

Site Assessment Work Plan

East Gresham Elementary School
900 SE 5th Street
Gresham, Oregon 97080
LUST# 26-95-0187

Prepared for:
Gresham-Barlow School District No. 10Jt
2020 SE Fleming Avenue
Gresham, Oregon 97080

July 2023
PBS Project 23767.204, Phase 0006



4412 S CORBETT AVENUE
PORTLAND, OR 97239
503.248.1939 MAIN
866.727.0140 FAX
PBSUSA.COM

Table of Contents

1 INTRODUCTION	1
2 SITE LOCATION AND DESCRIPTION	1
2.1 Site Ownership and Regulatory History	1
3 GEOLOGY AND HYDROGEOLOGY	2
4 PURPOSE AND OBJECTIVES	2
5 HEALTH AND SAFETY	2
6 DRILLING, MONITORING WELL INSTALLATION, AND SOIL GAS WELL INSTALLATION ACTIVITIES	3
6.1 Groundwater Monitoring Well Installation	3
6.2 Soil Gas Monitoring Well Installation	3
7 SAMPLING AND ANALYSIS PLAN	4
7.1 Soil Sampling	4
7.2 Groundwater Sampling	4
7.3 Soil Gas Sampling	4
8 QUALITY CONTROL	5
9 INVESTIGATION-DERIVED WASTES	5
10 DELIVERABLES	5

Supporting Data

FIGURES

- Figure 1. Vicinity Map
- Figure 2. Site Plan
- Figure 3. Study Area

TABLE

- Table 1. Summary of Groundwater Monitoring Analytical Results – TPH, VOCs, and Lead

APPENDICES

Appendix A: Laboratory Report

©2023 PBS Engineering and Environmental Inc.

1 INTRODUCTION

This site assessment work plan has been prepared for Gresham-Barlow School District No. 10Jt (Client) and documents the planning, implementation, and procedures for the continued assessment of the former regulated gasoline underground storage tank (UST) at East Gresham Elementary School located at 900 SE 5th Street in Gresham, Oregon (site). This assessment has been designed to address the area of concern around the former UST, which had a release in the 1990s that was assigned leaking underground storage tank (LUST) #26-95-0187. It considers review of historical documentation by previous consultants, PBS Engineering and Environmental Inc. (PBS), and regulatory correspondence from the Oregon Department of Environmental Quality (DEQ). The assessment is designed to address the request for additional assessment received from DEQ in 2019, and if applicable, request regulatory closure.

2 SITE LOCATION AND DESCRIPTION

2.1 Site Ownership and Regulatory History

The site is located at 900 SE 5th Street, Gresham, Oregon. It is in the southwest one-quarter of the southeast one-quarter of Section 10, Township 1 South, Range 3 East of the Willamette Meridian (Figure 1). According to the Multnomah County Assessor, it is located on Tax Lot 1S3E10DC-00100. It encompasses approximately 11.5 acres and is generally flat, at an approximate elevation of 375 feet above mean sea level. The southern portion of the site slopes down toward an unnamed tributary that drains to Johnson Creek along the property's southern boundary, and steeply on the west side towards off-site residences (Figure 2).

The site has operated as a public school facility since at least the 1950s. A previous school building was located on the western portion of the site, with athletic fields to the east and south. An automotive shop was located southwest of the former school building near the western property boundary (Figure 2).

A 2,000-gallon gasoline UST was discovered to have had a release near the shop building in 1995. The tank and the associated fuel pump were decommissioned by removal. Petroleum-contaminated soil (PCS) and petroleum-contaminated groundwater were observed during decommissioning and assessment activities. A total of 518 tons of PCS was excavated and disposed for off-site treatment.¹ H.G. Schlicker and Associates, Inc. (HGSA) expressed concern there was contamination migrating along the backfill of a nearby drain, referred to in some instances as a storm drain and others as a French drain, at the base of the west-facing slope on the western property margin, and that this drain discharged to the unnamed tributary to the south. A geophysical survey was completed to identify the drain. A signal was returned at 3 feet depth of a potential drain; however, the survey was not conclusive because of the variable terrain and vegetation, and no associated outfall could be located.

Eight monitoring wells (MW-1 through MW-8) were installed in 1996, and the wells were monitored until February 1997 (Figure 3). The site was determined to be a low priority for DEQ, and no sampling occurred until 2007 when one groundwater sampling event was completed by Grant and Associates, who made recommendations for additional site characterization and continued groundwater monitoring activities.

In 2019, DEQ prepared a file review summary that recommended the following actions for the school district:

- Complete assessment of groundwater contamination in the southwest direction.
- Develop a corrective action plan to reduce or eliminate residual contamination to meet current DEQ standards.

¹ H.G. Schlicker & Associates, Inc. (1995, October 12). Summary of Actions, East Gresham Elementary School, Gresham, Oregon, UST Decommissioning and Cleanup, LUST #26-95-187.

- Continue groundwater monitoring.

A new school building was constructed east of the older building between 2018 and 2019. As part of the redevelopment, the site was regraded to make way for new athletic fields. Monitoring wells previously indicated to be within a contaminated groundwater plume were sampled by PBS in May 2019 (see Table 1 and attached laboratory analytical in Appendix A). Following sampling, the wells were decommissioned by removal by Cascade Drilling with oversight by PBS in August 2019.

In a December 5, 2019, letter from DEQ to Terry Taylor with the Gresham-Barlow School District, DEQ recommended installing three to four groundwater monitoring wells and soil gas sampling points near the former UST for the purpose of collecting samples for analysis to determine if the site is eligible for regulatory closure. This work plan intends to address that request for additional assessment.

3 GEOLOGY AND HYDROGEOLOGY

Surficial deposits in the vicinity of the site are wind-blown loess deposited during Quaternary glacial episodes. The unit consists of massive, micaceous, quartzfeldspathic silt, and very fine sand. It is pale gray to tan in color near the surface, and overlies a firm, red-brown silt below.² Underlying these unconsolidated materials is the Troutdale Formation,³ which is referred to as the Troutdale Gravel Aquifer in this area. The Troutdale Gravel Aquifer is typically well indurated and consists of pebbly to cobbly clast-supported conglomerate with a silty to sandy matrix. Most of the clasts are derived from basalt with the remainder composed of quartzite and other rock types.⁴ Underlying the Troutdale Gravel Aquifer is typically a fine-grained confining unit that may interbed with the Troutdale Sand Aquifer. A deep sand and gravel aquifer underlies these units, with older deposits, including Columbia River Basalt, at depth.

Previous monitoring wells on the property indicated depths to groundwater ranging from 5 to 17 feet below ground surface (bgs) with groundwater elevations varying seasonally with a flow direction toward the west or southwest.⁵

4 PURPOSE AND OBJECTIVES

This work plan documents the proposed activities intended to satisfy DEQ's requirements for additional assessment for the open LUST file. It is anticipated that the Client will request regulatory closure following the assessment, provided monitoring results indicate concentrations of residual contaminants do not exceed the applicable DEQ risk-based concentrations (RBCs).

5 HEALTH AND SAFETY

The site-specific health and safety plan (HASP) will be updated to include the new scope of work before commencing fieldwork. Information to ensure safe working practices will be included in the HASP. In all cases, pertinent safety information will be relayed to field personnel, including subcontractors, to communicate mandatory elements from the federal code for hazardous waste operations and emergency response (29 CFR 1910.120(b)(4)).

² Wells, Ray E., Haugerud, Ralph A., Niemi, Alan R., Niemi, Wendy A., Ma, Lina, Evarts, ... Sawlan, Michael G. (2020). Geologic Map of the Greater Portland Metropolitan Area and Surrounding Region, Oregon and Washington, USGS Scientific Investigation Map 3443.

³ Snyder, Daniel T. (2008). *Estimated Depth to Ground Water and Configuration of the Water Table in the Portland, Oregon Area*. USGS Scientific Investigations Report 2008-5059.

⁴ Hartford, Susan V., and William D. McFarland. (1989). *Lithology, Thickness, and Extent of Hydrogeologic Units Underlying the East Portland Area, Oregon*. USGS Water-Resources Investigations Report 88-4110.

⁵ Grant Associates. (2007, October 3). Status Report No. 1 August 2007.

PBS will contact the Oregon Utility Notification Center to file a public utility locate request at least 72 hours before drilling activities to locate utility-owned lines up to the meter (for example, water, gas, and electric), and public utilities within the public right-of-way. PBS will also subcontract with a private utility locating company to survey private utilities and detectable subsurface obstructions. Soil boring locations are subject to utility constraints and may need to be moved according to the utility survey. The site-specific HASP will be reviewed with the drilling contractor prior to beginning site work.

6 DRILLING, MONITORING WELL INSTALLATION, AND SOIL GAS WELL INSTALLATION ACTIVITIES

6.1 Groundwater Monitoring Well Installation

PBS plans to install three groundwater monitoring wells in the former gasoline UST area using a direct-push drilling rig. These are intended to replace former monitoring wells MW-2, MW-5, and MW-7.

Previous monitoring activities indicated the groundwater table fluctuates as much as 6 feet between the wet winter months and the dry summer months. Therefore, to ensure the wells have sufficient water to sample, borings will be advanced into the groundwater table so that they are approximately 10 feet below the top of the seasonally high groundwater table to account for seasonal variations. For MW-2R and MW-7R, PBS anticipates the total depth will be approximately 20 feet bgs. The wells will be constructed with a 2-inch Schedule 40 polyvinyl chloride (PVC) pipe with a 15-foot well screen that will straddle the water table. MW-5R is planned to be constructed on the west property boundary, which is approximately 8 feet lower than the former MW-5. Depending on field observations and depth to groundwater at this location, the total depth of this monitoring well may be shallower than MW-2R and MW-7R. MW-2R and MW-7R will be constructed with flush mount concrete well monuments with steel lids and a steel aboveground well monument will be installed at MW-5R.

During drilling, soil from each boring will be continuously logged and field screened for the presence of petroleum hydrocarbons by visual/olfactory observation and for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID).

After the wells are constructed, PBS will perform well development no earlier than 24 hours after the well sealant material has been placed. The wells will be surveyed by a PBS survey crew, and the top-of-casing elevation will be surveyed to an accuracy of 0.01 foot for determining groundwater gradient and flow direction.

6.2 Soil Gas Monitoring Well Installation

Three permanent soil gas monitoring wells will be installed at locations indicated in Figure 3. One soil gas well, SG-1, will be placed near former monitoring well MW-2, which was the zone of highest contamination observed before the former wells were decommissioned. Soil gas wells SG-2 and SG-3 will be placed near the western property boundary to evaluate the potential for off-site vapor migration.

Installation of the soil gas wells will be completed by a licensed driller, concurrent with the soil and groundwater investigation. The borings will be advanced using a direct-push drill rig to a depth of 6 feet bgs where a stainless-steel soil gas implant (or equivalent) will be installed and then attached to Teflon tubing that will be placed from the implant to the surface. Prior to completion, the implant will be evaluated for suitable flow and repositioned to a deeper interval, as necessary, to ensure successful soil gas collection. The implant will be backfilled with approximately 6 inches of sand above the sample screen, then with hydrated bentonite to the surface to form a seal from ambient air. A flush mount concrete well monument with a steel lid will be

installed at SG-1, and steel aboveground well monuments will be installed at SG-2 and SG-3 to protect the vapor monitoring well. The monitoring points will be allowed to rest and equilibrate for a period of at least 48 hours prior to sample collection, in accordance with DEQ's *Guidance for Assessing and Remediating Vapor Intrusion in Buildings* (VI Guidance).⁶

7 SAMPLING AND ANALYSIS PLAN

7.1 Soil Sampling

Soil samples are not planned.

7.2 Groundwater Sampling

Groundwater monitoring activities will occur no sooner than 48 hours following well development activities. PBS plans to complete monitoring activities on a quarterly basis for a period of one year unless suspended earlier in consultation with DEQ.

PBS will collect groundwater samples using low-flow sampling protocols. A peristaltic pump and new tubing will be used to collect the samples into laboratory-provided containers that will be labeled, placed on ice for the duration of sampling, and transportation to an Oregon-accredited laboratory under chain-of-custody documentation.

Groundwater samples will be analyzed for the following:

- Gasoline-range total petroleum hydrocarbons (TPH) by Northwest Method TPH, gasoline extended (NWTPH-Gx); and
- Risk-based decision making (RBDM) VOCs by Environmental Protection Agency (EPA) Method 8260B.

Previous groundwater monitoring included lead as an analyte; however, the resulting data have not indicated that lead is a contaminant of concern. Therefore, it is not planned to be sampled.

7.3 Soil Gas Sampling

PBS will complete two soil gas sampling events; one in the summer, and another during the winter. PBS will collect the soil gas samples following Sections 3.2.1 and 3.2.2 of the VI Guidance with modifications for leak detection measures. Adjustments to the following protocol may be warranted based on field conditions and will be documented in field notes. Summa canisters will be ordered from the laboratory with flow regulators assuming a flow rate of no more than 200 milliliters per minute (mL/minute). The Summa canisters will be batch certified for petroleum-related VOCs and helium.

Soil gas samples will be analyzed for the following:

- Gasoline-range TPH and RBDM VOCs by EPA Method TO-15; and
- Helium by ASTM International Method 1946.

Laboratory analysis will be conducted under standard turnaround time.

⁶ DEQ (State of Oregon Department of Environmental Quality). (2010, March 25). *Guidance for Assessing and Remediating Vapor Intrusion in Buildings. Environmental Cleanup Program. 10-LQ-007.*

8 QUALITY CONTROL

DEQ has a guidance document specifying quality control (QC) samples to be collected during sampling events.⁷ The document specifies that a field duplicate and trip blank should be collected and analyzed during each sampling event. Groundwater will be the only medium to have field duplicates collected. The samples will be analyzed for the same analytes as the parent sample. The QC trip blank will be analyzed for VOCs by EPA Method 8260.

9 INVESTIGATION-DERIVED WASTES

Investigation-derived waste (IDW) consisting of soil cuttings, purge water, and decontamination wash water will be placed into 55-gallon drums that will be sealed, labeled, and stored on site in a client-approved location. It is anticipated that soil and water can be disposed of as nonhazardous waste. Disposable sampling equipment and supplies will be bagged and disposed of as solid waste. PBS will coordinate the disposal with a licensed waste hauler to transport to a licensed disposal or treatment facility.

10 DELIVERABLES

Upon receiving final laboratory analytical testing reports following the fourth quarter of sampling, PBS will prepare an electronic report that will include a description of field activities, tables of analytical results, a comparison of detections to applicable DEQ RBCs, boring logs, figures, laboratory reports, and recommendations.

Assuming no contamination above applicable RBCs is observed following four quarters in groundwater or soil gas samples, PBS will issue a final report with a request that DEQ issue a No Further Action (NFA) determination and close the regulatory file.

Prepared by PBS Engineering and Environmental Inc.

Bret Waldron, RG
Senior Geologist

Date

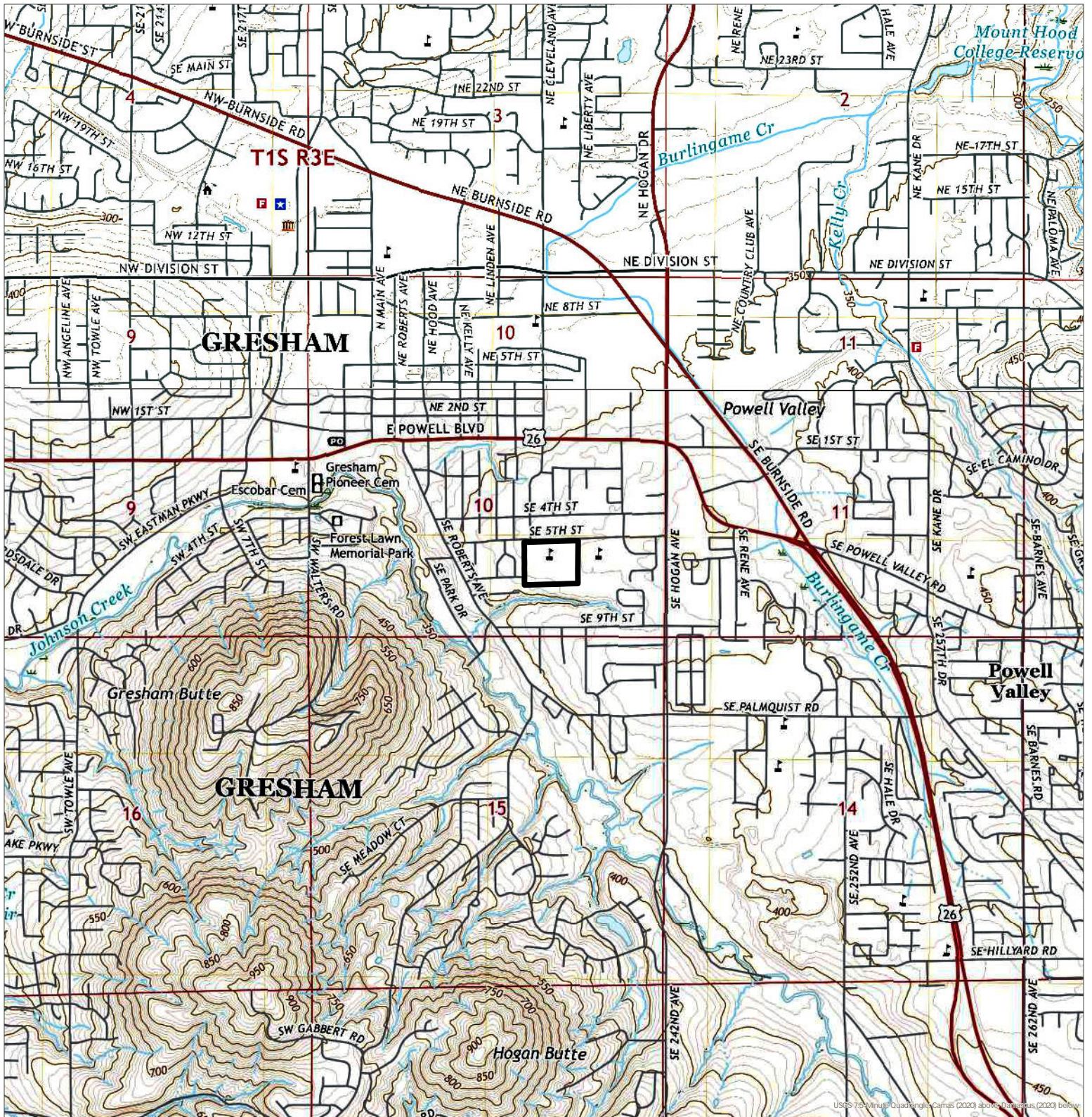
⁷ DEQ (State of Oregon Department of Environmental Quality). (2015, July 31). *Quality Assurance for the Environmental Cleanup Programs*.

Figures

Figure 1. Vicinity Map

Figure 2. Site Plan

Figure 3. Study Area



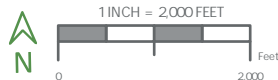
Site Vicinity

900 SE 5th Street, Gresham, Oregon

Date: July 2023 | Project: 23767.204

Figure: 1

 Site Boundary



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.







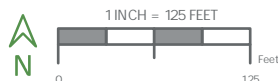
Site Plan

900 SE 5th Street, Gresham, Oregon

Date: July 2023 | Project: 23767.204

Figure: 2

-  Former Underground Storage Tank
-  Former Shop Building
-  Study Area
-  Site Boundary



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



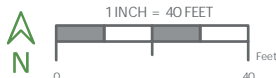
Study Area

900 SE 5th Street, Gresham, Oregon

Date: July 2023 | Project: 23767.204

Figure: 3

- Proposed Soil Vapor Sampling Point
- ⊕ Decommissioned Monitoring Well
- ⦿ Proposed Monitoring Well
- Former Underground Storage Tank
- Former Shop Building
- - - Study Area
- ▭ Site Boundary



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Table

Table 1. Summary of Groundwater Monitoring Analytical Results – TPH, VOCs, and Lead

Table 1. Summary of Groundwater Analytical Results - TPH, VOCs, and Lead

East Gresham Elementary School
 900 SE 5th Street, Gresham, Oregon
 DEQ File #26-95-0187 & #26-19-0304

Well ID	Sample Date	Total Petroleum Hydrocarbons (TPH)			Volatile Organic Compounds (VOCs)														Metals	
		Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Methyl tert-butyl ether (MTBE)	Naphthalene	Isopropylbenzene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	n-Butylbenzene	sec-Butylbenzene	Dissolved Lead	
µg/L																				
MW-1	4/17/1996	-	-	-	< 1.0	< 1.0	< 1.0	< 1.0	-	-	-	-	-	-	-	-	-	-	-	1.0
	10/30/1996	-	-	-	5.0	5.0	5.0	5.0	-	-	-	-	-	-	-	-	-	-	-	-
	2/11/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/30/2007	-	-	-	< 0.5	< 2.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	1.28
	5/16/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	4/17/1996	-	-	-	5.0	5.0	< 1.0	13.0	-	-	-	-	-	-	-	-	-	-	-	3.6
	10/30/1996	-	-	-	348	55	42	169	-	-	-	-	-	-	-	-	-	-	-	-
	2/11/1997	-	-	-	70	9.3	20	18.6	-	-	-	-	-	-	-	-	-	-	-	-
	8/30/2007	-	-	-	190	41.9	59.3	48.3	< 0.5	< 0.5	< 0.5	54.3	19.7	32.4	10.3	18.2	-	-	-	2.26
	5/16/2019	2,460	77.7	< 151	19.5	3.67	6.06	8.67	< 0.5	0.790	< 1.00	3.15	1.84	3.71	7.84	15.6	< 1.00	< 1.00	-	
MW-3	4/17/1996	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	< 5.0
	10/30/1996	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-
	2/11/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/30/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/16/2019	< 100	< 75.5	< 151	< 0.200	< 1.00	< 0.500	< 1.50	< 0.500	< 0.400	< 1.00	< 2.00	< 1.00	< 0.500	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-
MW-4	4/17/1996	-	-	-	< 1.0	< 1.0	< 1.0	< 1.0	-	-	-	-	-	-	-	-	-	-	-	< 5.0
	10/30/1996	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-
	2/11/1997	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-
	8/30/2007	-	-	-	< 0.5	< 2.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	0.96	< 0.5	< 0.5	< 0.5	-	-	-	< 1.0
	5/16/2019	< 100	< 75.5	< 151	< 0.200	< 1.00	< 0.500	< 1.50	< 0.500	< 0.400	< 1.00	< 2.00	< 1.00	< 0.500	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-
MW-5	4/17/1996	-	-	-	1,100	50	180	180	-	-	-	-	-	-	-	-	-	-	-	3.7
	10/30/1996	-	-	-	329	12	57	33	-	-	-	-	-	-	-	-	-	-	-	-
	2/11/1997	-	-	-	150	3.8	25	12.7	-	-	-	-	-	-	-	-	-	-	-	-
	8/30/2007	-	-	-	312	2.08	26.2	4.73	< 0.5	< 0.5	38.7	13.0	15.4	20	5.37	2.6	-	-	-	< 1.0
	5/16/2019	216	< 75.5	< 151	0.730	< 1.00	< 0.500	< 1.50	< 0.500	< 0.400	< 1.00	< 2.00	< 1.00	< 0.500	< 1.00	< 1.00	< 1.00	1.45	-	-
MW-6	10/30/1996	-	-	-	109	10	30	11	-	-	-	-	-	-	-	-	-	-	-	-
	2/11/1997	-	-	-	40	3.8	9.7	5.4	-	-	-	-	-	-	-	-	-	-	-	-
	8/30/2007	-	-	-	15.5	< 2.0	11.4	< 0.5	< 0.5	< 0.5	8.07	< 5.0	16.3	28.6	< 0.5	1.16	-	-	-	< 1.0
	5/16/2019	< 100	< 75.5	< 151	0.310	< 1.00	< 0.500	< 1.50	< 0.500	< 0.400	< 1.00	< 2.00	< 1.00	< 0.500	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-

Table 1. Summary of Groundwater Analytical Results - TPH, VOCs, and Lead

East Gresham Elementary School
 900 SE 5th Street, Gresham, Oregon
 DEQ File #26-95-0187 & #26-19-0304

Well ID	Sample Date	Total Petroleum Hydrocarbons (TPH)			Volatile Organic Compounds (VOCs)														Metals	
		Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Methyl tert-butyl ether (MTBE)	Naphthalene	Isopropylbenzene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	n-Butylbenzene	sec-Butylbenzene	Dissolved Lead	
		µg/L																		
MW-7	10/30/1996	-	-	-	24	8	100	83	-	-	-	-	-	-	-	-	-	-	-	
	2/11/1997	-	-	-	6.7	2.2	12	32.7	-	-	-	-	-	-	-	-	-	-	-	
	8/30/2007	-	-	-	< 0.5	< 2.0	0.69	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	9.94	15.9	< 0.5	< 0.5	-	-	< 1.0	
	5/16/2019	129	< 74.8	< 150	< 0.200	< 1.00	< 0.500	< 1.50	< 0.500	< 0.400	< 1.00	< 2.00	< 1.00	< 0.500	< 1.00	< 1.00	< 1.00	< 1.00	-	
MW-8	10/30/1996	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	
	2/11/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	8/30/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5/16/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Groundwater in Excavation ¹	Construction & Excavation Worker	14,000	>S		1,800	220,000	4,500	23,000	27	630	63,000	500	51,000	NS	6,300	7,500	NS	NS	> S	
Ingestion from Tapwater ¹	Occupational	450	450		2.1	6,300	6.4	830	0.034	0.78	68	0.72	2,000	NS	250	280	NS	NS	15	
	Residential	110	110		0.46	1,100	1.5	190	0.0075	0.17	14	0.17	440	NS	54	59	NS	NS	15	
Volatilization to Indoor Air ²	Commercial	520	1,700		12	150,000	31	3,300	1.5	18	3,200	50	9,100	22,000	2,400	1,700	NS	NS	NV	
	Residential	120	400		2.8	36,000	7.1	780	0.34	4.0	740	11	2,200	5,300	560	400	NS	NS	NV	
Volatilization to Outdoor Air ¹	Occupational	>S	>S		14,000	>S	43,000	>S	790	9,000	1,500,000	16,000	>S	NS	>S	>S	NS	NS	NV	
	Residential	>S	>S		3,100	> S	9,900	>S	180	2,100	350,000	3,600	>S	NS	>S	>S	NS	NS	NV	

Notes:
 See laboratory report for full list of analytes and quality-control data.
Bold text indicates an exceedance of one or more of the cleanup levels.
 <: not detected above the laboratory reporting limit
 -: analyte not tested

µg/L: micrograms per liter
 >S: The groundwater RBC exceeds the solubility limit.
 NS: no set value for this analyte
 NV: this analyte is considered nonvolatile
¹Oregon Risk-Based Decision-Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ Sept. 2003. Revised RBCs June 2023.

Appendix A

Laboratory Report



Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Friday, May 24, 2019

Chris Sheridan
PBS Engineering and Environmental
4412 SW Corbett Ave
Portland, OR 97239

RE: A9E0583 - East Gresham Elementary - 23767.204

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A9E0583, which was received by the laboratory on 5/17/2019 at 10:12:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1	1.6 degC	Cooler #2	1.8 degC
-----------	----------	-----------	----------

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

PBS Engineering and Environmental

4412 SW Corbett Ave
Portland, OR 97239

Project: **East Gresham Elementary**

Project Number: **23767.204**

Project Manager: **Chris Sheridan**

Report ID:

A9E0583 - 05 24 19 1403

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW2-GW	A9E0583-01	Water	05/16/19 16:05	05/17/19 10:12
MW3-GW	A9E0583-02	Water	05/16/19 16:35	05/17/19 10:12
MW4-GW	A9E0583-03	Water	05/16/19 14:30	05/17/19 10:12
MW5-GW	A9E0583-04	Water	05/16/19 12:20	05/17/19 10:12
MW6-GW	A9E0583-05	Water	05/16/19 12:55	05/17/19 10:12
MW7-GW	A9E0583-06	Water	05/16/19 11:00	05/17/19 10:12
MWDUP-GW	A9E0583-07	Water	05/16/19 12:00	05/17/19 10:12
TB-05162019	A9E0583-08	Water	05/16/19 17:00	05/17/19 10:12

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: East Gresham Elementary Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
---	---	---

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW2-GW (A9E0583-01)				Matrix: Water		Batch: 9051129		
Diesel	0.0777	---	0.0755	mg/L	1	05/23/19	NWTPH-Dx	F-18
Oil	ND	---	0.151	mg/L	1	05/23/19	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>05/23/19</i>	<i>NWTPH-Dx</i>
MW3-GW (A9E0583-02)				Matrix: Water		Batch: 9051129		
Diesel	ND	---	0.0755	mg/L	1	05/23/19	NWTPH-Dx	
Oil	ND	---	0.151	mg/L	1	05/23/19	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>05/23/19</i>	<i>NWTPH-Dx</i>
MW4-GW (A9E0583-03)				Matrix: Water		Batch: 9051129		
Diesel	ND	---	0.0755	mg/L	1	05/23/19	NWTPH-Dx	
Oil	ND	---	0.151	mg/L	1	05/23/19	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>05/23/19</i>	<i>NWTPH-Dx</i>
MW5-GW (A9E0583-04)				Matrix: Water		Batch: 9051129		
Diesel	ND	---	0.0755	mg/L	1	05/22/19	NWTPH-Dx	
Oil	ND	---	0.151	mg/L	1	05/22/19	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 78 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>05/22/19</i>	<i>NWTPH-Dx</i>
MW6-GW (A9E0583-05RE1)				Matrix: Water		Batch: 9051224		
Diesel	ND	---	0.0755	mg/L	1	05/24/19	NWTPH-Dx	
Oil	ND	---	0.151	mg/L	1	05/24/19	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>05/24/19</i>	<i>NWTPH-Dx</i>
MW7-GW (A9E0583-06)				Matrix: Water		Batch: 9051129		
Diesel	ND	---	0.0748	mg/L	1	05/23/19	NWTPH-Dx	
Oil	ND	---	0.150	mg/L	1	05/23/19	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>05/23/19</i>	<i>NWTPH-Dx</i>
MWDUP-GW (A9E0583-07)				Matrix: Water		Batch: 9051129		
Diesel	ND	---	0.0755	mg/L	1	05/23/19	NWTPH-Dx	
Oil	ND	---	0.151	mg/L	1	05/23/19	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 88 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>05/23/19</i>	<i>NWTPH-Dx</i>

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: East Gresham Elementary Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
---	---	---

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW2-GW (A9E0583-01)				Matrix: Water		Batch: 9051001		
Gasoline Range Organics	2.46	---	0.100	mg/L	1	05/17/19	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 105 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/17/19</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>		<i>101 %</i>	<i>50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/17/19</i>	<i>NWTPH-Gx (MS)</i>	
MW3-GW (A9E0583-02)				Matrix: Water		Batch: 9051001		
Gasoline Range Organics	ND	---	0.100	mg/L	1	05/17/19	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/17/19</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>		<i>105 %</i>	<i>50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/17/19</i>	<i>NWTPH-Gx (MS)</i>	
MW4-GW (A9E0583-03)				Matrix: Water		Batch: 9051001		
Gasoline Range Organics	ND	---	0.100	mg/L	1	05/17/19	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/17/19</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>		<i>104 %</i>	<i>50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/17/19</i>	<i>NWTPH-Gx (MS)</i>	
MW5-GW (A9E0583-04)				Matrix: Water		Batch: 9051001		
Gasoline Range Organics	0.216	---	0.100	mg/L	1	05/18/19	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/18/19</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>		<i>102 %</i>	<i>50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/18/19</i>	<i>NWTPH-Gx (MS)</i>	
MW6-GW (A9E0583-05)				Matrix: Water		Batch: 9051001		
Gasoline Range Organics	ND	---	0.100	mg/L	1	05/18/19	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 103 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/18/19</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>		<i>105 %</i>	<i>50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/18/19</i>	<i>NWTPH-Gx (MS)</i>	
MW7-GW (A9E0583-06)				Matrix: Water		Batch: 9051041		
Gasoline Range Organics	0.129	---	0.100	mg/L	1	05/20/19	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/20/19</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>		<i>103 %</i>	<i>50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/20/19</i>	<i>NWTPH-Gx (MS)</i>	
MWDUP-GW (A9E0583-07)				Matrix: Water		Batch: 9051041		
Gasoline Range Organics	0.133	---	0.100	mg/L	1	05/20/19	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 97 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/20/19</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>		<i>103 %</i>	<i>50-150 %</i>	<i>1</i>	<i>1</i>	<i>05/20/19</i>	<i>NWTPH-Gx (MS)</i>	

Apex Laboratories

Lisa Domenighini, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW2-GW (A9E0583-01)				Matrix: Water		Batch: 9051001		
Acetone	ND	---	20.0	ug/L	1	05/17/19	EPA 8260C	
Acrylonitrile	ND	---	48.0	ug/L	1	05/17/19	EPA 8260C	R-02
Benzene	19.5	---	0.200	ug/L	1	05/17/19	EPA 8260C	
Bromobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Bromoform	ND	---	4.00	ug/L	1	05/17/19	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
2-Butanone (MEK)	ND	---	19.0	ug/L	1	05/17/19	EPA 8260C	R-02
n-Butylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
sec-Butylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Carbon disulfide	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
2-Chlorotoluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,2-Dichloroethane (EDC)	0.790	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW2-GW (A9E0583-01)				Matrix: Water		Batch: 9051001		
Ethylbenzene	6.06	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
Isopropylbenzene	1.84	---	1.00	ug/L	1	05/17/19	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	05/17/19	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Naphthalene	3.15	---	2.00	ug/L	1	05/17/19	EPA 8260C	
n-Propylbenzene	3.71	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
Toluene	3.67	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2,4-Trimethylbenzene	7.84	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,3,5-Trimethylbenzene	15.6	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Vinyl chloride	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
m,p-Xylene	6.34	---	1.00	ug/L	1	05/17/19	EPA 8260C	
o-Xylene	2.33	---	0.500	ug/L	1	05/17/19	EPA 8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>05/17/19</i>	<i>EPA 8260C</i>
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/17/19</i>	<i>EPA 8260C</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/17/19</i>	<i>EPA 8260C</i>

MW3-GW (A9E0583-02)				Matrix: Water		Batch: 9051001		
Acetone	ND	---	20.0	ug/L	1	05/17/19	EPA 8260C	
Acrylonitrile	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
Benzene	ND	---	0.200	ug/L	1	05/17/19	EPA 8260C	
Bromobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW3-GW (A9E0583-02)				Matrix: Water		Batch: 9051001		
Bromoform	ND	---	4.00	ug/L	1	05/17/19	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
n-Butylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
sec-Butylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Carbon disulfide	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
2-Chlorotoluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
Isopropylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	05/17/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW3-GW (A9E0583-02)				Matrix: Water		Batch: 9051001		
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
n-Propylbenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Vinyl chloride	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
m,p-Xylene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
o-Xylene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 107 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>05/17/19</i>	<i>EPA 8260C</i>
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/17/19</i>	<i>EPA 8260C</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/17/19</i>	<i>EPA 8260C</i>

MW4-GW (A9E0583-03)				Matrix: Water		Batch: 9051001		
Acetone	ND	---	20.0	ug/L	1	05/17/19	EPA 8260C	
Acrylonitrile	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
Benzene	ND	---	0.200	ug/L	1	05/17/19	EPA 8260C	
Bromobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Bromoform	ND	---	4.00	ug/L	1	05/17/19	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
n-Butylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
sec-Butylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW4-GW (A9E0583-03)				Matrix: Water		Batch: 9051001		
Carbon disulfide	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
2-Chlorotoluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	05/17/19	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
Isopropylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	05/17/19	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	05/17/19	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
n-Propylbenzene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW4-GW (A9E0583-03)				Matrix: Water		Batch: 9051001		
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	05/17/19	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
Vinyl chloride	ND	---	0.400	ug/L	1	05/17/19	EPA 8260C	
m,p-Xylene	ND	---	1.00	ug/L	1	05/17/19	EPA 8260C	
o-Xylene	ND	---	0.500	ug/L	1	05/17/19	EPA 8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>05/17/19</i>	<i>EPA 8260C</i>
<i>Toluene-d8 (Surr)</i>		<i>103 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/17/19</i>	<i>EPA 8260C</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/17/19</i>	<i>EPA 8260C</i>

MW5-GW (A9E0583-04)				Matrix: Water		Batch: 9051001		
Acetone	ND	---	20.0	ug/L	1	05/18/19	EPA 8260C	
Acrylonitrile	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
Benzene	0.730	---	0.200	ug/L	1	05/18/19	EPA 8260C	
Bromobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Bromoform	ND	---	4.00	ug/L	1	05/18/19	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	05/18/19	EPA 8260C	
n-Butylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
sec-Butylbenzene	1.45	---	1.00	ug/L	1	05/18/19	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Carbon disulfide	ND	---	10.0	ug/L	1	05/18/19	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW5-GW (A9E0583-04)				Matrix: Water		Batch: 9051001		
2-Chlorotoluene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	05/18/19	EPA 8260C	
Isopropylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	05/18/19	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	05/18/19	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
n-Propylbenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
1,1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW5-GW (A9E0583-04)				Matrix: Water		Batch: 9051001		
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Vinyl chloride	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
m,p-Xylene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
o-Xylene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>05/18/19</i>	<i>EPA 8260C</i>	
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>80-120 %</i>	<i>1</i>	<i>05/18/19</i>	<i>EPA 8260C</i>	
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>	<i>1</i>	<i>05/18/19</i>	<i>EPA 8260C</i>	
MW6-GW (A9E0583-05)				Matrix: Water		Batch: 9051001		
Acetone	ND	---	20.0	ug/L	1	05/18/19	EPA 8260C	
Acrylonitrile	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
Benzene	0.310	---	0.200	ug/L	1	05/18/19	EPA 8260C	
Bromobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Bromoform	ND	---	4.00	ug/L	1	05/18/19	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	05/18/19	EPA 8260C	
n-Butylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
sec-Butylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Carbon disulfide	ND	---	10.0	ug/L	1	05/18/19	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	
2-Chlorotoluene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW6-GW (A9E0583-05)				Matrix: Water		Batch: 9051001		
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	05/18/19	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	05/18/19	EPA 8260C	
Isopropylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	05/18/19	EPA 8260C	
4-Methyl-2-pentanone (MIBK)	ND	---	10.0	ug/L	1	05/18/19	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
n-Propylbenzene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	05/18/19	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW6-GW (A9E0583-05)				Matrix: Water		Batch: 9051001		
Vinyl chloride	ND	---	0.400	ug/L	1	05/18/19	EPA 8260C	
m,p-Xylene	ND	---	1.00	ug/L	1	05/18/19	EPA 8260C	
o-Xylene	ND	---	0.500	ug/L	1	05/18/19	EPA 8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 107 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>05/18/19</i>	<i>EPA 8260C</i>
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/18/19</i>	<i>EPA 8260C</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/18/19</i>	<i>EPA 8260C</i>
MW7-GW (A9E0583-06)				Matrix: Water		Batch: 9051041		
Acetone	ND	---	20.0	ug/L	1	05/20/19	EPA 8260C	
Acrylonitrile	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
Benzene	ND	---	0.200	ug/L	1	05/20/19	EPA 8260C	
Bromobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Bromoform	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
n-Butylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
sec-Butylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Carbon disulfide	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
2-Chlorotoluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW7-GW (A9E0583-06)				Matrix: Water		Batch: 9051041		
1,1-Dichloroethene	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
Isopropylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	05/20/19	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
n-Propylbenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Vinyl chloride	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
m,p-Xylene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
o-Xylene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>05/20/19</i>	<i>EPA 8260C</i>
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/20/19</i>	<i>EPA 8260C</i>

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: East Gresham Elementary Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
---	---	---

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW7-GW (A9E0583-06)			Matrix: Water		Batch: 9051041			
<i>Surrogate: 4-Bromofluorobenzene (Surr)</i>		<i>Recovery: 103 %</i>	<i>Limits: 80-120 %</i>	<i>1</i>	<i>05/20/19</i>	<i>EPA 8260C</i>		
MWDUP-GW (A9E0583-07)			Matrix: Water		Batch: 9051041			
Acetone	ND	---	20.0	ug/L	1	05/20/19	EPA 8260C	
Acrylonitrile	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
Benzene	ND	---	0.200	ug/L	1	05/20/19	EPA 8260C	
Bromobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Bromoform	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
n-Butylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
sec-Butylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Carbon disulfide	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
2-Chlorotoluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MWDUP-GW (A9E0583-07)				Matrix: Water		Batch: 9051041		
1,1-Dichloropropene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
Isopropylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	05/20/19	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
n-Propylbenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Vinyl chloride	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
m,p-Xylene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
o-Xylene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 103 %</i>	<i>Limits: 80-120 %</i>	<i>1</i>	<i>05/20/19</i>	<i>EPA 8260C</i>	
<i>Toluene-d8 (Surr)</i>			<i>102 %</i>	<i>80-120 %</i>	<i>1</i>	<i>05/20/19</i>	<i>EPA 8260C</i>	
<i>4-Bromofluorobenzene (Surr)</i>			<i>102 %</i>	<i>80-120 %</i>	<i>1</i>	<i>05/20/19</i>	<i>EPA 8260C</i>	

TB-05162019 (A9E0583-08)				Matrix: Water		Batch: 9051040		
Acetone	ND	---	20.0	ug/L	1	05/20/19	EPA 8260C	
Acrylonitrile	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
Benzene	ND	---	0.200	ug/L	1	05/20/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TB-05162019 (A9E0583-08)				Matrix: Water		Batch: 9051040		
Bromobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Bromoform	ND	---	4.00	ug/L	1	05/20/19	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
n-Butylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
sec-Butylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Carbon disulfide	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
2-Chlorotoluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	05/20/19	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TB-05162019 (A9E0583-08)				Matrix: Water		Batch: 9051040		
Isopropylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	05/20/19	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	05/20/19	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
n-Propylbenzene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	05/20/19	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
Vinyl chloride	ND	---	0.400	ug/L	1	05/20/19	EPA 8260C	
m,p-Xylene	ND	---	1.00	ug/L	1	05/20/19	EPA 8260C	
o-Xylene	ND	---	0.500	ug/L	1	05/20/19	EPA 8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>05/20/19</i>	<i>EPA 8260C</i>
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/20/19</i>	<i>EPA 8260C</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>1</i>	<i>05/20/19</i>	<i>EPA 8260C</i>



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051129 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (9051129-BLK1)		Prepared: 05/22/19 08:25		Analyzed: 05/23/19 01:41								
NWTPH-Dx												
Diesel	ND	---	0.0727	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.145	mg/L	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 94 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (9051129-BS1)						Prepared: 05/22/19 08:25		Analyzed: 05/23/19 02:04				
NWTPH-Dx												
Diesel	0.429	---	0.0800	mg/L	1	0.500	---	86	58 - 115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS Dup (9051129-BSD1)						Prepared: 05/22/19 08:25		Analyzed: 05/23/19 02:26		Q-19		
NWTPH-Dx												
Diesel	0.405	---	0.0800	mg/L	1	0.500	---	81	58 - 115%	6	20%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Batch 9051224 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (9051224-BLK1)		Prepared: 05/23/19 15:12		Analyzed: 05/23/19 23:49								
NWTPH-Dx												
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 83 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (9051224-BS1)						Prepared: 05/23/19 15:12		Analyzed: 05/24/19 00:11				
NWTPH-Dx												
Diesel	0.394	---	0.0800	mg/L	1	0.500	---	79	58 - 115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS Dup (9051224-BSD1)						Prepared: 05/23/19 15:12		Analyzed: 05/24/19 00:32		Q-19		
NWTPH-Dx												
Diesel	0.388	---	0.0800	mg/L	1	0.500	---	78	58 - 115%	1	20%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: East Gresham Elementary Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
---	---	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 9051001 - EPA 5030B						Water						
Blank (9051001-BLK1)		Prepared: 05/17/19 12:00 Analyzed: 05/17/19 14:25										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 102 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>104 %</i>		<i>50-150 %</i>		<i>"</i>						
LCS (9051001-BS2)		Prepared: 05/17/19 12:00 Analyzed: 05/17/19 13:58										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.500	---	0.100	mg/L	1	0.500	---	100	80 - 120%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 103 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>100 %</i>		<i>50-150 %</i>		<i>"</i>						
Duplicate (9051001-DUP2)		Prepared: 05/17/19 14:13 Analyzed: 05/17/19 23:25										
<u>QC Source Sample: MW3-GW (A9E0583-02)</u>												
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	ND	---	---	---	30%	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>104 %</i>		<i>50-150 %</i>		<i>"</i>						



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051041 - EPA 5030B						Water						
Blank (9051041-BLK1)		Prepared: 05/20/19 10:37 Analyzed: 05/20/19 13:17										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 94 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>103 %</i>		<i>50-150 %</i>		<i>"</i>						
LCS (9051041-BS2)		Prepared: 05/20/19 10:37 Analyzed: 05/20/19 12:50										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.460	---	0.100	mg/L	1	0.500	---	92	80 - 120%	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 102 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>102 %</i>		<i>50-150 %</i>		<i>"</i>						



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051001 - EPA 5030B						Water						
Blank (9051001-BLK1)		Prepared: 05/17/19 12:00		Analyzed: 05/17/19 14:25								
EPA 8260C												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	---
Acrylonitrile	ND	---	2.00	ug/L	1	---	---	---	---	---	---	---
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
Bromobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Bromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromodichloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromoform	ND	---	4.00	ug/L	1	---	---	---	---	---	---	---
Bromomethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	---
n-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Carbon disulfide	ND	---	10.0	ug/L	1	---	---	---	---	---	---	---
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Chlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Chloroethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
Chloroform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Chloromethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Dibromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Dibromomethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051001 - EPA 5030B						Water						
Blank (9051001-BLK1)	Prepared: 05/17/19 12:00					Analyzed: 05/17/19 14:25						
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	---	3.00	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051001 - EPA 5030B						Water						
Blank (9051001-BLK1)		Prepared: 05/17/19 12:00		Analyzed: 05/17/19 14:25								
o-Xylene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>"</i>						
LCS (9051001-BS1)		Prepared: 05/17/19 12:00		Analyzed: 05/17/19 13:31								
EPA 8260C												
Acetone	41.5	---	20.0	ug/L	1	40.0	---	104	80 - 120%	---	---	
Acrylonitrile	21.9	---	2.00	ug/L	1	20.0	---	109	80 - 120%	---	---	
Benzene	21.8	---	0.200	ug/L	1	20.0	---	109	80 - 120%	---	---	
Bromobenzene	19.5	---	0.500	ug/L	1	20.0	---	97	80 - 120%	---	---	
Bromochloromethane	20.8	---	1.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
Bromodichloromethane	23.4	---	1.00	ug/L	1	20.0	---	117	80 - 120%	---	---	
Bromoform	16.2	---	4.00	ug/L	1	20.0	---	81	80 - 120%	---	---	
Bromomethane	21.1	---	5.00	ug/L	1	20.0	---	106	80 - 120%	---	---	
2-Butanone (MEK)	44.7	---	10.0	ug/L	1	40.0	---	112	80 - 120%	---	---	
n-Butylbenzene	22.0	---	1.00	ug/L	1	20.0	---	110	80 - 120%	---	---	
sec-Butylbenzene	21.2	---	1.00	ug/L	1	20.0	---	106	80 - 120%	---	---	
tert-Butylbenzene	20.2	---	1.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
Carbon disulfide	22.8	---	10.0	ug/L	1	20.0	---	114	80 - 120%	---	---	
Carbon tetrachloride	23.0	---	1.00	ug/L	1	20.0	---	115	80 - 120%	---	---	
Chlorobenzene	20.0	---	0.500	ug/L	1	20.0	---	100	80 - 120%	---	---	
Chloroethane	22.9	---	5.00	ug/L	1	20.0	---	115	80 - 120%	---	---	
Chloroform	21.8	---	1.00	ug/L	1	20.0	---	109	80 - 120%	---	---	
Chloromethane	24.2	---	5.00	ug/L	1	20.0	---	121	80 - 120%	---	---	Q-56
2-Chlorotoluene	20.2	---	1.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
4-Chlorotoluene	20.8	---	1.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
Dibromochloromethane	18.6	---	1.00	ug/L	1	20.0	---	93	80 - 120%	---	---	
1,2-Dibromo-3-chloropropane	17.9	---	5.00	ug/L	1	20.0	---	89	80 - 120%	---	---	
1,2-Dibromoethane (EDB)	21.6	---	0.500	ug/L	1	20.0	---	108	80 - 120%	---	---	
Dibromomethane	22.3	---	1.00	ug/L	1	20.0	---	111	80 - 120%	---	---	
1,2-Dichlorobenzene	19.8	---	0.500	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,3-Dichlorobenzene	20.0	---	0.500	ug/L	1	20.0	---	100	80 - 120%	---	---	
1,4-Dichlorobenzene	18.7	---	0.500	ug/L	1	20.0	---	94	80 - 120%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051001 - EPA 5030B						Water						
LCS (9051001-BS1)	Prepared: 05/17/19 12:00					Analyzed: 05/17/19 13:31						
Dichlorodifluoromethane	24.7	---	1.00	ug/L	1	20.0	---	123	80 - 120%	---	---	Q-56
1,1-Dichloroethane	19.8	---	0.400	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,2-Dichloroethane (EDC)	22.4	---	0.400	ug/L	1	20.0	---	112	80 - 120%	---	---	
1,1-Dichloroethene	19.5	---	0.400	ug/L	1	20.0	---	98	80 - 120%	---	---	
cis-1,2-Dichloroethene	22.5	---	0.400	ug/L	1	20.0	---	113	80 - 120%	---	---	
trans-1,2-Dichloroethene	19.7	---	0.400	ug/L	1	20.0	---	98	80 - 120%	---	---	
1,2-Dichloropropane	22.2	---	0.500	ug/L	1	20.0	---	111	80 - 120%	---	---	
1,3-Dichloropropane	21.3	---	1.00	ug/L	1	20.0	---	107	80 - 120%	---	---	
2,2-Dichloropropane	24.6	---	1.00	ug/L	1	20.0	---	123	80 - 120%	---	---	Q-56
1,1-Dichloropropene	22.3	---	1.00	ug/L	1	20.0	---	111	80 - 120%	---	---	
cis-1,3-Dichloropropene	23.1	---	1.00	ug/L	1	20.0	---	115	80 - 120%	---	---	
trans-1,3-Dichloropropene	19.8	---	1.00	ug/L	1	20.0	---	99	80 - 120%	---	---	
Ethylbenzene	21.1	---	0.500	ug/L	1	20.0	---	105	80 - 120%	---	---	
Hexachlorobutadiene	20.7	---	5.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
2-Hexanone	40.1	---	10.0	ug/L	1	40.0	---	100	80 - 120%	---	---	
Isopropylbenzene	22.2	---	1.00	ug/L	1	20.0	---	111	80 - 120%	---	---	
4-Isopropyltoluene	21.2	---	1.00	ug/L	1	20.0	---	106	80 - 120%	---	---	
Methylene chloride	15.7	---	3.00	ug/L	1	20.0	---	78	80 - 120%	---	---	Q-55
4-Methyl-2-pentanone (MiBK)	44.3	---	10.0	ug/L	1	40.0	---	111	80 - 120%	---	---	
Methyl tert-butyl ether (MTBE)	21.7	---	1.00	ug/L	1	20.0	---	109	80 - 120%	---	---	
Naphthalene	20.9	---	2.00	ug/L	1	20.0	---	105	80 - 120%	---	---	
n-Propylbenzene	20.6	---	0.500	ug/L	1	20.0	---	103	80 - 120%	---	---	
Styrene	21.3	---	1.00	ug/L	1	20.0	---	107	80 - 120%	---	---	
1,1,1,2-Tetrachloroethane	23.0	---	0.400	ug/L	1	20.0	---	115	80 - 120%	---	---	
1,1,1,2,2-Tetrachloroethane	21.3	---	0.500	ug/L	1	20.0	---	106	80 - 120%	---	---	
Tetrachloroethene (PCE)	19.1	---	0.400	ug/L	1	20.0	---	95	80 - 120%	---	---	
Toluene	20.1	---	1.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
1,2,3-Trichlorobenzene	20.9	---	2.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
1,2,4-Trichlorobenzene	19.9	---	2.00	ug/L	1	20.0	---	100	80 - 120%	---	---	
1,1,1-Trichloroethane	20.7	---	0.400	ug/L	1	20.0	---	104	80 - 120%	---	---	
1,1,2-Trichloroethane	20.0	---	0.500	ug/L	1	20.0	---	100	80 - 120%	---	---	
Trichloroethene (TCE)	19.9	---	0.400	ug/L	1	20.0	---	99	80 - 120%	---	---	
Trichlorofluoromethane	23.2	---	2.00	ug/L	1	20.0	---	116	80 - 120%	---	---	
1,2,3-Trichloropropane	21.4	---	1.00	ug/L	1	20.0	---	107	80 - 120%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: East Gresham Elementary Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
---	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051001 - EPA 5030B												
Water												
LCS (9051001-BS1)												
			Prepared: 05/17/19 12:00			Analyzed: 05/17/19 13:31						
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	22.0	---	2.00	ug/L	1	20.0	---	110	80 - 120%	---	---	
1,2,4-Trimethylbenzene	22.0	---	1.00	ug/L	1	20.0	---	110	80 - 120%	---	---	
1,3,5-Trimethylbenzene	21.6	---	1.00	ug/L	1	20.0	---	108	80 - 120%	---	---	
Vinyl chloride	23.1	---	0.400	ug/L	1	20.0	---	116	80 - 120%	---	---	
m,p-Xylene	42.4	---	1.00	ug/L	1	40.0	---	106	80 - 120%	---	---	
o-Xylene	21.2	---	0.500	ug/L	1	20.0	---	106	80 - 120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr) Recovery: 104 % Limits: 80-120 % Dilution: 1x</i>												
<i>Toluene-d8 (Surr) 101 % 80-120 % "</i>												
<i>4-Bromofluorobenzene (Surr) 94 % 80-120 % "</i>												

Duplicate (9051001-DUP2)												
			Prepared: 05/17/19 14:13			Analyzed: 05/17/19 23:25						
QC Source Sample: MW3-GW (A9E0583-02)												
EPA 8260C												
Acetone	ND	---	20.0	ug/L	1	---	ND	---	---	---	30%	Q-05
Acrylonitrile	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
Benzene	ND	---	0.200	ug/L	1	---	ND	---	---	---	30%	
Bromobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromoform	ND	---	4.00	ug/L	1	---	ND	---	---	---	30%	
Bromomethane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Chloroethane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
Chloroform	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Chloromethane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051001 - EPA 5030B												
Water												
Duplicate (9051001-DUP2)			Prepared: 05/17/19 14:13 Analyzed: 05/17/19 23:25									
QC Source Sample: MW3-GW (A9E0583-02)												
Dibromochloromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Dibromomethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Hexanone	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Methylene chloride	ND	---	3.00	ug/L	1	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Naphthalene	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Styrene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: East Gresham Elementary Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
---	---	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-----------------	-------	----------	--------------	---------------	-------	--------------	-----	-----------	-------

Batch 9051001 - EPA 5030B

Water

Duplicate (9051001-DUP2) Prepared: 05/17/19 14:13 Analyzed: 05/17/19 23:25

QC Source Sample: MW3-GW (A9E0583-02)

Toluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
o-Xylene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	

Surr: 1,4-Difluorobenzene (Surr)	Recovery: 106 %	Limits: 80-120 %	Dilution: 1x
Toluene-d8 (Surr)	102 %	80-120 %	"
4-Bromofluorobenzene (Surr)	97 %	80-120 %	"



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051040 - EPA 5030B						Water						
Blank (9051040-BLK1)		Prepared: 05/20/19 10:36 Analyzed: 05/20/19 13:13										
<u>EPA 8260C</u>												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	---
Acrylonitrile	ND	---	2.00	ug/L	1	---	---	---	---	---	---	---
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
Bromobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Bromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromodichloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromoform	ND	---	4.00	ug/L	1	---	---	---	---	---	---	---
Bromomethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	---
n-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Carbon disulfide	ND	---	10.0	ug/L	1	---	---	---	---	---	---	---
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Chlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Chloroethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
Chloroform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Chloromethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Dibromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Dibromomethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051040 - EPA 5030B						Water						
Blank (9051040-BLK1)	Prepared: 05/20/19 10:36					Analyzed: 05/20/19 13:13						
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	---	3.00	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051040 - EPA 5030B						Water						
Blank (9051040-BLK1)		Prepared: 05/20/19 10:36			Analyzed: 05/20/19 13:13							
o-Xylene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 105 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>95 %</i>		<i>80-120 %</i>		<i>"</i>						
LCS (9051040-BS1)						Prepared: 05/20/19 10:36			Analyzed: 05/20/19 12:19			
EPA 8260C												
Acetone	49.8	---	20.0	ug/L	1	40.0	---	124	80 - 120%	---	---	Q-56
Acrylonitrile	23.1	---	2.00	ug/L	1	20.0	---	116	80 - 120%	---	---	
Benzene	20.3	---	0.200	ug/L	1	20.0	---	102	80 - 120%	---	---	
Bromobenzene	18.9	---	0.500	ug/L	1	20.0	---	94	80 - 120%	---	---	
Bromochloromethane	20.0	---	1.00	ug/L	1	20.0	---	100	80 - 120%	---	---	
Bromodichloromethane	22.4	---	1.00	ug/L	1	20.0	---	112	80 - 120%	---	---	
Bromoform	15.6	---	4.00	ug/L	1	20.0	---	78	80 - 120%	---	---	Q-55
Bromomethane	16.1	---	5.00	ug/L	1	20.0	---	81	80 - 120%	---	---	
2-Butanone (MEK)	49.2	---	10.0	ug/L	1	40.0	---	123	80 - 120%	---	---	Q-56
n-Butylbenzene	21.2	---	1.00	ug/L	1	20.0	---	106	80 - 120%	---	---	
sec-Butylbenzene	20.2	---	1.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
tert-Butylbenzene	19.5	---	1.00	ug/L	1	20.0	---	98	80 - 120%	---	---	
Carbon disulfide	22.0	---	10.0	ug/L	1	20.0	---	110	80 - 120%	---	---	
Carbon tetrachloride	19.6	---	1.00	ug/L	1	20.0	---	98	80 - 120%	---	---	
Chlorobenzene	19.6	---	0.500	ug/L	1	20.0	---	98	80 - 120%	---	---	
Chloroethane	20.8	---	5.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
Chloroform	20.4	---	1.00	ug/L	1	20.0	---	102	80 - 120%	---	---	
Chloromethane	24.3	---	5.00	ug/L	1	20.0	---	122	80 - 120%	---	---	Q-56
2-Chlorotoluene	19.8	---	1.00	ug/L	1	20.0	---	99	80 - 120%	---	---	
4-Chlorotoluene	20.0	---	1.00	ug/L	1	20.0	---	100	80 - 120%	---	---	
Dibromochloromethane	17.5	---	1.00	ug/L	1	20.0	---	87	80 - 120%	---	---	
1,2-Dibromo-3-chloropropane	19.5	---	5.00	ug/L	1	20.0	---	98	80 - 120%	---	---	
1,2-Dibromoethane (EDB)	20.9	---	0.500	ug/L	1	20.0	---	105	80 - 120%	---	---	
Dibromomethane	21.4	---	1.00	ug/L	1	20.0	---	107	80 - 120%	---	---	
1,2-Dichlorobenzene	19.9	---	0.500	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,3-Dichlorobenzene	19.5	---	0.500	ug/L	1	20.0	---	97	80 - 120%	---	---	
1,4-Dichlorobenzene	18.7	---	0.500	ug/L	1	20.0	---	94	80 - 120%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051040 - EPA 5030B						Water						
LCS (9051040-BS1)			Prepared: 05/20/19 10:36		Analyzed: 05/20/19 12:19							
Dichlorodifluoromethane	22.4	---	1.00	ug/L	1	20.0	---	112	80 - 120%	---	---	
1,1-Dichloroethane	18.6	---	0.400	ug/L	1	20.0	---	93	80 - 120%	---	---	
1,2-Dichloroethane (EDC)	21.2	---	0.400	ug/L	1	20.0	---	106	80 - 120%	---	---	
1,1-Dichloroethene	17.8	---	0.400	ug/L	1	20.0	---	89	80 - 120%	---	---	
cis-1,2-Dichloroethene	20.7	---	0.400	ug/L	1	20.0	---	104	80 - 120%	---	---	
trans-1,2-Dichloroethene	18.1	---	0.400	ug/L	1	20.0	---	90	80 - 120%	---	---	
1,2-Dichloropropane	20.8	---	0.500	ug/L	1	20.0	---	104	80 - 120%	---	---	
1,3-Dichloropropane	20.5	---	1.00	ug/L	1	20.0	---	102	80 - 120%	---	---	
2,2-Dichloropropane	21.9	---	1.00	ug/L	1	20.0	---	109	80 - 120%	---	---	
1,1-Dichloropropene	20.4	---	1.00	ug/L	1	20.0	---	102	80 - 120%	---	---	
cis-1,3-Dichloropropene	22.2	---	1.00	ug/L	1	20.0	---	111	80 - 120%	---	---	
trans-1,3-Dichloropropene	19.2	---	1.00	ug/L	1	20.0	---	96	80 - 120%	---	---	
Ethylbenzene	20.6	---	0.500	ug/L	1	20.0	---	103	80 - 120%	---	---	
Hexachlorobutadiene	21.2	---	5.00	ug/L	1	20.0	---	106	80 - 120%	---	---	
2-Hexanone	48.6	---	10.0	ug/L	1	40.0	---	121	80 - 120%	---	---	Q-56
Isopropylbenzene	22.2	---	1.00	ug/L	1	20.0	---	111	80 - 120%	---	---	
4-Isopropyltoluene	20.5	---	1.00	ug/L	1	20.0	---	102	80 - 120%	---	---	
Methylene chloride	14.4	---	3.00	ug/L	1	20.0	---	72	80 - 120%	---	---	Q-55
4-Methyl-2-pentanone (MiBK)	49.9	---	10.0	ug/L	1	40.0	---	125	80 - 120%	---	---	Q-56
Methyl tert-butyl ether (MTBE)	21.7	---	1.00	ug/L	1	20.0	---	108	80 - 120%	---	---	
Naphthalene	23.5	---	2.00	ug/L	1	20.0	---	118	80 - 120%	---	---	
n-Propylbenzene	19.6	---	0.500	ug/L	1	20.0	---	98	80 - 120%	---	---	
Styrene	21.8	---	1.00	ug/L	1	20.0	---	109	80 - 120%	---	---	
1,1,1,2-Tetrachloroethane	21.1	---	0.400	ug/L	1	20.0	---	106	80 - 120%	---	---	
1,1,1,2,2-Tetrachloroethane	20.4	---	0.500	ug/L	1	20.0	---	102	80 - 120%	---	---	
Tetrachloroethene (PCE)	18.3	---	0.400	ug/L	1	20.0	---	92	80 - 120%	---	---	
Toluene	19.0	---	1.00	ug/L	1	20.0	---	95	80 - 120%	---	---	
1,2,3-Trichlorobenzene	22.4	---	2.00	ug/L	1	20.0	---	112	80 - 120%	---	---	
1,2,4-Trichlorobenzene	21.3	---	2.00	ug/L	1	20.0	---	107	80 - 120%	---	---	
1,1,1-Trichloroethane	18.8	---	0.400	ug/L	1	20.0	---	94	80 - 120%	---	---	
1,1,2-Trichloroethane	19.6	---	0.500	ug/L	1	20.0	---	98	80 - 120%	---	---	
Trichloroethene (TCE)	18.9	---	0.400	ug/L	1	20.0	---	94	80 - 120%	---	---	
Trichlorofluoromethane	21.6	---	2.00	ug/L	1	20.0	---	108	80 - 120%	---	---	
1,2,3-Trichloropropane	20.8	---	1.00	ug/L	1	20.0	---	104	80 - 120%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051040 - EPA 5030B						Water						
LCS (9051040-BS1)		Prepared: 05/20/19 10:36		Analyzed: 05/20/19 12:19								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	20.3	---	2.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
1,2,4-Trimethylbenzene	21.1	---	1.00	ug/L	1	20.0	---	105	80 - 120%	---	---	
1,3,5-Trimethylbenzene	20.5	---	1.00	ug/L	1	20.0	---	102	80 - 120%	---	---	
Vinyl chloride	22.0	---	0.400	ug/L	1	20.0	---	110	80 - 120%	---	---	
m,p-Xylene	42.5	---	1.00	ug/L	1	40.0	---	106	80 - 120%	---	---	
o-Xylene	21.5	---	0.500	ug/L	1	20.0	---	108	80 - 120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>94 %</i>		<i>80-120 %</i>		<i>"</i>						



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051041 - EPA 5030B						Water						
Blank (9051041-BLK1)		Prepared: 05/20/19 10:37 Analyzed: 05/20/19 13:17										
<u>EPA 8260C</u>												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	---
Acrylonitrile	ND	---	2.00	ug/L	1	---	---	---	---	---	---	---
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
Bromobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Bromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromodichloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromoform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromomethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	---
n-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Carbon disulfide	ND	---	10.0	ug/L	1	---	---	---	---	---	---	---
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Chlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Chloroethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
Chloroform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Chloromethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Dibromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Dibromomethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051041 - EPA 5030B						Water						
Blank (9051041-BLK1)	Prepared: 05/20/19 10:37					Analyzed: 05/20/19 13:17						
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	---	3.00	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051041 - EPA 5030B												
Water												
Blank (9051041-BLK1)	Prepared: 05/20/19 10:37 Analyzed: 05/20/19 13:17											
o-Xylene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>80-120 %</i>		<i>"</i>						

LCS (9051041-BS1)												
Prepared: 05/20/19 10:37 Analyzed: 05/20/19 12:23												
EPA 8260C												
Acetone	38.8	---	20.0	ug/L	1	40.0	---	97	80 - 120%	---	---	
Acrylonitrile	20.9	---	2.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
Benzene	19.1	---	0.200	ug/L	1	20.0	---	95	80 - 120%	---	---	
Bromobenzene	19.8	---	0.500	ug/L	1	20.0	---	99	80 - 120%	---	---	
Bromochloromethane	21.7	---	1.00	ug/L	1	20.0	---	109	80 - 120%	---	---	
Bromodichloromethane	20.1	---	1.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
Bromoform	19.4	---	1.00	ug/L	1	20.0	---	97	80 - 120%	---	---	
Bromomethane	18.9	---	5.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
2-Butanone (MEK)	40.5	---	10.0	ug/L	1	40.0	---	101	80 - 120%	---	---	
n-Butylbenzene	19.4	---	1.00	ug/L	1	20.0	---	97	80 - 120%	---	---	
sec-Butylbenzene	18.4	---	1.00	ug/L	1	20.0	---	92	80 - 120%	---	---	
tert-Butylbenzene	17.5	---	1.00	ug/L	1	20.0	---	88	80 - 120%	---	---	
Carbon disulfide	19.1	---	10.0	ug/L	1	20.0	---	95	80 - 120%	---	---	
Carbon tetrachloride	16.9	---	1.00	ug/L	1	20.0	---	85	80 - 120%	---	---	
Chlorobenzene	19.4	---	0.500	ug/L	1	20.0	---	97	80 - 120%	---	---	
Chloroethane	14.9	---	5.00	ug/L	1	20.0	---	74	80 - 120%	---	---	Q-55
Chloroform	20.0	---	1.00	ug/L	1	20.0	---	100	80 - 120%	---	---	
Chloromethane	22.6	---	5.00	ug/L	1	20.0	---	113	80 - 120%	---	---	
2-Chlorotoluene	18.9	---	1.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
4-Chlorotoluene	18.5	---	1.00	ug/L	1	20.0	---	92	80 - 120%	---	---	
Dibromochloromethane	17.7	---	1.00	ug/L	1	20.0	---	88	80 - 120%	---	---	
1,2-Dibromo-3-chloropropane	17.5	---	5.00	ug/L	1	20.0	---	87	80 - 120%	---	---	
1,2-Dibromoethane (EDB)	20.2	---	0.500	ug/L	1	20.0	---	101	80 - 120%	---	---	
Dibromomethane	21.0	---	1.00	ug/L	1	20.0	---	105	80 - 120%	---	---	
1,2-Dichlorobenzene	19.5	---	0.500	ug/L	1	20.0	---	97	80 - 120%	---	---	
1,3-Dichlorobenzene	19.1	---	0.500	ug/L	1	20.0	---	96	80 - 120%	---	---	
1,4-Dichlorobenzene	18.8	---	0.500	ug/L	1	20.0	---	94	80 - 120%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051041 - EPA 5030B						Water						
LCS (9051041-BS1)			Prepared: 05/20/19 10:37		Analyzed: 05/20/19 12:23							
Dichlorodifluoromethane	18.6	---	1.00	ug/L	1	20.0	---	93	80 - 120%	---	---	
1,1-Dichloroethane	19.4	---	0.400	ug/L	1	20.0	---	97	80 - 120%	---	---	
1,2-Dichloroethane (EDC)	20.7	---	0.400	ug/L	1	20.0	---	104	80 - 120%	---	---	
1,1-Dichloroethene	18.6	---	0.400	ug/L	1	20.0	---	93	80 - 120%	---	---	
cis-1,2-Dichloroethene	19.8	---	0.400	ug/L	1	20.0	---	99	80 - 120%	---	---	
trans-1,2-Dichloroethene	19.3	---	0.400	ug/L	1	20.0	---	97	80 - 120%	---	---	
1,2-Dichloropropane	19.8	---	0.500	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,3-Dichloropropane	19.7	---	1.00	ug/L	1	20.0	---	99	80 - 120%	---	---	
2,2-Dichloropropane	15.5	---	1.00	ug/L	1	20.0	---	78	80 - 120%	---	---	Q-55
1,1-Dichloropropene	18.7	---	1.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
cis-1,3-Dichloropropene	18.0	---	1.00	ug/L	1	20.0	---	90	80 - 120%	---	---	
trans-1,3-Dichloropropene	16.3	---	1.00	ug/L	1	20.0	---	82	80 - 120%	---	---	
Ethylbenzene	18.2	---	0.500	ug/L	1	20.0	---	91	80 - 120%	---	---	
Hexachlorobutadiene	20.0	---	5.00	ug/L	1	20.0	---	100	80 - 120%	---	---	
2-Hexanone	38.8	---	10.0	ug/L	1	40.0	---	97	80 - 120%	---	---	
Isopropylbenzene	18.4	---	1.00	ug/L	1	20.0	---	92	80 - 120%	---	---	
4-Isopropyltoluene	18.8	---	1.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
Methylene chloride	18.5	---	3.00	ug/L	1	20.0	---	92	80 - 120%	---	---	
4-Methyl-2-pentanone (MiBK)	38.0	---	10.0	ug/L	1	40.0	---	95	80 - 120%	---	---	
Methyl tert-butyl ether (MTBE)	18.0	---	1.00	ug/L	1	20.0	---	90	80 - 120%	---	---	
Naphthalene	17.4	---	2.00	ug/L	1	20.0	---	87	80 - 120%	---	---	
n-Propylbenzene	17.9	---	0.500	ug/L	1	20.0	---	89	80 - 120%	---	---	
Styrene	19.9	---	1.00	ug/L	1	20.0	---	100	80 - 120%	---	---	
1,1,1,2-Tetrachloroethane	16.8	---	0.400	ug/L	1	20.0	---	84	80 - 120%	---	---	
1,1,1,2,2-Tetrachloroethane	20.6	---	0.500	ug/L	1	20.0	---	103	80 - 120%	---	---	
Tetrachloroethene (PCE)	18.9	---	0.400	ug/L	1	20.0	---	94	80 - 120%	---	---	
Toluene	18.3	---	1.00	ug/L	1	20.0	---	92	80 - 120%	---	---	
1,2,3-Trichlorobenzene	19.8	---	2.00	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,2,4-Trichlorobenzene	18.8	---	2.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
1,1,1-Trichloroethane	18.2	---	0.400	ug/L	1	20.0	---	91	80 - 120%	---	---	
1,1,2-Trichloroethane	20.3	---	0.500	ug/L	1	20.0	---	102	80 - 120%	---	---	
Trichloroethene (TCE)	19.7	---	0.400	ug/L	1	20.0	---	99	80 - 120%	---	---	
Trichlorofluoromethane	23.3	---	2.00	ug/L	1	20.0	---	116	80 - 120%	---	---	
1,2,3-Trichloropropane	19.5	---	1.00	ug/L	1	20.0	---	98	80 - 120%	---	---	

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051041 - EPA 5030B						Water						
LCS (9051041-BS1)			Prepared: 05/20/19 10:37		Analyzed: 05/20/19 12:23							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	19.9	---	2.00	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,2,4-Trimethylbenzene	18.9	---	1.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
1,3,5-Trimethylbenzene	18.7	---	1.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
Vinyl chloride	18.1	---	0.400	ug/L	1	20.0	---	91	80 - 120%	---	---	
m,p-Xylene	37.0	---	1.00	ug/L	1	40.0	---	92	80 - 120%	---	---	
o-Xylene	18.1	---	0.500	ug/L	1	20.0	---	91	80 - 120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>"</i>						



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9051129</u>							
A9E0583-01	Water	NWTPH-Dx	05/16/19 16:05	05/22/19 08:25	1060mL/2mL	1000mL/2mL	0.94
A9E0583-02	Water	NWTPH-Dx	05/16/19 16:35	05/22/19 08:25	1060mL/2mL	1000mL/2mL	0.94
A9E0583-03	Water	NWTPH-Dx	05/16/19 14:30	05/22/19 08:25	1060mL/2mL	1000mL/2mL	0.94
A9E0583-04	Water	NWTPH-Dx	05/16/19 12:20	05/22/19 08:25	1060mL/2mL	1000mL/2mL	0.94
A9E0583-06	Water	NWTPH-Dx	05/16/19 11:00	05/22/19 08:25	1070mL/2mL	1000mL/2mL	0.94
A9E0583-07	Water	NWTPH-Dx	05/16/19 12:00	05/22/19 08:25	1060mL/2mL	1000mL/2mL	0.94
<u>Batch: 9051224</u>							
A9E0583-05RE1	Water	NWTPH-Dx	05/16/19 12:55	05/23/19 15:12	1060mL/2mL	1000mL/2mL	0.94

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9051001</u>							
A9E0583-01	Water	NWTPH-Gx (MS)	05/16/19 16:05	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
A9E0583-02	Water	NWTPH-Gx (MS)	05/16/19 16:35	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
A9E0583-03	Water	NWTPH-Gx (MS)	05/16/19 14:30	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
A9E0583-04	Water	NWTPH-Gx (MS)	05/16/19 12:20	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
A9E0583-05	Water	NWTPH-Gx (MS)	05/16/19 12:55	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
<u>Batch: 9051041</u>							
A9E0583-06	Water	NWTPH-Gx (MS)	05/16/19 11:00	05/20/19 13:17	5mL/5mL	5mL/5mL	1.00
A9E0583-07	Water	NWTPH-Gx (MS)	05/16/19 12:00	05/20/19 13:17	5mL/5mL	5mL/5mL	1.00

Volatile Organic Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9051001</u>							
A9E0583-01	Water	EPA 8260C	05/16/19 16:05	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
A9E0583-02	Water	EPA 8260C	05/16/19 16:35	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
A9E0583-03	Water	EPA 8260C	05/16/19 14:30	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
A9E0583-04	Water	EPA 8260C	05/16/19 12:20	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
A9E0583-05	Water	EPA 8260C	05/16/19 12:55	05/17/19 14:13	5mL/5mL	5mL/5mL	1.00
<u>Batch: 9051040</u>							
A9E0583-08	Water	EPA 8260C	05/16/19 17:00	05/20/19 12:40	5mL/5mL	5mL/5mL	1.00

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>East Gresham Elementary</u> Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
--	--	---

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9051041</u>							
A9E0583-06	Water	EPA 8260C	05/16/19 11:00	05/20/19 13:17	5mL/5mL	5mL/5mL	1.00
A9E0583-07	Water	EPA 8260C	05/16/19 12:00	05/20/19 13:17	5mL/5mL	5mL/5mL	1.00

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

PBS Engineering and Environmental

4412 SW Corbett Ave
Portland, OR 97239

Project: **East Gresham Elementary**

Project Number: **23767.204**

Project Manager: **Chris Sheridan**

Report ID:

A9E0583 - 05 24 19 1403

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- F-18** Result for Diesel (Diesel Range Organics, C12-C24) is due to overlap from Gasoline or a Gasoline Range product.
- Q-05** Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-55** Daily CCV/LCS recovery for this analyte was below the +/-20% criteria listed in EPA 8260C, however there is adequate sensitivity to ensure detection at the reporting level.
- Q-56** Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260C
- R-02** The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: East Gresham Elementary	
4412 SW Corbett Ave	Project Number: 23767.204	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A9E0583 - 05 24 19 1403

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported.
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - "" Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>East Gresham Elementary</u> Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
--	--	---

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>East Gresham Elementary</u> Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
--	--	---

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager

PBS Engineering and Environmental Project: **East Gresham Elementary**
4412 SW Corbett Ave Project Number: **23767.204**
Portland, OR 97239 Project Manager: **Chris Sheridan** **Report ID:**
A9E0583 - 05 24 19 1403

CHAIN OF CUSTODY

APEX LABS Lab # A9E0583 of 1
12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: PBS Project Name: East Gresham Elementary Project # 23767.204
Address: 12232 S.W. Garden Place, Tigard, OR 97223 Email: Chris.Sheridan@PBSUSA.COM
Sampled by: Matt Randall Phone: _____
Site Location: Gresham, WA Other: _____

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST			
						ML, SB, AS, BA, BE, CA, CR, CU, CO, FE, PB, PC, PZ, Ni, V, Zn	TC, TP Metals (8)	R, CR, RA Metals (8)	600 T, TO
1 MW2-GW		5/16/19	1605	GW	5	X	X		
2 MW3-GW		1655							
3 MW4-GW		0430							
4 MW5-GW		0720							
5 MW6-GW		1255							
6 MW7-GW		1100							
7 MW DUP-GW		1200							
8 TB-DS162019		1700			1				

Normal Turn Around Time (TAT) = 10 Business Days
 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____
 TAT Requested (circle) YES NO

SPECIAL INSTRUCTIONS:

RELINQUISHED BY: Matt Randall Date: 5/16/19 Signature: [Signature]
 RECEIVED BY: _____ Date: _____ Signature: _____
 Printed Name: Matt Randall Time: 1925 Printed Name: _____ Time: _____
 Company: PBS Company: APEX LABS

Lisa Domenighini



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: East Gresham Elementary Project Number: 23767.204 Project Manager: Chris Sheridan	Report ID: A9E0583 - 05 24 19 1403
---	---	--

APEX LABS COOLER RECEIPT FORM

Client: PBS Element WO#: A9 E0583

Project/Project #: East Gresham Elementary 23767.204

Delivery Info:
Date/time received: 5-17-19 @ 1012 By: EJ
Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 5-17-19 @ 1045 By: EJ

Chain of Custody included? Yes No Custody seals? Yes No

Signed/dated by client? Yes No

Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>1.6</u>	<u>1.8</u>					
Received on ice? (Y/N)	<u>Y</u>	<u>Y</u>					
Temp. blanks? (Y/N)	<u>Y</u>	<u>Y</u>					
Ice type: (Gel/Real/Other)	<u>Real</u>	<u>Real</u>					
Condition:	<u>Good</u>	<u>Good</u>					

Cooler out of temp? (Y/N) Possible reason why: _____
If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

Samples Inspection: Date/time inspected: 5/17/19 @ 11:33 By: WS

All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: _____

COC/container discrepancies form initiated? Yes No NA

Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA

Comments: _____

Water samples: pH checked: Yes No NA pH appropriate? Yes No NA

Comments: _____

Additional information: TIB # 2018.

Labeled by: WS Witness: TAM Cooler Inspected by: WS See Project Contact Form: Y