUALITY CONTROL

page 1 of 2

				Date	Date		
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags	
Laboratory ID:	MB0730S2						
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
Chloromethane	ND	0.0050	EPA 8260C	7-30-19	7-30-19		
Vinyl Chloride	ND	0.000050	EPA 8260C/SIM	7-30-19	7-30-19		
Bromomethane	ND	0.0013	EPA 8260C	7-30-19	7-30-19		
Chloroethane	ND	0.0050	EPA 8260C	7-30-19	7-30-19		
Trichlorofluoromethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
1,1-Dichloroethene	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
Iodomethane	ND	0.0068	EPA 8260C	7-30-19	7-30-19		
Methylene Chloride	ND	0.0050	EPA 8260C	7-30-19	7-30-19		
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
1,1-Dichloroethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19	19	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
Bromochloromethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
Chloroform	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
Carbon Tetrachloride	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
1,1-Dichloropropene	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
1,2-Dichloroethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
Trichloroethene	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
1,2-Dichloropropane	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
Dibromomethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
Bromodichloromethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
2-Chloroethyl Vinyl Ether			EPA 8260C	7-30-19	7-30-19		
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	7-30-19	7-30-19		
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	7-30-19	7-30-19		

### **VOLATILE ORGANICS EPA 8260C/SIM METHOD BLANK QUALITY CONTROL**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0730S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
Tetrachloroethene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
Dibromochloromethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
Chlorobenzene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
Bromoform	ND	0.0050	EPA 8260C	7-30-19	7-30-19	
Bromobenzene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
2-Chlorotoluene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
4-Chlorotoluene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	7-30-19	7-30-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	7-30-19	7-30-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	7-30-19	7-30-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	96	76-131				
Toluene-d8	96	78-128				
4-Bromofluorobenzene	101	71-130				

### **VOLATILE ORGANICS EPA 8260C/SIM** SB/SBD QUALITY CONTROL

					Per	Percent					
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags	
SPIKE BLANKS											
Laboratory ID:	SB07	30S2									
	SB	SBD	SB	SBD	SB	SBD					
1,1-Dichloroethene	0.0473	0.0461	0.0500	0.0500	95	92	57-133	3	18		
Benzene	0.0474	0.0479	0.0500	0.0500	95	96	71-129	1	16		
Trichloroethene	0.0551	0.0527	0.0500	0.0500	110	105	71-122	4	16		
Toluene	0.0502	0.0484	0.0500	0.0500	100	97	74-125	4	15		
Chlorobenzene	0.0563	0.0542	0.0500	0.0500	113	108	72-120	4	14		
Surrogate:											
Dibromofluoromethane					89	92	76-131				
Toluene-d8					93	91	78-128				
4-Bromofluorobenzene					98	99	71-130				

### % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
S18 E7.5:7	07-336-01	6	7-30-19
S35 E13:13	07-336-02	20	7-30-19
S35 E13:14	07-336-03	19	7-30-19
S35 E13:15	07-336-04	20	7-30-19
S11 E29:2.5	07-336-05	8	7-30-19
S19.5 E27:2.5	07-336-06	8	7-30-19



### **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-naphthalene) 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 methods 8260 & 8270, 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 Laboratory Number: 0 / - 3 3 0

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Rei	Rec	Re	Rec	Rel	Rec	Reli				0	de	7	S	2	-	Lab ID	Samp	Projec	Projec	Projec	Company:	
Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished				5 19,5 E27:	SII ELG.	535 E13	535 E	535 E	SI8E		Sampled by:	Project Manager:	Project Name: BSCSS	Ä	Kane	
						NA NA	Signature /			27: 2.5	9.2.5	(8: 15	13:14	3 & 13	7.5:7	Sample Identification		Jensen	\$	82302-9,3	Environmental	Analytical Ladoratory results between 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com
Reviewed/Date					350	mb3	Company	-		0111	1100	1025	0935	0920	7/30/19 0820	Date Time Sampled Sampled	(other)		Standard (7 Days)	2 Days	Same Day	(in working days) (Check One)
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					7/30/19	May 7130	Date									NWTF NWTF	PH-Gx/ PH-Gx PH-Dx	BTEX	1 / SG C	lean-up	) )	Laboratory Number:
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Chromatograms with final report	Data Package: Standard		- I day TAT	Acacita man	0	Need 0.08 pps	ts/Special Ins									(with PAHs PCBs Organ	low-le <sup>s</sup> 8270E s 8082 nochlo	vel PAH: D/SIM (lo A rine Pes	s) ow-leve sticides Pestici	8081B des 827	70D/SIM	
oort   Electronic Data Deliverables (EDDs)	Level III   Level IV		7		Ze	detection Unit	-									Total	MTCA Meta	Metals Metals Metals d greas		A	2	
ables (EDDs)						10%										% M	oisture					



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

August 5, 2019

Jeff Jensen Kane Environmental, Inc. 4015 13th Avenue West Seattle, WA 98119

Re: Analytical Data for Project 82302-9.3

Laboratory Reference No. 1908-028

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on August 2, 2019.

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: August 5, 2019 Samples Submitted: August 2, 2019 Laboratory Reference: 1908-028

Project: 82302-9.3

### **Case Narrative**

Samples were collected on August 2, 2019 and received by the laboratory on August 2, 2019. 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: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 1 of 2

ome. mg/ng				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S95E08:4					
Laboratory ID:	08-028-01					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	8-2-19	8-2-19	
Chloromethane	ND	0.0050	EPA 8260C	8-2-19	8-2-19	
Vinyl Chloride	ND	0.000036	EPA 8260C/SIM	8-2-19	8-2-19	
Bromomethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Chloroethane	ND	0.0036	EPA 8260C	8-2-19	8-2-19	
Trichlorofluoromethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Iodomethane	ND	0.0036	EPA 8260C	8-2-19	8-2-19	
Methylene Chloride	ND	0.0036	EPA 8260C	8-2-19	8-2-19	
(trans) 1,2-Dichloroethene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
2,2-Dichloropropane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
(cis) 1,2-Dichloroethene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Bromochloromethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Chloroform	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,1,1-Trichloroethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Carbon Tetrachloride	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloropropene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloroethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Trichloroethene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloropropane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Dibromomethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Bromodichloromethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
2-Chloroethyl Vinyl Ether	ND	0.0036	EPA 8260C	8-2-19	8-2-19	
(cis) 1,3-Dichloropropene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
(trans) 1,3-Dichloropropene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S95E08:4					
Laboratory ID:	08-028-01					
1,1,2-Trichloroethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Tetrachloroethene	0.0014	0.00072	EPA 8260C/SIM	8-2-19	8-2-19	
1,3-Dichloropropane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Dibromochloromethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromoethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Chlorobenzene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,1,1,2-Tetrachloroethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Bromoform	ND	0.0036	EPA 8260C	8-2-19	8-2-19	
Bromobenzene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,1,2,2-Tetrachloroethane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichloropropane	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
2-Chlorotoluene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
4-Chlorotoluene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,3-Dichlorobenzene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,4-Dichlorobenzene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,2-Dichlorobenzene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromo-3-chloropropane	ND	0.0036	EPA 8260C	8-2-19	8-2-19	
1,2,4-Trichlorobenzene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Hexachlorobutadiene	ND	0.0036	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichlorobenzene	ND	0.00072	EPA 8260C	8-2-19	8-2-19	
Surrogate:	Percent Recovery	Control Limits	_			
Dibromofluoromethane	92	76-131				
Toluene-d8	95	78-128				



Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 1 of 2

ome. mg/ng				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S96E5.5:2					
Laboratory ID:	08-028-02					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	8-2-19	8-2-19	
Chloromethane	ND	0.0048	EPA 8260C	8-2-19	8-2-19	
Vinyl Chloride	ND	0.000035	EPA 8260C/SIM	8-2-19	8-2-19	
Bromomethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Chloroethane	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
Trichlorofluoromethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
lodomethane	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
Methylene Chloride	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
(trans) 1,2-Dichloroethene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
2,2-Dichloropropane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
(cis) 1,2-Dichloroethene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Bromochloromethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Chloroform	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,1,1-Trichloroethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Carbon Tetrachloride	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloropropene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloroethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Trichloroethene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloropropane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Dibromomethane	ND	0.00098	EPA 8260C	8-2-19	8-2-19	
Bromodichloromethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
2-Chloroethyl Vinyl Ether	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
(cis) 1,3-Dichloropropene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
(trans) 1,3-Dichloropropene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S96E5.5:2					
Laboratory ID:	08-028-02					
1,1,2-Trichloroethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Tetrachloroethene	0.0030	0.00070	EPA 8260C/SIM	8-2-19	8-2-19	
1,3-Dichloropropane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Dibromochloromethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromoethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Chlorobenzene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,1,1,2-Tetrachloroethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Bromoform	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
Bromobenzene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,1,2,2-Tetrachloroethane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichloropropane	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
2-Chlorotoluene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
4-Chlorotoluene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,3-Dichlorobenzene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,4-Dichlorobenzene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,2-Dichlorobenzene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromo-3-chloropropane	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
1,2,4-Trichlorobenzene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Hexachlorobutadiene	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichlorobenzene	ND	0.00070	EPA 8260C	8-2-19	8-2-19	
Surrogate:	Percent Recovery	Control Limits	_		_	
Dibromofluoromethane	90	76-131				
Toluene-d8	94	78-128				

78-128 Toluene-d8 98 71-130 4-Bromofluorobenzene



Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 1 of 2

ome: mg/ng				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S93.5E7.5:2					
Laboratory ID:	08-028-03					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	8-2-19	8-2-19	
Chloromethane	ND	0.0060	EPA 8260C	8-2-19	8-2-19	
Vinyl Chloride	ND	0.000044	EPA 8260C/SIM	8-2-19	8-2-19	
Bromomethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Chloroethane	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
Trichlorofluoromethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
lodomethane	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
Methylene Chloride	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
(trans) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
2,2-Dichloropropane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
(cis) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Bromochloromethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Chloroform	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,1,1-Trichloroethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Carbon Tetrachloride	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloropropene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloroethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Trichloroethene	0.0056	0.00088	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloropropane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Dibromomethane	ND	0.0012	EPA 8260C	8-2-19	8-2-19	
Bromodichloromethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
2-Chloroethyl Vinyl Ether	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
(cis) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
(trans) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S93.5E7.5:2					
Laboratory ID:	08-028-03					
1,1,2-Trichloroethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Tetrachloroethene	0.056	0.00088	EPA 8260C/SIM	8-2-19	8-2-19	
1,3-Dichloropropane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Dibromochloromethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromoethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Chlorobenzene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,1,1,2-Tetrachloroethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Bromoform	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
Bromobenzene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,1,2,2-Tetrachloroethane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichloropropane	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
2-Chlorotoluene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
4-Chlorotoluene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,3-Dichlorobenzene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,4-Dichlorobenzene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,2-Dichlorobenzene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromo-3-chloropropane	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
1,2,4-Trichlorobenzene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Hexachlorobutadiene	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichlorobenzene	ND	0.00088	EPA 8260C	8-2-19	8-2-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	89	76-131				
Toluene-d8	96	78-128				

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S95E11.5:2					
Laboratory ID:	08-028-04					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	8-2-19	8-2-19	
Chloromethane	ND	0.0054	EPA 8260C	8-2-19	8-2-19	
Vinyl Chloride	ND	0.000039	EPA 8260C/SIM	8-2-19	8-2-19	
Bromomethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Chloroethane	ND	0.0039	EPA 8260C	8-2-19	8-2-19	
Trichlorofluoromethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
lodomethane	ND	0.0039	EPA 8260C	8-2-19	8-2-19	
Methylene Chloride	ND	0.0039	EPA 8260C	8-2-19	8-2-19	
(trans) 1,2-Dichloroethene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
2,2-Dichloropropane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
(cis) 1,2-Dichloroethene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Bromochloromethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Chloroform	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,1,1-Trichloroethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Carbon Tetrachloride	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloropropene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloroethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Trichloroethene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloropropane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Dibromomethane	ND	0.0011	EPA 8260C	8-2-19	8-2-19	
Bromodichloromethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
2-Chloroethyl Vinyl Ether	ND	0.0039	EPA 8260C	8-2-19	8-2-19	
(cis) 1,3-Dichloropropene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
(trans) 1,3-Dichloropropene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	

Project: 82302-9.3

#### **VOLATILE ORGANICS EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S95E11.5:2					
Laboratory ID:	08-028-04					
1,1,2-Trichloroethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Tetrachloroethene	0.0023	0.00079	EPA 8260C/SIM	8-2-19	8-2-19	
1,3-Dichloropropane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Dibromochloromethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromoethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Chlorobenzene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,1,1,2-Tetrachloroethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Bromoform	ND	0.0039	EPA 8260C	8-2-19	8-2-19	
Bromobenzene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,1,2,2-Tetrachloroethane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichloropropane	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
2-Chlorotoluene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
4-Chlorotoluene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,3-Dichlorobenzene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,4-Dichlorobenzene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,2-Dichlorobenzene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromo-3-chloropropane	ND	0.0039	EPA 8260C	8-2-19	8-2-19	
1,2,4-Trichlorobenzene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Hexachlorobutadiene	ND	0.0039	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichlorobenzene	ND	0.00079	EPA 8260C	8-2-19	8-2-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	89	76-131				
Toluene-d8	95	78-128				

Surrogate:	Percent Recovery	Control Limits
Dibromofluoromethane	89	76-131
Toluene-d8	95	78-128
4-Bromofluorobenzene	94	71-130



Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S98E10:2					
Laboratory ID:	08-028-05					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	8-2-19	8-2-19	
Chloromethane	ND	0.0049	EPA 8260C	8-2-19	8-2-19	
Vinyl Chloride	ND	0.000035	EPA 8260C/SIM	8-2-19	8-2-19	
Bromomethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Chloroethane	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
Trichlorofluoromethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
lodomethane	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
Methylene Chloride	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
(trans) 1,2-Dichloroethene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
2,2-Dichloropropane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
(cis) 1,2-Dichloroethene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Bromochloromethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Chloroform	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,1,1-Trichloroethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Carbon Tetrachloride	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloropropene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloroethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Trichloroethene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloropropane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Dibromomethane	ND	0.00099	EPA 8260C	8-2-19	8-2-19	
Bromodichloromethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
2-Chloroethyl Vinyl Ether	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
(cis) 1,3-Dichloropropene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
(trans) 1,3-Dichloropropene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	

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# **VOLATILE ORGANICS EPA 8260C**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S98E10:2					_
Laboratory ID:	08-028-05					
1,1,2-Trichloroethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Tetrachloroethene	0.0018	0.00071	EPA 8260C/SIM	8-2-19	8-2-19	
1,3-Dichloropropane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Dibromochloromethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromoethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Chlorobenzene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,1,1,2-Tetrachloroethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Bromoform	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
Bromobenzene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,1,2,2-Tetrachloroethane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichloropropane	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
2-Chlorotoluene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
4-Chlorotoluene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,3-Dichlorobenzene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,4-Dichlorobenzene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,2-Dichlorobenzene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromo-3-chloropropane	. ND	0.0035	EPA 8260C	8-2-19	8-2-19	
1,2,4-Trichlorobenzene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Hexachlorobutadiene	ND	0.0035	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichlorobenzene	ND	0.00071	EPA 8260C	8-2-19	8-2-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	89	76-131				
Toluene-d8	96	78-128				

4-Bromofluorobenzene

101

71-130

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

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Analyte Result PQL Method Prepared	Analyzed	Flags
Client ID: S20E7.5:12		
Laboratory ID: 08-028-06		
Dichlorodifluoromethane ND 0.0013 EPA 8260C 8-2-19	8-2-19	
Chloromethane ND 0.0061 EPA 8260C 8-2-19	8-2-19	
Vinyl Chloride ND 0.000044 EPA 8260C/SIM 8-2-19	8-2-19	
Bromomethane ND 0.00089 EPA 8260C 8-2-19	8-2-19	
Chloroethane ND 0.0044 EPA 8260C 8-2-19	8-2-19	
Trichlorofluoromethane ND 0.00089 EPA 8260C 8-2-19	8-2-19	
1,1-Dichloroethene ND 0.00089 EPA 8260C 8-2-19	8-2-19	
lodomethane ND 0.0044 EPA 8260C 8-2-19	8-2-19	
Methylene Chloride ND 0.0044 EPA 8260C 8-2-19	8-2-19	
(trans) 1,2-Dichloroethene ND 0.00089 EPA 8260C 8-2-19	8-2-19	
1,1-Dichloroethane ND 0.00089 EPA 8260C 8-2-19	8-2-19	
2,2-Dichloropropane ND 0.00089 EPA 8260C 8-2-19	8-2-19	
(cis) 1,2-Dichloroethene 0.012 0.00089 EPA 8260C 8-2-19	8-2-19	
Bromochloromethane ND 0.00089 EPA 8260C 8-2-19	8-2-19	
Chloroform ND 0.00089 EPA 8260C 8-2-19	8-2-19	
1,1,1-Trichloroethane ND 0.00089 EPA 8260C 8-2-19	8-2-19	
Carbon Tetrachloride ND 0.00089 EPA 8260C 8-2-19	8-2-19	
1,1-Dichloropropene ND 0.00089 EPA 8260C 8-2-19	8-2-19	
1,2-Dichloroethane ND 0.00089 EPA 8260C 8-2-19	8-2-19	
Trichloroethene 0.0011 0.00089 EPA 8260C 8-2-19	8-2-19	
1,2-Dichloropropane ND 0.00089 EPA 8260C 8-2-19	8-2-19	
Dibromomethane ND 0.0012 EPA 8260C 8-2-19	8-2-19	
Bromodichloromethane ND 0.00089 EPA 8260C 8-2-19	8-2-19	
2-Chloroethyl Vinyl Ether ND 0.0044 EPA 8260C 8-2-19	8-2-19	
(cis) 1,3-Dichloropropene ND 0.00089 EPA 8260C 8-2-19	8-2-19	
(trans) 1,3-Dichloropropene ND 0.00089 EPA 8260C 8-2-19	8-2-19	

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S20E7.5:12					
Laboratory ID:	08-028-06					
1,1,2-Trichloroethane	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
Tetrachloroethene	0.0058	0.00089	EPA 8260C/SIM	8-2-19	8-2-19	
1,3-Dichloropropane	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
Dibromochloromethane	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromoethane	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
Chlorobenzene	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
1,1,1,2-Tetrachloroethane	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
Bromoform	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
Bromobenzene	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
1,1,2,2-Tetrachloroethane	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichloropropane	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
2-Chlorotoluene	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
4-Chlorotoluene	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
1,3-Dichlorobenzene	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
1,4-Dichlorobenzene	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
1,2-Dichlorobenzene	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromo-3-chloropropane	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
1,2,4-Trichlorobenzene	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
Hexachlorobutadiene	ND	0.0044	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichlorobenzene	ND	0.00089	EPA 8260C	8-2-19	8-2-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	87	76-131				
Toluene-d8	95	78-128				

78-128 Toluene-d8 101 71-130 4-Bromofluorobenzene



Project: 82302-9.3

#### VOLATILE ORGANICS EPA 8260C METHOD BLANK QUALITY CONTROL

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Offits. Hig/kg				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0802S1					
Dichlorodifluoromethane	ND	0.0015	EPA 8260C	8-2-19	8-2-19	
Chloromethane	ND	0.0069	EPA 8260C	8-2-19	8-2-19	
Vinyl Chloride	ND	0.000050	EPA 8260C/SIM	8-2-19	8-2-19	
Bromomethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Chloroethane	ND	0.0050	EPA 8260C	8-2-19	8-2-19	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Iodomethane	ND	0.0050	EPA 8260C	8-2-19	8-2-19	
Methylene Chloride	ND	0.0050	EPA 8260C	8-2-19	8-2-19	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Bromochloromethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Chloroform	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Trichloroethene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Dibromomethane	ND	0.0014	EPA 8260C	8-2-19	8-2-19	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	8-2-19	8-2-19	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	

Project: 82302-9.3

#### VOLATILE ORGANICS EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0802S1					_
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Tetrachloroethene	ND	0.0010	EPA 8260C/SIM	8-2-19	8-2-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Chlorobenzene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Bromoform	ND	0.0050	EPA 8260C	8-2-19	8-2-19	
Bromobenzene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
4-Chlorotoluene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	8-2-19	8-2-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	8-2-19	8-2-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-2-19	8-2-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	91	76-131				
Toluene-d8	98	78-128				
4-Bromofluorobenzene	101	71-130				

Project: 82302-9.3

# VOLATILE ORGANICS 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:	SB08	02S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0408	0.0422	0.0500	0.0500	82	84	57-133	3	18	
Benzene	0.0420	0.0441	0.0500	0.0500	84	88	71-129	5	16	
Trichloroethene	0.0517	0.0515	0.0500	0.0500	103	103	71-122	0	16	
Toluene	0.0463	0.0473	0.0500	0.0500	93	95	74-125	2	15	
Chlorobenzene	0.0501	0.0521	0.0500	0.0500	100	104	72-120	4	14	
Surrogate:										
Dibromofluoromethane					87	89	76-131			
Toluene-d8					94	95	78-128			
4-Bromofluorobenzene					94	102	71-130			

#### % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
S95E08:4	08-028-01	6	8-2-19
S96E5.5:2	08-028-02	4	8-2-19
S93.5E7.5:2	08-028-03	12	8-2-19
S95E11.5:2	08-028-04	12	8-2-19
S98E10:2	08-028-05	5	8-2-19
S20E7.5:12	08-028-06	16	8-2-19



#### **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-naphthalene) 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 methods 8260 & 8270, 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





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Reviewed/Date					- OXE	D 72/21/00	Company			7		12:35 J	12:19	) 16:31	7-1-19 16:28 Water 7	Date Time Sampled Matrix	(other)	ontain	Standard (7 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request (in working days)
					7/4/9 1200	7-9-19 (83)	Date Time	/				<- <-			-X -X	NWTF NWTF NWTF Volati Halog	PH-Dx () les 8260 enated	☐ Acid	I / SG Closes 8260C	18	TE	X	Laboratory Number:
Chromatograms with final report [ ] Electronic Data Deliverables (EDDs)	Data Package: Standard Level III						Comments/Special Instructions									(with PAHs PCBs Organ Organ Chlor Total TCLP	8082A nochlorin nophosp inated A RCRA M MTCA M	el PAHs /SIM (lo ne Pes bhorus Acid He Metals Vietals		es 8270 8151A		<u> </u>	07-028



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

August 8, 2019

Jeff Jensen Kane Environmental, Inc. 4015 13th Avenue West Seattle, WA 98119

Re: Analytical Data for Project 82302-9.3

Laboratory Reference No. 1908-069

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on August 6, 2019.

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: 82302-9.3

#### **Case Narrative**

Samples were collected on August 6, 2019 and received by the laboratory on August 6, 2019. 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.

#### **VOLATILE ORGANICS EPA 8260C/SIM**

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S91 E07:2ft					
Laboratory ID:	08-069-01					
Dichlorodifluoromethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Chloromethane	ND	0.0038	EPA 8260C	8-6-19	8-6-19	
Vinyl Chloride	ND	0.000038	EPA 8260C/SIM	8-6-19	8-6-19	
Bromomethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Chloroethane	ND	0.0038	EPA 8260C	8-6-19	8-6-19	
Trichlorofluoromethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Iodomethane	ND	0.0038	EPA 8260C	8-6-19	8-6-19	
Methylene Chloride	ND	0.0038	EPA 8260C	8-6-19	8-6-19	
(trans) 1,2-Dichloroethene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
2,2-Dichloropropane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
(cis) 1,2-Dichloroethene	0.0010	0.00077	EPA 8260C	8-6-19	8-6-19	
Bromochloromethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Chloroform	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,1,1-Trichloroethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Carbon Tetrachloride	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloropropene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloroethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Trichloroethene	0.013	0.00077	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloropropane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Dibromomethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Bromodichloromethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
2-Chloroethyl Vinyl Ether	ND	0.0038	EPA 8260C	8-6-19	8-6-19	
(cis) 1,3-Dichloropropene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
(trans) 1,3-Dichloropropene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	

#### **VOLATILE ORGANICS EPA 8260C/SIM**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S91 E07:2ft					
Laboratory ID:	08-069-01					
1,1,2-Trichloroethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Tetrachloroethene	0.034	0.00077	EPA 8260C	8-6-19	8-6-19	
1,3-Dichloropropane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Dibromochloromethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromoethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Chlorobenzene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,1,1,2-Tetrachloroethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Bromoform	ND	0.0038	EPA 8260C	8-6-19	8-6-19	
Bromobenzene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,1,2,2-Tetrachloroethane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichloropropane	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
2-Chlorotoluene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
4-Chlorotoluene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,3-Dichlorobenzene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,4-Dichlorobenzene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,2-Dichlorobenzene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromo-3-chloropropane	ND	0.0038	EPA 8260C	8-6-19	8-6-19	
1,2,4-Trichlorobenzene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Hexachlorobutadiene	ND	0.0038	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichlorobenzene	ND	0.00077	EPA 8260C	8-6-19	8-6-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	91	76-131				

Toluene-d8

4-Bromofluorobenzene

78-128

71-130

102

95

#### **VOLATILE ORGANICS EPA 8260C/SIM**

page 1 of 2

J. J.				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N15 E80:1.75ft					
Laboratory ID:	08-069-02					
Dichlorodifluoromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Chloromethane	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
Vinyl Chloride	ND	0.000042	EPA 8260C/SIM	8-6-19	8-6-19	
Bromomethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Chloroethane	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
Trichlorofluoromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Iodomethane	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
Methylene Chloride	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
(trans) 1,2-Dichloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
2,2-Dichloropropane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
(cis) 1,2-Dichloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Bromochloromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Chloroform	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1,1-Trichloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Carbon Tetrachloride	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloropropene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Trichloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloropropane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Dibromomethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Bromodichloromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
2-Chloroethyl Vinyl Ether	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
(cis) 1,3-Dichloropropene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
(trans) 1,3-Dichloropropene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	

#### **VOLATILE ORGANICS EPA 8260C/SIM**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N15 E80:1.75ft					
Laboratory ID:	08-069-02					
1,1,2-Trichloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Tetrachloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,3-Dichloropropane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Dibromochloromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromoethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Chlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1,1,2-Tetrachloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Bromoform	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
Bromobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1,2,2-Tetrachloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichloropropane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
2-Chlorotoluene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
4-Chlorotoluene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,3-Dichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,4-Dichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromo-3-chloropropane	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
1,2,4-Trichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Hexachlorobutadiene	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	94	76-131				
Toluene-d8	97	<i>78-128</i>				
4-Bromofluorobenzene	100	71-130				

#### **VOLATILE ORGANICS EPA 8260C/SIM**

page 1 of 2

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
N14.5 E79:1ft					
08-069-03					
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.0039	EPA 8260C	8-6-19	8-6-19	
ND	0.000039	EPA 8260C/SIM	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.0039	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.0039	EPA 8260C	8-6-19	8-6-19	
ND	0.0039	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.0039	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
ND	0.00079	EPA 8260C	8-6-19	8-6-19	
	N14.5 E79:1ft  08-069-03  ND  ND  ND  ND  ND  ND  ND  ND  ND  N	N14.5 E79:1ft           08-069-03         0.00079           ND         0.00039           ND         0.00079           ND         0.00079           ND         0.00079           ND         0.00079           ND         0.0039           ND         0.0039           ND         0.00079           ND         0.00079	N14.5 E79:1ft           08-069-03         0.00079         EPA 8260C           ND         0.0039         EPA 8260C           ND         0.00039         EPA 8260C/SIM           ND         0.00079         EPA 8260C           ND         0.0039         EPA 8260C           ND         0.00079         EPA 8260C           ND         0.0039         EPA 8260C           ND         0.0039         EPA 8260C           ND         0.0039         EPA 8260C           ND         0.00079         EPA 8260C           ND         0.00079 <td< td=""><td>Result         PQL         Method         Prepared           N14.5 E79:1ft 08-069-03         BPA 8260C         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.00039         EPA 8260C/SIM         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.0039         EPA 8260C         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.0039         EPA 8260C         8-6-19           ND         0.0039         EPA 8260C         8-6-19           ND         0.00079         EPA 8260C</td><td>Result         PQL         Method         Prepared         Analyzed           N14.5 E79:1ft 08-069-03         BPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.00039         EPA 8260C/SIM         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.0039         EPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.0039         EPA 8260C         8-6-19         8-6-19           ND         0.0039         EPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19&lt;</td></td<>	Result         PQL         Method         Prepared           N14.5 E79:1ft 08-069-03         BPA 8260C         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.00039         EPA 8260C/SIM         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.0039         EPA 8260C         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.00079         EPA 8260C         8-6-19           ND         0.0039         EPA 8260C         8-6-19           ND         0.0039         EPA 8260C         8-6-19           ND         0.00079         EPA 8260C	Result         PQL         Method         Prepared         Analyzed           N14.5 E79:1ft 08-069-03         BPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.00039         EPA 8260C/SIM         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.0039         EPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.0039         EPA 8260C         8-6-19         8-6-19           ND         0.0039         EPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19         8-6-19           ND         0.00079         EPA 8260C         8-6-19<

#### **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N14.5 E79:1ft					
Laboratory ID:	08-069-03					
1,1,2-Trichloroethane	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
Tetrachloroethene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
1,3-Dichloropropane	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
Dibromochloromethane	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromoethane	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
Chlorobenzene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
1,1,1,2-Tetrachloroethane	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
Bromoform	ND	0.0039	EPA 8260C	8-6-19	8-6-19	
Bromobenzene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
1,1,2,2-Tetrachloroethane	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichloropropane	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
2-Chlorotoluene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
4-Chlorotoluene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
1,3-Dichlorobenzene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
1,4-Dichlorobenzene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
1,2-Dichlorobenzene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromo-3-chloropropane	ND	0.0039	EPA 8260C	8-6-19	8-6-19	
1,2,4-Trichlorobenzene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
Hexachlorobutadiene	ND	0.0039	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichlorobenzene	ND	0.00079	EPA 8260C	8-6-19	8-6-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	94	76-131				
Toluene-d8	100	78-128				

4-Bromofluorobenzene

95

71-130

#### **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N15.5 E81:1ft					
Laboratory ID:	08-069-04					
Dichlorodifluoromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Chloromethane	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
Vinyl Chloride	ND	0.000042	EPA 8260C/SIM	8-6-19	8-6-19	
Bromomethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Chloroethane	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
Trichlorofluoromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Iodomethane	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
Methylene Chloride	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
(trans) 1,2-Dichloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
2,2-Dichloropropane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
(cis) 1,2-Dichloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Bromochloromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Chloroform	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1,1-Trichloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Carbon Tetrachloride	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloropropene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Trichloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloropropane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Dibromomethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Bromodichloromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
2-Chloroethyl Vinyl Ether	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
(cis) 1,3-Dichloropropene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
(trans) 1,3-Dichloropropene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	

#### **VOLATILE ORGANICS EPA 8260C/SIM**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N15.5 E81:1ft					
Laboratory ID:	08-069-04					
1,1,2-Trichloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Tetrachloroethene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,3-Dichloropropane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Dibromochloromethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromoethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Chlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1,1,2-Tetrachloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Bromoform	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
Bromobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,1,2,2-Tetrachloroethane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichloropropane	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
2-Chlorotoluene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
4-Chlorotoluene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,3-Dichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,4-Dichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromo-3-chloropropane	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
1,2,4-Trichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Hexachlorobutadiene	ND	0.0042	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichlorobenzene	ND	0.00084	EPA 8260C	8-6-19	8-6-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	93	76-131				
Toluene-d8	97	78-128				
4-Bromofluorobenzene	96	71-130				

#### **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N16.5 E80:1ft					
Laboratory ID:	08-069-05					
Dichlorodifluoromethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Chloromethane	ND	0.0044	EPA 8260C	8-6-19	8-6-19	
Vinyl Chloride	ND	0.000044	EPA 8260C/SIM	8-6-19	8-6-19	
Bromomethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Chloroethane	ND	0.0044	EPA 8260C	8-6-19	8-6-19	
Trichlorofluoromethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
lodomethane	ND	0.0044	EPA 8260C	8-6-19	8-6-19	
Methylene Chloride	ND	0.0044	EPA 8260C	8-6-19	8-6-19	
(trans) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
2,2-Dichloropropane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
(cis) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Bromochloromethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Chloroform	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,1,1-Trichloroethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Carbon Tetrachloride	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloropropene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloroethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Trichloroethene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloropropane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Dibromomethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Bromodichloromethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
2-Chloroethyl Vinyl Ether	ND	0.0044	EPA 8260C	8-6-19	8-6-19	
(cis) 1,3-Dichloropropene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
(trans) 1,3-Dichloropropene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	

# **VOLATILE ORGANICS EPA 8260C/SIM**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N16.5 E80:1ft					
Laboratory ID:	08-069-05					
1,1,2-Trichloroethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Tetrachloroethene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,3-Dichloropropane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Dibromochloromethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromoethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Chlorobenzene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,1,1,2-Tetrachloroethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Bromoform	ND	0.0044	EPA 8260C	8-6-19	8-6-19	
Bromobenzene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,1,2,2-Tetrachloroethane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichloropropane	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
2-Chlorotoluene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
4-Chlorotoluene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,3-Dichlorobenzene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,4-Dichlorobenzene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,2-Dichlorobenzene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromo-3-chloropropane	ND	0.0044	EPA 8260C	8-6-19	8-6-19	
1,2,4-Trichlorobenzene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Hexachlorobutadiene	ND	0.0044	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichlorobenzene	ND	0.00087	EPA 8260C	8-6-19	8-6-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	92	76-131				
Toluene-d8	97	78-128				
4-Bromofluorobenzene	97	71-130				

#### **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N13.5 E80.5:1ft					
Laboratory ID:	08-069-06					
Dichlorodifluoromethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Chloromethane	ND	0.0047	EPA 8260C	8-6-19	8-6-19	
Vinyl Chloride	ND	0.000047	EPA 8260C/SIM	8-6-19	8-6-19	
Bromomethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Chloroethane	ND	0.0047	EPA 8260C	8-6-19	8-6-19	
Trichlorofluoromethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
lodomethane	ND	0.0047	EPA 8260C	8-6-19	8-6-19	
Methylene Chloride	ND	0.0047	EPA 8260C	8-6-19	8-6-19	
(trans) 1,2-Dichloroethene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
2,2-Dichloropropane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
(cis) 1,2-Dichloroethene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Bromochloromethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Chloroform	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,1,1-Trichloroethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Carbon Tetrachloride	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloropropene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloroethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Trichloroethene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloropropane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Dibromomethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Bromodichloromethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
2-Chloroethyl Vinyl Ether	ND	0.0047	EPA 8260C	8-6-19	8-6-19	
(cis) 1,3-Dichloropropene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
(trans) 1,3-Dichloropropene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	

#### **VOLATILE ORGANICS EPA 8260C/SIM**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N13.5 E80.5:1ft					
Laboratory ID:	08-069-06					
1,1,2-Trichloroethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Tetrachloroethene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,3-Dichloropropane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Dibromochloromethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromoethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Chlorobenzene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,1,1,2-Tetrachloroethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Bromoform	ND	0.0047	EPA 8260C	8-6-19	8-6-19	
Bromobenzene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,1,2,2-Tetrachloroethane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichloropropane	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
2-Chlorotoluene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
4-Chlorotoluene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,3-Dichlorobenzene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,4-Dichlorobenzene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,2-Dichlorobenzene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromo-3-chloropropane	ND	0.0047	EPA 8260C	8-6-19	8-6-19	
1,2,4-Trichlorobenzene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Hexachlorobutadiene	ND	0.0047	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichlorobenzene	ND	0.00094	EPA 8260C	8-6-19	8-6-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	93	76-131				
Toluene-d8	100	78-128				
4-Bromofluorobenzene	98	71-130				

#### **VOLATILE ORGANICS EPA 8260C/SIM** METHOD BLANK QUALITY CONTROL

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0806S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Chloromethane	ND	0.0050	EPA 8260C	8-6-19	8-6-19	
Vinyl Chloride	ND	0.000050	EPA 8260C/SIM	8-6-19	8-6-19	
Bromomethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Chloroethane	ND	0.0050	EPA 8260C	8-6-19	8-6-19	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Iodomethane	ND	0.0050	EPA 8260C	8-6-19	8-6-19	
Methylene Chloride	ND	0.0050	EPA 8260C	8-6-19	8-6-19	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Bromochloromethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Chloroform	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Trichloroethene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Dibromomethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	8-6-19	8-6-19	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	

#### **VOLATILE ORGANICS EPA 8260C/SIM** METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0806S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Chlorobenzene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Bromoform	ND	0.0050	EPA 8260C	8-6-19	8-6-19	
Bromobenzene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
4-Chlorotoluene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	8-6-19	8-6-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	8-6-19	8-6-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-6-19	8-6-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	91	76-131				
Toluene-d8	100	78-128				
4-Bromofluorobenzene	100	71-130				

Project: 82302-9.3

# VOLATILE ORGANICS EPA 8260C/SIM METHOD BLANK QUALITY CONTROL

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0808S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Chloromethane	ND	0.0050	EPA 8260C	8-8-19	8-8-19	
Vinyl Chloride	ND	0.000050	EPA 8260C/SIM	8-8-19	8-8-19	
Bromomethane	ND	0.0013	EPA 8260C	8-8-19	8-8-19	
Chloroethane	ND	0.0050	EPA 8260C	8-8-19	8-8-19	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
lodomethane	ND	0.0050	EPA 8260C	8-8-19	8-8-19	
Methylene Chloride	ND	0.0050	EPA 8260C	8-8-19	8-8-19	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Bromochloromethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Chloroform	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	8-8-19	8-8-19	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Trichloroethene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Dibromomethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	8-8-19	8-8-19	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	

#### **VOLATILE ORGANICS EPA 8260C/SIM** METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
_aboratory ID:	MB0808S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Chlorobenzene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Bromoform	ND	0.0050	EPA 8260C	8-8-19	8-8-19	
Bromobenzene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1-Chlorotoluene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	8-8-19	8-8-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
-lexachlorobutadiene	ND	0.0050	EPA 8260C	8-8-19	8-8-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-8-19	8-8-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	90	76-131				
Toluene-d8	93	<i>78-128</i>				
4-Bromofluorobenzene	102	71-130				

# **VOLATILE ORGANICS EPA 8260C/SIM** SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rec	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB08	06S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0480	0.0473	0.0500	0.0500	96	95	57-133	1	18	
Benzene	0.0457	0.0450	0.0500	0.0500	91	90	71-129	2	16	
Trichloroethene	0.0551	0.0532	0.0500	0.0500	110	106	71-122	4	16	
Toluene	0.0527	0.0522	0.0500	0.0500	105	104	74-125	1	15	
Chlorobenzene	0.0529	0.0531	0.0500	0.0500	106	106	72-120	0	14	
Surrogate:										
Dibromofluoromethane					94	92	76-131			
Toluene-d8					101	98	78-128			
4-Bromofluorobenzene					100	94	71-130			
Laboratory ID:	SB08	08S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0432	0.0482	0.0500	0.0500	86	96	57-133	11	18	
Benzene	0.0417	0.0463	0.0500	0.0500	83	93	71-129	10	16	
Trichloroethene	0.0516	0.0547	0.0500	0.0500	103	109	71-122	6	16	
Toluene	0.0478	0.0537	0.0500	0.0500	96	107	74-125	12	15	
Chlorobenzene	0.0515	0.0550	0.0500	0.0500	103	110	72-120	7	14	
Surrogate:										
Dibromofluoromethane					89	93	76-131			
Toluene-d8					99	101	78-128			
4-Bromofluorobenzene					98	97	71-130			

# % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
S91 E07:2ft	08-069-01	8	8-6-19
N15 E80:1.75ft	08-069-02	10	8-6-19
N14.5 E79:1ft	08-069-03	10	8-6-19
N15.5 E81:1ft	08-069-04	12	8-6-19
N16.5 E80:1ft	08-069-05	12	8-6-19
N13.5 E80.5:1ft	08-069-06	15	8-6-19
S05 E44.5:2.5ft	08-069-07	14	8-6-19
S11 E46.5:2.5ft	08-069-08	16	8-6-19



#### **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-naphthalene) 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 methods 8260 & 8270, 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.

Z -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





# **Chain of Custody**

Page	
-	-

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature	8 SII E46,5:2,594	+ SOS E 44,5,2,5H	6 N13.5 E80.5: 14	S N16.5 E80: 1ft	NIS. S ESI: 184	3 NH.5 E79: 14	NIS E80: 1.75H	1 S91 E07: 24	Lab ID Sample Identification	Sampled by: Jeff Jensen	Project Manager: Jeff Jensen	Project Name: BSCSS	82302 - 9.3	Company: Kane Environmental	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com
Reviewed/Date				1	088	Kane	Company	V 1220 V V	1210	9311	0411	1125	1113	0501	8/6/11 0840 S H	Date Time Sampled Matrix	(other)	ontaine	Standard (7 Days)	2 Days 3 Days	X Same Day 1 Day	Turnaround Request (in working days)  n (Check One)
					8/6/19 1316	8/6/19 1316	Date Time	×	*	×	×	×	*	*	×	NWTP NWTP NWTP Volatil	PH-Dx (  es 8260 enated	BTEX Acid	s 8260C			Laboratory Number:
Chromatograms with final report [ ] Electronic Data Deliverables (EDDs)	Data Package: Standard 🛭 Level III 🗆 Level IV 🗆		Results ASAP, prelims	5	50	Need 0.08 ppb detection limit la	Comments/Special Instructions	×		**	~	×	×	×	*	(with In PAHs PCBs Organ Organ Chloric Total F Total In TCLP	ow-leve 8270D/ 8082A ochlorii ophosp nated A RCRA M MTCA M Metals		v-level) cides 80 Pesticides	081B es 8270	D/SIM	08-069



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

August 13, 2019

Jeff Jensen Kane Environmental, Inc. 4015 13th Avenue West Seattle, WA 98119

Re: Analytical Data for Project 82302-9.3

Laboratory Reference No. 1908-147

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on August 12, 2019.

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: 82302-9.3

#### **Case Narrative**

Samples were collected on August 12, 2019 and received by the laboratory on August 12, 2019. 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: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 1 of 2

orms. mg/kg				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N1, E41:2.5					
Laboratory ID:	08-147-01					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	8-12-19	8-12-19	
Chloromethane	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
Vinyl Chloride	ND	0.000044	EPA 8260C/SIM	8-12-19	8-12-19	
Bromomethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Chloroethane	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
Trichlorofluoromethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
lodomethane	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
Methylene Chloride	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
(trans) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
2,2-Dichloropropane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
(cis) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Bromochloromethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Chloroform	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,1,1-Trichloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Carbon Tetrachloride	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloropropene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Trichloroethene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloropropane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Dibromomethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Bromodichloromethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
2-Chloroethyl Vinyl Ether	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
(cis) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
(trans) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	N1, E41:2.5					
Laboratory ID:	08-147-01					
1,1,2-Trichloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Tetrachloroethene	0.014	0.00088	EPA 8260C	8-12-19	8-12-19	
1,3-Dichloropropane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Dibromochloromethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromoethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Chlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,1,1,2-Tetrachloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Bromoform	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
Bromobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,1,2,2-Tetrachloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichloropropane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
2-Chlorotoluene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
4-Chlorotoluene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,3-Dichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,4-Dichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2-Dichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromo-3-chloropropane	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
1,2,4-Trichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Hexachlorobutadiene	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	95	76-131				
Toluene-d8	97	78-128				

4-Bromofluorobenzene

71-130

100

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S5, E 46.5:2.5					
Laboratory ID:	08-147-02					
Dichlorodifluoromethane	ND	0.00098	EPA 8260C	8-12-19	8-12-19	
Chloromethane	ND	0.0035	EPA 8260C	8-12-19	8-12-19	
Vinyl Chloride	ND	0.000035	EPA 8260C/SIM	8-12-19	8-12-19	
Bromomethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Chloroethane	ND	0.0035	EPA 8260C	8-12-19	8-12-19	
Trichlorofluoromethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
lodomethane	ND	0.0035	EPA 8260C	8-12-19	8-12-19	
Methylene Chloride	ND	0.0035	EPA 8260C	8-12-19	8-12-19	
(trans) 1,2-Dichloroethene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
2,2-Dichloropropane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
(cis) 1,2-Dichloroethene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Bromochloromethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Chloroform	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,1,1-Trichloroethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Carbon Tetrachloride	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloropropene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloroethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Trichloroethene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloropropane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Dibromomethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Bromodichloromethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
2-Chloroethyl Vinyl Ether	ND	0.0035	EPA 8260C	8-12-19	8-12-19	
(cis) 1,3-Dichloropropene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
(trans) 1,3-Dichloropropene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	

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# **VOLATILE ORGANICS EPA 8260C**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S5, E 46.5:2.5					
Laboratory ID:	08-147-02					
1,1,2-Trichloroethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Tetrachloroethene	0.056	0.00070	EPA 8260C	8-12-19	8-12-19	
1,3-Dichloropropane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Dibromochloromethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromoethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Chlorobenzene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,1,1,2-Tetrachloroethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Bromoform	ND	0.0035	EPA 8260C	8-12-19	8-12-19	
Bromobenzene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,1,2,2-Tetrachloroethane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichloropropane	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
2-Chlorotoluene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
4-Chlorotoluene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,3-Dichlorobenzene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,4-Dichlorobenzene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,2-Dichlorobenzene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromo-3-chloropropane	ND	0.0035	EPA 8260C	8-12-19	8-12-19	
1,2,4-Trichlorobenzene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Hexachlorobutadiene	ND	0.0035	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichlorobenzene	ND	0.00070	EPA 8260C	8-12-19	8-12-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	76-131				
Toluene-d8	94	78-128				

4-Bromofluorobenzene

99

71-130

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

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Client ID:	ome: mg/ng				Date	Date	
Caboratory ID: 08-147-03   Caboratory ID: 08-1	Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Dichlorodifluoromethane	Client ID:	S9, E44:5.5					
Chloromethane         ND         0.0044         EPA 8260C         8-12-19         8-12-19           Vinyl Chloride         ND         0.000044         EPA 8260C/SIM         8-12-19         8-12-19           Bromomethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Chloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Frichlorofluoromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,1-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           odomethane         ND         0.0044         EPA 8260C         8-12-19         8-12-19           odomethane         ND         0.0044         EPA 8260C         8-12-19         8-12-19           Methylene Chloride         ND         0.0044         EPA 8260C         8-12-19         8-12-19           Metrans) 1,2-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,1-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Chloroform         ND         0.00088         EPA 8260C <t< td=""><td>Laboratory ID:</td><td>08-147-03</td><td></td><td></td><td></td><td></td><td></td></t<>	Laboratory ID:	08-147-03					
ND	Dichlorodifluoromethane	ND	0.0012	EPA 8260C	8-12-19	8-12-19	
Stromomethane   ND   0.00088   EPA 8260C   8-12-19   8	Chloromethane	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
Chloroethane         ND         0.0044         EPA 8260C         8-12-19         8-12-19           Trichlorofluoromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,1-Dichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           odomethane         ND         0.0044         EPA 8260C         8-12-19         8-12-19           Methylene Chloride         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Methylene Chloride         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Methylene Chloride         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Methylene Chloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Chloroform         ND         0.00088         EPA 8260C	Vinyl Chloride	ND	0.000044	EPA 8260C/SIM	8-12-19	8-12-19	
Trichlorofluoromethane   ND   0.00088   EPA 8260C   8-12-19   8-	Bromomethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethene	Chloroethane	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
odomethane         ND         0.0044         EPA 8260C         8-12-19         8-12-19           Methylene Chloride         ND         0.0044         EPA 8260C         8-12-19         8-12-19           Arrans) 1,2-Dichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           A,1-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           B,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           B,12-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           B,12-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           B,1,1-Trichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           B,1,1-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           B,2-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           B,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           B,1-Dichloropropane         ND         0.00088 <td>Trichlorofluoromethane</td> <td>ND</td> <td>0.00088</td> <td>EPA 8260C</td> <td>8-12-19</td> <td>8-12-19</td> <td></td>	Trichlorofluoromethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Methylene Chloride         ND         0.0044         EPA 8260C         8-12-19         8-12-19           Itrans) 1,2-Dichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,1-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2,2-Dichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           3 romochloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           3 chloroform         ND         0.00088         EPA 8260C         8-12-19         8-12-19           4 chloroform         ND         0.00088         EPA 8260C         8-12-19         8-12-19           5 chloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           6 chloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           7 chloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           8 chloroethane         ND         0.00088         EPA 8260C	1,1-Dichloroethene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
trans) 1,2-Dichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,1-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           cis) 1,2-Dichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Bromochloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Chloroform         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,1,1-Trichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Carbon Tetrachloride         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,1-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,2-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Dibromomethane         ND         0.00088 <td>lodomethane</td> <td>ND</td> <td>0.0044</td> <td>EPA 8260C</td> <td>8-12-19</td> <td>8-12-19</td> <td></td>	lodomethane	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethane	Methylene Chloride	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
2,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           cis) 1,2-Dichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Bromochloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Chloroform         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,1,1-Trichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Carbon Tetrachloride         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,1-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,2-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Chloroethyl Vinyl Ether         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Chloroethyl Vinyl Ether         ND	(trans) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Cis) 1,2-Dichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Bromochloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Chloroform         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,1,1-Trichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Carbon Tetrachloride         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,1-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,2-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Dibromomethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Bromodichloromethane         ND         0.0044         EPA 8260C         8-12-19         8-12-19           C-Chloroethyl Vinyl Ether         ND         0.00088 <td>1,1-Dichloroethane</td> <td>ND</td> <td>0.00088</td> <td>EPA 8260C</td> <td>8-12-19</td> <td>8-12-19</td> <td></td>	1,1-Dichloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Stromochloromethane   ND   0.00088   EPA 8260C   8-12-19   8-12-	2,2-Dichloropropane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Chloroform         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,1,1-Trichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Carbon Tetrachloride         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,1-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,2-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Dibromomethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Bromodichloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Chloroethyl Vinyl Ether         ND         0.0044         EPA 8260C         8-12-19         8-12-19           cis) 1,3-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19	(cis) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
I,1,1-Trichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Carbon Tetrachloride         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,1-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,2-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Dibromomethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Bromodichloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Chloroethyl Vinyl Ether         ND         0.0044         EPA 8260C         8-12-19         8-12-19           cis) 1,3-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19	Bromochloromethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Carbon Tetrachloride         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,1-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,2-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           1,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Dibromomethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           3-romodichloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Chloroethyl Vinyl Ether         ND         0.0044         EPA 8260C         8-12-19         8-12-19           cis) 1,3-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19	Chloroform	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
I,1-Dichloropropene       ND       0.00088       EPA 8260C       8-12-19       8-12-19         I,2-Dichloroethane       ND       0.00088       EPA 8260C       8-12-19       8-12-19         Irichloroethene       ND       0.00088       EPA 8260C       8-12-19       8-12-19         I,2-Dichloropropane       ND       0.00088       EPA 8260C       8-12-19       8-12-19         Dibromomethane       ND       0.00088       EPA 8260C       8-12-19       8-12-19         Bromodichloromethane       ND       0.00088       EPA 8260C       8-12-19       8-12-19         2-Chloroethyl Vinyl Ether       ND       0.0044       EPA 8260C       8-12-19       8-12-19         cis) 1,3-Dichloropropene       ND       0.00088       EPA 8260C       8-12-19       8-12-19	1,1,1-Trichloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
I,2-Dichloroethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Irichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Dibromomethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Bromodichloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Chloroethyl Vinyl Ether         ND         0.0044         EPA 8260C         8-12-19         8-12-19           cis) 1,3-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19	Carbon Tetrachloride	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Frichloroethene         ND         0.00088         EPA 8260C         8-12-19         8-12-19           I,2-Dichloropropane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Dibromomethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Bromodichloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Chloroethyl Vinyl Ether         ND         0.0044         EPA 8260C         8-12-19         8-12-19           cis) 1,3-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19	1,1-Dichloropropene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
I,2-Dichloropropane       ND       0.00088       EPA 8260C       8-12-19       8-12-19         Dibromomethane       ND       0.00088       EPA 8260C       8-12-19       8-12-19         Bromodichloromethane       ND       0.00088       EPA 8260C       8-12-19       8-12-19         2-Chloroethyl Vinyl Ether       ND       0.0044       EPA 8260C       8-12-19       8-12-19         cis) 1,3-Dichloropropene       ND       0.00088       EPA 8260C       8-12-19       8-12-19	1,2-Dichloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Dibromomethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           Bromodichloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Chloroethyl Vinyl Ether         ND         0.0044         EPA 8260C         8-12-19         8-12-19           cis) 1,3-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19	Trichloroethene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Bromodichloromethane         ND         0.00088         EPA 8260C         8-12-19         8-12-19           2-Chloroethyl Vinyl Ether         ND         0.0044         EPA 8260C         8-12-19         8-12-19           (cis) 1,3-Dichloropropene         ND         0.00088         EPA 8260C         8-12-19         8-12-19	1,2-Dichloropropane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
2-Chloroethyl Vinyl Ether ND 0.0044 EPA 8260C 8-12-19 8-12-19 cis) 1,3-Dichloropropene ND 0.00088 EPA 8260C 8-12-19 8-12-19	Dibromomethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
cis) 1,3-Dichloropropene ND 0.00088 EPA 8260C 8-12-19 8-12-19	Bromodichloromethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
	2-Chloroethyl Vinyl Ether	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
trans) 1,3-Dichloropropene ND 0.00088 EPA 8260C 8-12-19 8-12-19	(cis) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
	(trans) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S9, E44:5.5					
Laboratory ID:	08-147-03					
1,1,2-Trichloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Tetrachloroethene	0.063	0.00088	EPA 8260C	8-12-19	8-12-19	
1,3-Dichloropropane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Dibromochloromethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromoethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Chlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,1,1,2-Tetrachloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Bromoform	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
Bromobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,1,2,2-Tetrachloroethane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichloropropane	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
2-Chlorotoluene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
4-Chlorotoluene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,3-Dichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,4-Dichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2-Dichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromo-3-chloropropane	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
1,2,4-Trichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Hexachlorobutadiene	ND	0.0044	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichlorobenzene	ND	0.00088	EPA 8260C	8-12-19	8-12-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	101	76-131				
Toluene-d8	102	78-128				

4-Bromofluorobenzene

71-130

107

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S17 E47.5:2.5					
Laboratory ID:	08-147-04					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	8-12-19	8-12-19	
Chloromethane	ND	0.0048	EPA 8260C	8-12-19	8-12-19	
Vinyl Chloride	ND	0.000048	EPA 8260C/SIM	8-12-19	8-12-19	
Bromomethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Chloroethane	ND	0.0048	EPA 8260C	8-12-19	8-12-19	
Trichlorofluoromethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Iodomethane	ND	0.0048	EPA 8260C	8-12-19	8-12-19	
Methylene Chloride	ND	0.0048	EPA 8260C	8-12-19	8-12-19	
(trans) 1,2-Dichloroethene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
2,2-Dichloropropane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
(cis) 1,2-Dichloroethene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Bromochloromethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Chloroform	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,1,1-Trichloroethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Carbon Tetrachloride	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloropropene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloroethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Trichloroethene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloropropane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Dibromomethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Bromodichloromethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
2-Chloroethyl Vinyl Ether	ND	0.0048	EPA 8260C	8-12-19	8-12-19	
(cis) 1,3-Dichloropropene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
(trans) 1,3-Dichloropropene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S17 E47.5:2.5					
Laboratory ID:	08-147-04					
1,1,2-Trichloroethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Tetrachloroethene	0.0059	0.00096	EPA 8260C	8-12-19	8-12-19	
1,3-Dichloropropane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Dibromochloromethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromoethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Chlorobenzene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,1,1,2-Tetrachloroethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Bromoform	ND	0.0048	EPA 8260C	8-12-19	8-12-19	
Bromobenzene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,1,2,2-Tetrachloroethane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichloropropane	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
2-Chlorotoluene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
4-Chlorotoluene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,3-Dichlorobenzene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,4-Dichlorobenzene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,2-Dichlorobenzene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromo-3-chloropropane	. ND	0.0048	EPA 8260C	8-12-19	8-12-19	
1,2,4-Trichlorobenzene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Hexachlorobutadiene	ND	0.0048	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichlorobenzene	ND	0.00096	EPA 8260C	8-12-19	8-12-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	96	76-131				
Toluene-d8	97	78-128				

4-Bromofluorobenzene

102

71-130

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S25, E43:2.5					
Laboratory ID:	08-147-05					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	8-12-19	8-12-19	
Chloromethane	ND	0.0043	EPA 8260C	8-12-19	8-12-19	
Vinyl Chloride	ND	0.000043	EPA 8260C/SIM	8-12-19	8-12-19	
Bromomethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Chloroethane	ND	0.0043	EPA 8260C	8-12-19	8-12-19	
Trichlorofluoromethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
odomethane	ND	0.0043	EPA 8260C	8-12-19	8-12-19	
Methylene Chloride	ND	0.0043	EPA 8260C	8-12-19	8-12-19	
(trans) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
2,2-Dichloropropane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
(cis) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Bromochloromethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Chloroform	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,1,1-Trichloroethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Carbon Tetrachloride	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloropropene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloroethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Trichloroethene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloropropane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Dibromomethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Bromodichloromethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
2-Chloroethyl Vinyl Ether	ND	0.0043	EPA 8260C	8-12-19	8-12-19	
(cis) 1,3-Dichloropropene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
(trans) 1,3-Dichloropropene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	

Project: 82302-9.3

# **VOLATILE ORGANICS EPA 8260C**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S25, E43:2.5					
Laboratory ID:	08-147-05					
1,1,2-Trichloroethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Tetrachloroethene	0.0072	0.00085	EPA 8260C	8-12-19	8-12-19	
1,3-Dichloropropane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Dibromochloromethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromoethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Chlorobenzene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,1,1,2-Tetrachloroethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Bromoform	ND	0.0043	EPA 8260C	8-12-19	8-12-19	
Bromobenzene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,1,2,2-Tetrachloroethane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichloropropane	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
2-Chlorotoluene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
4-Chlorotoluene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,3-Dichlorobenzene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,4-Dichlorobenzene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,2-Dichlorobenzene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromo-3-chloropropane	ND	0.0043	EPA 8260C	8-12-19	8-12-19	
1,2,4-Trichlorobenzene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Hexachlorobutadiene	ND	0.0043	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichlorobenzene	ND	0.00085	EPA 8260C	8-12-19	8-12-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	94	76-131				
Toluene-d8	97	78-128				

4-Bromofluorobenzene

71-130

101

Project: 82302-9.3

# VOLATILE ORGANICS EPA 8260C METHOD BLANK QUALITY CONTROL

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0812S1					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	8-12-19	8-12-19	
Chloromethane	ND	0.0050	EPA 8260C	8-12-19	8-12-19	
Vinyl Chloride	ND	0.000050	EPA 8260C/SIM	8-12-19	8-12-19	
Bromomethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Chloroethane	ND	0.0050	EPA 8260C	8-12-19	8-12-19	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Iodomethane	ND	0.0050	EPA 8260C	8-12-19	8-12-19	
Methylene Chloride	ND	0.0050	EPA 8260C	8-12-19	8-12-19	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Bromochloromethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Chloroform	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Trichloroethene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Dibromomethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	8-12-19	8-12-19	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	

Project: 82302-9.3

# VOLATILE ORGANICS EPA 8260C METHOD BLANK QUALITY CONTROL

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0812S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Chlorobenzene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Bromoform	ND	0.0050	EPA 8260C	8-12-19	8-12-19	
Bromobenzene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
4-Chlorotoluene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	8-12-19	8-12-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	8-12-19	8-12-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-12-19	8-12-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	89	76-131				
Toluene-d8	94	78-128				
4-Bromofluorobenzene	99	71-130				

Project: 82302-9.3

# VOLATILE ORGANICS EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Result		Spike Level		Rece	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB08	12S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0487	0.0472	0.0500	0.0500	97	94	57-133	3	18	
Benzene	0.0477	0.0467	0.0500	0.0500	95	93	71-129	2	16	
Trichloroethene	0.0589	0.0539	0.0500	0.0500	118	108	71-122	9	16	
Toluene	0.0565	0.0520	0.0500	0.0500	113	104	74-125	8	15	
Chlorobenzene	0.0568	0.0548	0.0500	0.0500	114	110	72-120	4	14	
Surrogate:										
Dibromofluoromethane					90	89	76-131			
Toluene-d8					99	95	78-128			
4-Bromofluorobenzene					102	101	71-130			

# % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
N1, E41:2.5	08-147-01	12	8-12-19
S5, E 46.5:2.5	08-147-02	9	8-12-19
S9, E44:5.5	08-147-03	8	8-12-19
S17 E47.5:2.5	08-147-04	8	8-12-19
S25, E43:2.5	08-147-05	9	8-12-19



#### **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-naphthalene) 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 methods 8260 & 8270, 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





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Sample Identification	2	JCH Jenson	BSCSS	82302-9.3	Kane Environmental	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Environmental Inc.
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E47.5:2.5

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Reviewed/Date

Reviewed/Date

Chromatograms with final report 

Electronic Data Deliverables (EDDs)

Data Package: Standard 

Level III

Level IV

Relinquished

Received

Received

Relinquished

Received Relinquished

Company

Date

Time

Comments/Special Instructions

Low level

Drog by Dr for NC

8281

Results MSAP

Kane



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

August 14, 2019

Jeff Jensen Kane Environmental, Inc. 4015 13th Avenue West Seattle, WA 98119

Re: Analytical Data for Project 82302-9.3

Laboratory Reference No. 1908-162

# Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on August 13, 2019.

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: 82302-9.3

#### **Case Narrative**

Samples were collected on August 13, 2019 and received by the laboratory on August 13, 2019. 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.

# **VOLATILE ORGANICS EPA 8260C/SIM**

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S20.5 E51:5ft					
Laboratory ID:	08-162-01					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	8-13-19	8-13-19	
Chloromethane	ND	0.0044	EPA 8260C	8-13-19	8-13-19	
Vinyl Chloride	ND	0.000044	EPA 8260C/SIM	8-13-19	8-13-19	
Bromomethane	ND	0.0011	EPA 8260C	8-13-19	8-13-19	
Chloroethane	ND	0.0044	EPA 8260C	8-13-19	8-13-19	
Trichlorofluoromethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Iodomethane	ND	0.0044	EPA 8260C	8-13-19	8-13-19	
Methylene Chloride	ND	0.0044	EPA 8260C	8-13-19	8-13-19	
(trans) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
2,2-Dichloropropane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
(cis) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Bromochloromethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Chloroform	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,1,1-Trichloroethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Carbon Tetrachloride	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloropropene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloroethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Trichloroethene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloropropane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Dibromomethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Bromodichloromethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
2-Chloroethyl Vinyl Ether	ND	0.0044	EPA 8260C	8-13-19	8-13-19	
(cis) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
(trans) 1,3-Dichloropropene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	

# **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S20.5 E51:5ft					
Laboratory ID:	08-162-01					
1,1,2-Trichloroethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Tetrachloroethene	0.013	0.00088	EPA 8260C	8-13-19	8-13-19	
1,3-Dichloropropane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Dibromochloromethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromoethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Chlorobenzene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,1,1,2-Tetrachloroethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Bromoform	ND	0.0044	EPA 8260C	8-13-19	8-13-19	
Bromobenzene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,1,2,2-Tetrachloroethane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichloropropane	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
2-Chlorotoluene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
4-Chlorotoluene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,3-Dichlorobenzene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,4-Dichlorobenzene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,2-Dichlorobenzene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromo-3-chloropropane	ND	0.0044	EPA 8260C	8-13-19	8-13-19	
1,2,4-Trichlorobenzene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Hexachlorobutadiene	ND	0.0044	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichlorobenzene	ND	0.00088	EPA 8260C	8-13-19	8-13-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	85	76-131				
Toluene-d8	95	78-128				
4-Bromofluorobenzene	95	71-130				

# **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S25 E40:3ft					
Laboratory ID:	08-162-02					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	8-13-19	8-13-19	
Chloromethane	ND	0.0036	EPA 8260C	8-13-19	8-13-19	
Vinyl Chloride	ND	0.000036	EPA 8260C/SIM	8-13-19	8-13-19	
Bromomethane	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
Chloroethane	ND	0.0036	EPA 8260C	8-13-19	8-13-19	
Trichlorofluoromethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Iodomethane	ND	0.0036	EPA 8260C	8-13-19	8-13-19	
Methylene Chloride	ND	0.0036	EPA 8260C	8-13-19	8-13-19	
(trans) 1,2-Dichloroethene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
2,2-Dichloropropane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
(cis) 1,2-Dichloroethene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Bromochloromethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Chloroform	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,1,1-Trichloroethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Carbon Tetrachloride	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloropropene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloroethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Trichloroethene	0.0070	0.00073	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloropropane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Dibromomethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Bromodichloromethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
2-Chloroethyl Vinyl Ether	ND	0.0036	EPA 8260C	8-13-19	8-13-19	
(cis) 1,3-Dichloropropene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
(trans) 1,3-Dichloropropene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	

# **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S25 E40:3ft					
Laboratory ID:	08-162-02					
1,1,2-Trichloroethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Tetrachloroethene	0.019	0.00073	EPA 8260C	8-13-19	8-13-19	
1,3-Dichloropropane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Dibromochloromethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromoethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Chlorobenzene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,1,1,2-Tetrachloroethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Bromoform	ND	0.0036	EPA 8260C	8-13-19	8-13-19	
Bromobenzene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,1,2,2-Tetrachloroethane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichloropropane	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
2-Chlorotoluene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
4-Chlorotoluene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,3-Dichlorobenzene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,4-Dichlorobenzene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,2-Dichlorobenzene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromo-3-chloropropane	ND	0.0036	EPA 8260C	8-13-19	8-13-19	
1,2,4-Trichlorobenzene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Hexachlorobutadiene	ND	0.0036	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichlorobenzene	ND	0.00073	EPA 8260C	8-13-19	8-13-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	90	76-131				
Toluene-d8	96	<i>78-128</i>				

4-Bromofluorobenzene 98 71-130

# **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S25 E36:5.5ft					
Laboratory ID:	08-162-03					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	8-13-19	8-13-19	
Chloromethane	ND	0.0045	EPA 8260C	8-13-19	8-13-19	
Vinyl Chloride	ND	0.000045	EPA 8260C/SIM	8-13-19	8-13-19	
Bromomethane	ND	0.0012	EPA 8260C	8-13-19	8-13-19	
Chloroethane	ND	0.0045	EPA 8260C	8-13-19	8-13-19	
Trichlorofluoromethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Iodomethane	ND	0.0045	EPA 8260C	8-13-19	8-13-19	
Methylene Chloride	ND	0.0045	EPA 8260C	8-13-19	8-13-19	
(trans) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
2,2-Dichloropropane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
(cis) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Bromochloromethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Chloroform	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
1,1,1-Trichloroethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Carbon Tetrachloride	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloropropene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloroethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Trichloroethene	0.0050	0.00090	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloropropane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Dibromomethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Bromodichloromethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
2-Chloroethyl Vinyl Ether	ND	0.0045	EPA 8260C	8-13-19	8-13-19	
(cis) 1,3-Dichloropropene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
(trans) 1,3-Dichloropropene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	

# **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S25 E36:5.5ft					
_aboratory ID:	08-162-03					
,1,2-Trichloroethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Tetrachloroethene	0.030	0.00090	EPA 8260C	8-13-19	8-13-19	
,3-Dichloropropane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Dibromochloromethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
,2-Dibromoethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Chlorobenzene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
,1,1,2-Tetrachloroethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Bromoform	ND	0.0045	EPA 8260C	8-13-19	8-13-19	
Bromobenzene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
,1,2,2-Tetrachloroethane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
,2,3-Trichloropropane	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
2-Chlorotoluene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
I-Chlorotoluene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
,3-Dichlorobenzene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
,4-Dichlorobenzene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
,2-Dichlorobenzene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
,2-Dibromo-3-chloropropane	ND	0.0045	EPA 8260C	8-13-19	8-13-19	
,2,4-Trichlorobenzene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Hexachlorobutadiene	ND	0.0045	EPA 8260C	8-13-19	8-13-19	
,2,3-Trichlorobenzene	ND	0.00090	EPA 8260C	8-13-19	8-13-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	88	76-131				
Toluene-d8	94	78-128				

4-Bromofluorobenzene

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71-130

# **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S29 E30:2.5ft					
Laboratory ID:	08-162-04					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	8-13-19	8-13-19	
Chloromethane	ND	0.0042	EPA 8260C	8-13-19	8-13-19	
Vinyl Chloride	ND	0.000042	EPA 8260C/SIM	8-13-19	8-13-19	
Bromomethane	ND	0.0011	EPA 8260C	8-13-19	8-13-19	
Chloroethane	ND	0.0042	EPA 8260C	8-13-19	8-13-19	
Trichlorofluoromethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Iodomethane	ND	0.0042	EPA 8260C	8-13-19	8-13-19	
Methylene Chloride	ND	0.0042	EPA 8260C	8-13-19	8-13-19	
(trans) 1,2-Dichloroethene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
2,2-Dichloropropane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
(cis) 1,2-Dichloroethene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Bromochloromethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Chloroform	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,1,1-Trichloroethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Carbon Tetrachloride	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloropropene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloroethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Trichloroethene	0.018	0.00084	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloropropane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Dibromomethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Bromodichloromethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
2-Chloroethyl Vinyl Ether	ND	0.0042	EPA 8260C	8-13-19	8-13-19	
(cis) 1,3-Dichloropropene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
(trans) 1,3-Dichloropropene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	

# **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S29 E30:2.5ft					
Laboratory ID:	08-162-04					
1,1,2-Trichloroethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Tetrachloroethene	0.16	0.00084	EPA 8260C	8-13-19	8-13-19	
1,3-Dichloropropane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Dibromochloromethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromoethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Chlorobenzene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,1,1,2-Tetrachloroethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Bromoform	ND	0.0042	EPA 8260C	8-13-19	8-13-19	
Bromobenzene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,1,2,2-Tetrachloroethane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichloropropane	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
2-Chlorotoluene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
4-Chlorotoluene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,3-Dichlorobenzene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,4-Dichlorobenzene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,2-Dichlorobenzene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromo-3-chloropropane	ND	0.0042	EPA 8260C	8-13-19	8-13-19	
1,2,4-Trichlorobenzene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Hexachlorobutadiene	ND	0.0042	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichlorobenzene	ND	0.00084	EPA 8260C	8-13-19	8-13-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	87	76-131				
Toluene-d8	96	78-128				
4-Bromofluorobenzene	97	71-130				

# **VOLATILE ORGANICS EPA 8260C/SIM**

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S25 E40:2.5ft					
Laboratory ID:	08-162-05					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	8-13-19	8-13-19	
Chloromethane	ND	0.0041	EPA 8260C	8-13-19	8-13-19	
Vinyl Chloride	ND	0.000041	EPA 8260C/SIM	8-13-19	8-13-19	
Bromomethane	ND	0.0011	EPA 8260C	8-13-19	8-13-19	
Chloroethane	ND	0.0041	EPA 8260C	8-13-19	8-13-19	
Trichlorofluoromethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Iodomethane	ND	0.0041	EPA 8260C	8-13-19	8-13-19	
Methylene Chloride	ND	0.0041	EPA 8260C	8-13-19	8-13-19	
(trans) 1,2-Dichloroethene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
2,2-Dichloropropane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
(cis) 1,2-Dichloroethene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Bromochloromethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Chloroform	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,1,1-Trichloroethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Carbon Tetrachloride	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloropropene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloroethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Trichloroethene	0.0040	0.00082	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloropropane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Dibromomethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Bromodichloromethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
2-Chloroethyl Vinyl Ether	ND	0.0041	EPA 8260C	8-13-19	8-13-19	
(cis) 1,3-Dichloropropene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
(trans) 1,3-Dichloropropene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	

# **VOLATILE ORGANICS EPA 8260C/SIM**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S25 E40:2.5ft					
Laboratory ID:	08-162-05					
1,1,2-Trichloroethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Tetrachloroethene	0.066	0.00082	EPA 8260C	8-13-19	8-13-19	
1,3-Dichloropropane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Dibromochloromethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromoethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Chlorobenzene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,1,1,2-Tetrachloroethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Bromoform	ND	0.0041	EPA 8260C	8-13-19	8-13-19	
Bromobenzene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,1,2,2-Tetrachloroethane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichloropropane	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
2-Chlorotoluene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
4-Chlorotoluene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,3-Dichlorobenzene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,4-Dichlorobenzene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,2-Dichlorobenzene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromo-3-chloropropane	ND	0.0041	EPA 8260C	8-13-19	8-13-19	
1,2,4-Trichlorobenzene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Hexachlorobutadiene	ND	0.0041	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichlorobenzene	ND	0.00082	EPA 8260C	8-13-19	8-13-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	86	76-131				
Toluene-d8	92	78-128				

4-Bromofluorobenzene

97

71-130

# **VOLATILE ORGANICS EPA 8260C/SIM**

page 1 of 2

Client ID:         S18 E45:7ft           Laboratory ID:         08-162-06	13-19 13-19
Laboratory ID: 08-162-06	13-19
· · · · · · · · · · · · · · · · · · ·	13-19
Dichlorodifluoromethane ND 0.0014 EPA 8260C 8-13-19 8-1	13-19
Chloromethane ND 0.0047 EPA 8260C 8-13-19 8-1	10.10
Vinyl Chloride ND 0.000047 EPA 8260C/SIM 8-13-19 8-1	13-19
Bromomethane ND 0.0012 EPA 8260C 8-13-19 8-1	13-19
Chloroethane ND 0.0047 EPA 8260C 8-13-19 8-1	13-19
Trichlorofluoromethane ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
1,1-Dichloroethene ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
lodomethane ND 0.0047 EPA 8260C 8-13-19 8-1	13-19
Methylene Chloride ND 0.0047 EPA 8260C 8-13-19 8-1	13-19
(trans) 1,2-Dichloroethene ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
1,1-Dichloroethane ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
2,2-Dichloropropane ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
(cis) 1,2-Dichloroethene ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
Bromochloromethane ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
Chloroform ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
1,1,1-Trichloroethane ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
Carbon Tetrachloride ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
1,1-Dichloropropene ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
1,2-Dichloroethane ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
Trichloroethene ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
1,2-Dichloropropane ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
Dibromomethane ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
Bromodichloromethane ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
2-Chloroethyl Vinyl Ether ND 0.0047 EPA 8260C 8-13-19 8-1	13-19
(cis) 1,3-Dichloropropene ND 0.00095 EPA 8260C 8-13-19 8-1	13-19
(trans) 1,3-Dichloropropene ND 0.00095 EPA 8260C 8-13-19 8-1	13-19

# **VOLATILE ORGANICS EPA 8260C/SIM**

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	S18 E45:7ft					
Laboratory ID:	08-162-06					
1,1,2-Trichloroethane	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
Tetrachloroethene	0.0024	0.00095	EPA 8260C	8-13-19	8-13-19	
1,3-Dichloropropane	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
Dibromochloromethane	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromoethane	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
Chlorobenzene	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
1,1,1,2-Tetrachloroethane	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
Bromoform	ND	0.0047	EPA 8260C	8-13-19	8-13-19	
Bromobenzene	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
1,1,2,2-Tetrachloroethane	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichloropropane	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
2-Chlorotoluene	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
4-Chlorotoluene	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
1,3-Dichlorobenzene	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
1,4-Dichlorobenzene	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
1,2-Dichlorobenzene	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromo-3-chloropropane	ND	0.0047	EPA 8260C	8-13-19	8-13-19	
1,2,4-Trichlorobenzene	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
Hexachlorobutadiene	ND	0.0047	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichlorobenzene	ND	0.00095	EPA 8260C	8-13-19	8-13-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	87	76-131				
Toluene-d8	93	78-128				

4-Bromofluorobenzene

106

71-130

# **VOLATILE ORGANICS EPA 8260C/SIM** METHOD BLANK QUALITY CONTROL

page 1 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0813S1					
Dichlorodifluoromethane	ND	0.0015	EPA 8260C	8-13-19	8-13-19	
Chloromethane	ND	0.0050	EPA 8260C	8-13-19	8-13-19	
Vinyl Chloride	ND	0.000050	EPA 8260C/SIM	8-13-19	8-13-19	
Bromomethane	ND	0.0013	EPA 8260C	8-13-19	8-13-19	
Chloroethane	ND	0.0050	EPA 8260C	8-13-19	8-13-19	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Iodomethane	ND	0.0050	EPA 8260C	8-13-19	8-13-19	
Methylene Chloride	ND	0.0050	EPA 8260C	8-13-19	8-13-19	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Bromochloromethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Chloroform	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Trichloroethene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Dibromomethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	8-13-19	8-13-19	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	

# **VOLATILE ORGANICS EPA 8260C/SIM** METHOD BLANK QUALITY CONTROL

page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0813S1					
Laboratory ID:		0.0010	EDA 00000	0.10.10	0.10.10	
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Chlorobenzene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Bromoform	ND	0.0050	EPA 8260C	8-13-19	8-13-19	
Bromobenzene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
4-Chlorotoluene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	8-13-19	8-13-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	8-13-19	8-13-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-13-19	8-13-19	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	86	76-131				
Toluene-d8	95	78-128				
4-Bromofluorobenzene	104	71-130				

# **VOLATILE ORGANICS EPA 8260C/SIM** SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rece	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB08	13S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0455	0.0442	0.0500	0.0500	91	88	57-133	3	18	
Benzene	0.0464	0.0444	0.0500	0.0500	93	89	71-129	4	16	
Trichloroethene	0.0578	0.0538	0.0500	0.0500	116	108	71-122	7	16	
Toluene	0.0541	0.0507	0.0500	0.0500	108	101	74-125	6	15	
Chlorobenzene	0.0540	0.0524	0.0500	0.0500	108	105	72-120	3	14	
Surrogate:										
Dibromofluoromethane					87	85	76-131			
Toluene-d8					97	96	78-128			
4-Bromofluorobenzene					103	101	71-130			

# % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
S20.5 E51:5ft	08-162-01	19	8-13-19
S25 E40:3ft	08-162-02	10	8-13-19
S25 E36:5.5ft	08-162-03	19	8-13-19
S29 E30:2.5ft	08-162-04	10	8-13-19
S25 E40:2.5ft	08-162-05	9	8-13-19
S18 E45:7ft	08-162-06	7	8-13-19



#### **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-naphthalene) 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 methods 8260 & 8270, 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



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Analytical Laboratory Testing Services  14648 NE 95th Street • Redmond, WA	<b>Environmental Inc</b>	OnSite	

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