PBS | Engineering + Environmental *Est. 1982*

Limited Subsurface Investigation and Monitoring Well Installation Report

4912 14th Avenue NW
Seattle, Washington

Prepared for:
Sunset Distributors
Mr. Terry Irvine
5711 Coniston Road NE
Seattle, Washington 98105

July 2014
Project No. 41276.000

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TABLE OF CONTENTS

SUPPORTING DATA

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION

PBS Engineering and Environmental Inc. (PBS) has completed a Limited Subsurface Investigation (LSI) at 4912 14th Avenue NW in Seattle, Washington (site or subject property) at the request of Sunset Distributors. The LSI, inclusive of soil and groundwater sampling, was recommended for the purpose of determining the contamination status of the site and to evaluate whether or not further assessment and/or remedial action is warranted.

This report summarizes the previous work performed at the site, and presents the results of the current investigation and PBS' conclusions.

1.1 Site Description and Topography

The Site is located on the United States Geologic Survey (USGS) Seattle North, Washington, 7.5-Minute Topographic Map (Figure 1) at an elevation of approximately 32 feet above mean sea level. The Site is located in the southwest quarter of Section 12 of Township 25 North, Range 3 East: Willamette Meridian.

The King County tax parcel number for the Site is 276830-1980. The Site consists of a 0.41-acre parcel of land. The site is occupied by a one-story, masonry structure, contains approximately 6,200-square-feet of office and warehouse/storage space, and was constructed in 1947.

1.2 Site Ownership

The property is currently owned by Sunset Distributers.

2.0 BACKGROUND

In order to understand the background of the project and to develop an approach to obtain regulatory closure for the site, PBS reviewed the Final Cleanup Report prepared by PBS in 1994, the Site Hazard Assessment Worksheets prepared by the Washington State Department of Ecology (Ecology) and letter correspondence between Ecology and Sunset Distributors. The findings of this review are summarized as follows:

- On January 24, 1994 PBS and O'Sullivan Omega, Inc. (O'Sullivan) removed a 2,000 gallon UST containing gasoline. Based on visual observations the tank was deemed to be a leaking UST (LUST) and soil excavation work was performed. Soil sample analysis reported concentrations of gasoline in the south and eastern portions of the excavation exceeded the cleanup levels.

- Additional remedial work was conducted on January 27, 1994 and included excavation at the east and south sidewalls and the collection of confirmation soil samples. A total of approximately 25 cubic yards of soil were excavated and stockpiled on site. It is unclear how much of the soil was removed from site for off-site disposal. The subsequent soil confirmation samples indicated that petroleum contaminated soil (PCS) was removed from the excavation sidewalls to meet the regulatory cleanup levels. The collection of water which "accumulated" in the excavation also occurred at this time. It appears likely that the excavation encountered the local groundwater table. Analytical results from the groundwater sample significantly exceeded the cleanup criteria.

- On January 29 and February 24, 1994 two rounds of excavation water removal occurred (600 and 3,000 gallons, respectively) and after the February removal event a soil sample was collected from the base of the excavation. The soil sample analysis revealed only a minor detection of xylenes (significantly below the cleanup level). Analytical results from a groundwater sample collected from the excavation on February 27th reported detections of gasoline, ethylbenzene and xylenes, albeit below the cleanup criteria.

- The Site has been on Ecology's Confirmed and Suspected Contaminated Sites List (CSCSL) since 1994. In recent years Ecology has implemented a Site Hazard Assessment (SHA) program which includes a hazard ranking determination. Ranked sites are placed on the state's Hazardous Sites List (HSL) while unranked sites are given a NFA determination and removed from the CSCSL. The subject property has been issued a hazard ranking of 3, in which a 1 represents the highest relative risk and 5 the lowest, and has therefore been added to the HSL.

3.0 REGIONAL GEOLOGY AND HYDROGEOLOGY

The area of the subject property is underlain by Vashon Till, which consists of an unsorted mixture of clay, silt, sand, pebbles, cobbles, and boulders. The till was deposited by the ice sheet during glaciation as it advanced over bedrock and previously deposited glacial sediment. The thickness of the till ranges between 3 to 6 feet thick, but locally can be up to 75 feet thick. The advance outwash sediments that commonly underlay the till sediments typically consist of moderately to well-sorted and well-stratified gravel, sand, silt, and clay.

The nearest surface water to the site is Salmon Bay located approximately 1,500 feet south of the site. Typically, the slope of an unconfined shallow aquifer will relate to surface topography, and groundwater will flow toward topographic lows. By applying this concept to the topography in the vicinity of this site, the inferred shallow groundwater flow is anticipated to be in a southerly direction.

4.0 SITE INVESTIGATION

Prior to beginning the drilling investigation, PBS filed a public utility notification request. On May 28, 2014, PBS supervised a private utility locates company (Applied Professional Services, Inc. of North Bend, Washington) while they conducted borehole clearance for subsurface obstructions and utilities. The advancement of boreholes was conducted the following day, with the assistance of Holocene Drilling of Puyallup, WA. A site-specific health and safety plan (HASP) was prepared and reviewed with all field personnel and subcontractors prior to beginning work.

4.1 Soil Borings

The investigation consisted of the advancement of three soil borings which were completed as groundwater monitoring wells. The boring locations were selected based on the location of previously identified, petroleum impacted soil. Borings were advanced using a direct push drill rig to approximately 11 feet below ground surface for MW1, MW2 and MW3. A hollow stemmed auger rig was used to further advance MW2 to 14.5 feet bgs and MW3 to 11.5 feet bgs. Refer to Figure 2 Site Plan for boring locations.

During the advancement of the borings, soil was screened for volatiles using a hand-held photoionization detector (PID). PID readings were also taken from select soil intervals by partially filling a sealable plastic bag and taking headspace readings within the bag. Soils from the borings were logged continuously, noting grain size, color, odor, and moisture. Boring logs describing the subsurface lithology, including sample depths and PID readings, are presented in Appendix I Soil Boring and Well Construction Logs.

One or two soil samples from each boring were collected in laboratory-supplied containers, placed on ice in a cooler and transported to Fremont Analytical Laboratory in Seattle, Washington, with chain-of-custody documentation. Analyses were conducted under normal turnaround time including the following contaminants of concern.

- Gasoline range Total Petroleum Hydrocarbons (TPH) by method NWTPH-Gx
- Benzene, toluene, ethylbenzene, xylenes (BTEX) by EPA Method 8260
- Lead by EPA method 200.8

4.2 Monitoring Well Installation and Development

Once drilling depths intercepted the groundwater surface at MW1, a monitoring well was constructed in that boring using a pre-screened, two inch diameter polyvinyl chloride (PVC) pipe with 10 feet of 0.020-inch slotted PVC well screens, which were pre-filter packed with sand and a stainless steel netted outer filter pack. Traditional (non pre-filter packed) casing and screened interval PVC wells were constructed at MW2 and MW3.

A minimum 3-foot seal was emplaced above the sand pack and comprised of hydrated bentonite and concrete surface. Groundwater monitoring wells were completed using a flush-grade traffic-rated monument encased in concrete. The monitoring well construction details, including filter pack and screened intervals are presented in Appendix I Soil Boring and Well Construction Logs.

Monitoring well information is summarized in the following table:

Monitoring Well Identification	Screened Interval (feet bgs)	Well Depth (feet bgs)
MW1	3.5 – 8.5	8.5
MW2	4.3 – 14.3	14.3
MW3	4.0 – 11.0	11.0

Following installation, the monitoring wells were developed using a bailer and/or peristaltic pump. At each well sediments were cleared and water became transparent after approximately two gallons were purged. A total of 10 to 15 gallons was purged from each well.

5.0 GROUNDWATER MONITORING EVENT (GME)

The GME was conducted on June 9, 2014 and included measuring the depth to groundwater and collecting groundwater samples from MW1, MW2 and MW3. The monitoring well locations are presented on Figure 2.

5.1 Depth to Groundwater

The depth to groundwater was measured in the monitoring wells using and an electric interface probe prior to sampling. Static water levels (SWLs) ranged from 5.05 feet below top of casing (fbTOC) in MW3 to 5.51 fbTOC in MW2.

5.2 Groundwater Sample Collection

Groundwater purging and sampling was conducted using a peristaltic pump, employing low flow sampling methodology with pumping rates not exceeding 1L/4 minutes and creating minimal drawdown in the well. Groundwater field parameters (conductivity, pH, temperature, dissolved oxygen and oxidation-reduction potential) were recorded during purging using a YSI Model 556MSP water-quality analyzer equipped with a flow-through cell. Once groundwater parameters stabilized, which indicates groundwater is representative of the aquifer formation and is not well column water, a sample was collected in laboratory-prepared sample containers and stored in a cooler with ice. Detailed groundwater sampling information is presented in Appendix II Groundwater Sampling Forms.

5.3 Groundwater Analytical Methods

Collected samples were submitted to Fremont Analytical Laboratory in Seattle, Washington, within specified holding times and under chain of custody documentation. Analyses were conducted under normal turnaround time and included the following:

- Gasoline range Total Petroleum Hydrocarbons (TPH) by method NWTPH-Gx
- BTEX by EPA Method 8260
- Lead by EPA method 200.8

6.0 INVESTIGATION-DERIVED WASTES

Gloves, tubing and other disposable field supplies were disposed of as solid waste.

Soil recovered during the investigation was containerized in one 55-gallon drum and two 20-gallon drums and stored on-site awaiting analytical results. Groundwater was applied discretely on site (no runoff).

7.0 FINDINGS

7.1 Field Observations

A typical subsurface profile encountered on site is presented in the table below:

Classification	Description	Approximate Depth Range (feet bgs)
Native soil	Medium dense, brown silty sand with clay; moist	0 to 5
Native soil	Stiff, greenish brown sandy clay, low to medium plasticity; moist	5 to 14.5
Groundwater	Groundwater	5.5 to 9.5

Groundwater was observed at depths varying from approximately 5.0 to 9.5 feet bgs. Based on observations made during the drilling activities, no staining or odor was observed in soils samples during the soil boring advancement. PID readings taken at the soil sample intervals indicated low to no recorded volatiles in the soils. Graphic boring logs are provided in Attachment I.

The field observations during the collection of groundwater samples from the installed wells indicated no olfactory or visual evidence of contamination.

7.2 Soil Analytical Results

No analyzed contaminant concentrations in soil exceeded the adopted regulatory cleanup levels with the exception of benzene which was identified in soil sample MW1-4 at a concentration of 0.038 milligrams per kilograms (mg/kg) which exceeds the adopted regulatory cleanup level of 0.03 mg/kg. The following contaminants of concern were identified above the laboratory method reporting limit (MRL) but below the adopted regulatory cleanup levels.

- Toluene in sample MW1-4 at 0.106 mg/kg
- Xylene in sample MW1-4 at 0.1 mg/kg
- Lead was identified in three samples as follows: MW1-4 at 6.97 mg/kg, MW2-6 at 3.33 mg/kg and MW3-4 at 15.3 mg/kg

Soil analytical results are presented in Table 1.

7.3 Groundwater Analytical Results

No analyzed contaminant concentrations in groundwater exceeded the adopted regulatory cleanup levels. Total petroleum hydrocarbons (TPHs) in the gasoline range were identified above the laboratory MRL in MW1 at 198 parts per billion (ppb) which is below the adopted cleanup level of 800 ppb.

Groundwater analytical results are presented in Table 2.

7.4 Quality Control Samples

Quality control (QC) sampling conducted during the investigation is described below:

Blind Duplicate

One blind duplicate sample was submitted to the laboratory for analysis without notification to the laboratory which sample was duplicated. The duplicate groundwater sample (DUP_6.9.2014) from MW1 was analyzed for BTEX. Results from both samples were below the respective laboratory MRLs.

Trip Blank

A trip blank sample (TB01_6.9.2014) was shipped with groundwater samples collected during the investigation and analyzed for BTEX. Trip blanks results were below the laboratory MRLs.

8.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS

Contaminated site assessment and cleanup is conducted under the Model Toxic Control Act (MTCA, Chapter 70.105D Revised Code of Washington [RCW]). Chapter 173-340 of the Washington Administrative Code (WAC) provides a workable process for MTCA to accomplish effective and expeditious cleanups in a manner that protects human health and the environment. The MTCA Cleanup Regulation includes a two-step process for establishing site cleanup requirements: 1) setting cleanup standards and 2) selecting remedies.

Site assessment and cleanup (if applicable) has been and will continue to be performed under MTCA. This section summarizes the cleanup standards established for this site.

8.1 Soil and Groundwater Cleanup Standards

In accordance with MTCA, development of preliminary cleanup levels includes identifying potential exposure pathways for human and ecological impacts based on the planned land use. MTCA provides for three methods (Method A, B or C) for establishing cleanup standards. Method A (unrestricted land use) is typically used as the default cleanup levels. Method B and C are used when developing site-specific cleanup levels.

Considering the property seeks regulatory closure in the form of an unrestricted "no further action" (NFA), MTCA level A cleanup levels are the most appropriate, and are the adopted criteria for the site. Method A cleanup levels for soil and groundwater are presented in the Analytical Results Tables along with the contaminant concentrations.

8.2 Point of Compliance

The point of compliance is the point or points where the established cleanup levels shall be attained, as defined in WAC 173-340-720 and 173-340-740.

- For soil, the point of compliance shall be established in the soils throughout the site from the ground surface to 15 feet bgs. This represents a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface as a result of site development activities.

- For groundwater, the standard point of compliance shall be established throughout the site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the site (173-340-720(8) WAC).

9.0 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

A summary of the pertinent finding of the Groundwater Well Installation and GME are presented below:

- Benzene was identified in soil sample MW1-4 at a concentration of 0.038 milligrams per kilograms (mg/kg) which exceeds the adopted regulatory cleanup level of 0.03 mg/kg.

- No contaminant concentrations in the three groundwater samples collected from the monitoring wells exceeded the adopted regulatory cleanup levels.

- Additional soil investigation and/or remediation is warranted before regulatory closure is requested from Ecology.

10.0 LIMITATIONS

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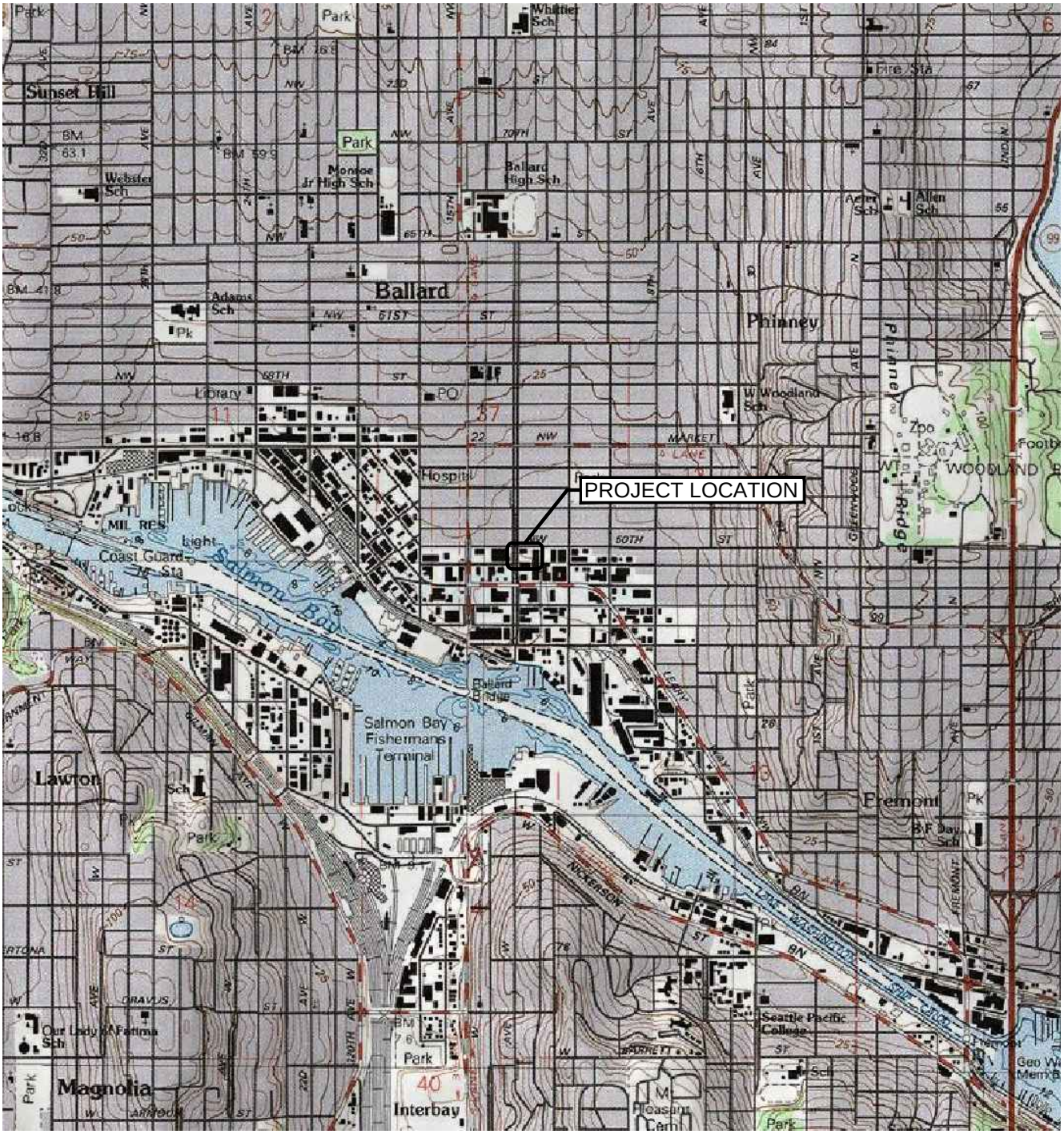
This study was limited to the tests, locations, and depths as indicated to determine the absence or presence of certain contaminants. The site as a whole may have other contamination that was not characterized by this study. The findings and conclusions of this report are not scientific certainties but, rather, are probabilities based on professional judgment concerning the significance of the data gathered during the course of this investigation. PBS is not able to represent that the site or adjoining land contain no hazardous waste, oil or other latent conditions beyond that detected or observed by PBS.

PBS Engineering and Environmental Inc.

July 10, 2014
Ken Nogeire, LHG — Date
Senior Geologist

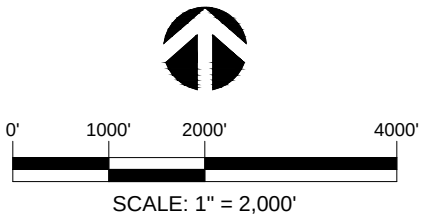
July 10, 2014
Tom Mergy, LG — Date
Environmental Services Manager

FIGURES



SOURCE: USGS SEATTLE NORTH E, WA QUADRANGLE 1979, PHOTO REVISED 1983.

WASHINGTON



SCALE: 1" = 2,000'

PREPARED FOR: SUNSET DISTRIBUTORS

PBS

PROJECT # 41276.000

DATE JULY 2014

VICINITY MAP

4912 14TH AVENUE NORTHWEST
SEATTLE, WASHINGTON

FIGURE **1**

L:\Projects\41000\41276 Sunset Distributors\CAD\41276.000 FIGURE 1-2.dwg Jul 03, 2014 11:12am jlustind

SOURCE: © 2011 GOOGLE EARTH PRO, © 2012 GOOGLE

LEGEND

MW-1 MONITORING WELL NUMBER AND APPROXIMATE LOCATION

0' 20' 40' 80'

SCALE: 1" = 2,000'

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PROJECT # 41276.000

DATE JULY 2014

SITE PLAN

4912 14TH AVENUE NORTHWEST
SEATTLE, WASHINGTON

FIGURE 2

L:\Projects\41000\41276 Sunset Distributors\CAD\41276.000 FIGURE 1-2.dwg Jul 03, 2014 11:12am jjustind

TABLES

TABLE 1 SOIL ANALYTICAL RESULTS

SITE: Sunset Distributers: 4912 14th Avenue NW, Seattle

Project NO: 41276

Result mg/kg							
Location/ Depth	**Description**	**TPHs**	**BTEX**				**Metals**
		Gx	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylene**	**Lead**
Soil Sampling: May 29, 2014							
MW1 - 4	Fill material	<3.34	**0.0381**	0.106	<0.0201	0.1	6.97
MW1 - 8	Native Soil	<4.15	<0.0166	<0.0166	<0.0249	<0.0166	-
MW2 - 6	Native Soil	<3.33	<0.0133	<0.0133	<0.0200	<0.0133	3.33
MW3 - 4	Native Soil	<4.86	<0.195	<0.195	<0.0292	<0.195	15.3
Adopted Criteria	**MTCA Method A Soil Cleanup for Unrestricted Land Use**	**100**	**0.03**	**7**	**6**	**3**	**250**

mg/kg - miligrams per kilogram

<3.34 - less than the laboratory method reporting limit

(-) - not analyzed

N/A - not applicable

Gx - gasoline range hydrocarbons

TPH - total petroleum hydrocarbons

TABLE 2 GROUNDWATER ANALYTICAL RESULTS

SITE: Sunset Distributers: 4912 14th Avenue NW, Seattle

Project NO: 41276

Result ug/L							
Location/ Depth	**Screen Depth (ft)**	**TPHs**	**BTEX**				**Metals**
		Gx	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylene**	**Lead**
Groundwater Sampling: June 9, 2014							
MW1	5 - 15.0	198	<1.00	<1.00	<1.00	<1.00	<1.00
MW2	5 - 15.0	<50.0	<1.00	<1.00	<1.00	<1.00	<1.00
MW3	5 - 15.0	<50.0	<1.00	<1.00	<1.00	<1.00	<1.00
Adopted Criteria	**MTCA Method A Cleanup Levels For Groundwater**	**800**	**5**	**1,000**	**700**	**1,000**	**15**

ug/L - micrograms per litre

<50 - less than the laboratory method reporting limit

Gx - gasoline range hydrocarbons

TPH - total petroleum hydrocarbons

APPENDIX I

Soil Boring and Well Construction Logs

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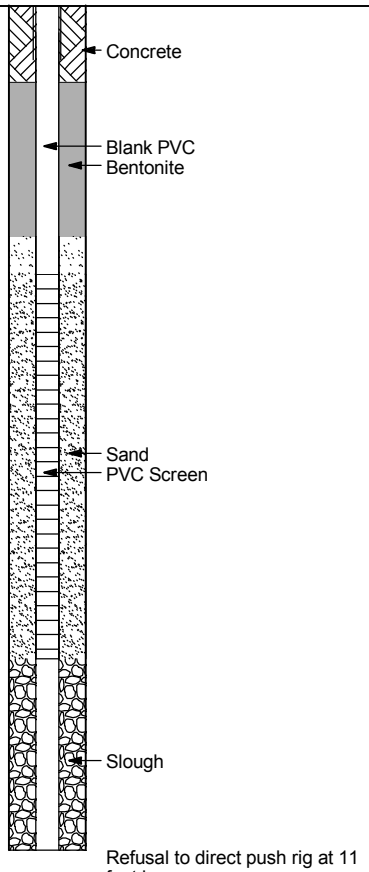
SUNSET DISTRIBUTORS
4912 14TH STREET NW
SEATTLE, WA

PBS PROJECT NUMBER:
41276.000

BORING MW-1

BORING MW-1 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE/ TEMPORARY WELL	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		Concrete						
		Loose, brown mottled green, silty SAND with clay; moist (fill)						
2.0							80	
4.0				5.6	MW1-4			
		Stiff, green-brown, sandy CLAY (CL); moist, low to medium plasticity	5/29/14 ▽					
6.0							30	
8.0		- grades to wet		3.4	MW1-8			
10.0							40	
		Final depth 11 feet bgs; groundwater encountered at 5.5 feet bgs during drilling Monitoring well installed						
12.0								
14.0								
16.0								
18.0								
20.0								



Refusal to direct push rig at 11 feet bgs

BORING METHOD: Direct Push
DRILLED BY: Holocene Drilling
BORING BIT DIAMETER: 4-inch

LOGGED BY: K. Nogeire
COMPLETED: 5/29/14

PBS Engineering + Environmental
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SUNSET DISTRIBUTORS
4912 14TH STREET NW
SEATTLE, WA

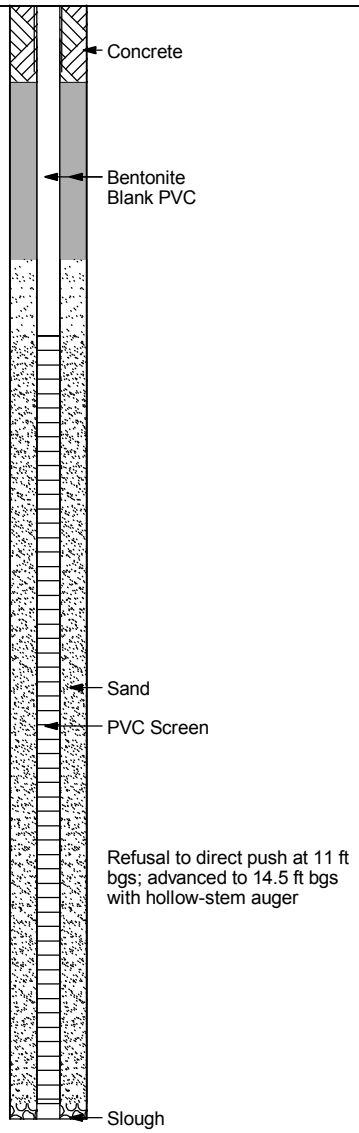
PBS PROJECT NUMBER:
41276.000

BORING MW-2

BORING MW-2 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE/ TEMPORARY WELL	RECOVERY (%)
0.0		Concrete					
		Sand fill					
		Medium dense, brown, silty SAND with clay (SM); moist					
2.0				0.0			80
4.0				0.0			
		Stiff, green-brown, sandy CLAY (CL); moist, low to medium plasticity					
6.0				0.0			70
8.0				0.0			
			5/29/14 ▽				
							50
10.0							
12.0							
14.0							
		Final depth 14.5 feet bgs; groundwater encountered at 9 feet bgs during drilling Monitoring well installed					
16.0							
18.0							
20.0							

COMMENTS/ WELL INSTALLATION



Refusal to direct push at 11 ft bgs; advanced to 14.5 ft bgs with hollow-stem auger

BORING METHOD: Direct Push+Hollow Stem Auger
DRILLED BY: Holocene Drilling
BORING BIT DIAMETER: 6-inch

LOGGED BY: K. Nogeire
COMPLETED: 5/29/14

BORING LOG-ENV CORE 41276 MW1-3 062714 DRAFT.GPJ DATATMPL.GDT PRINT DATE: 7/7/14 BBP

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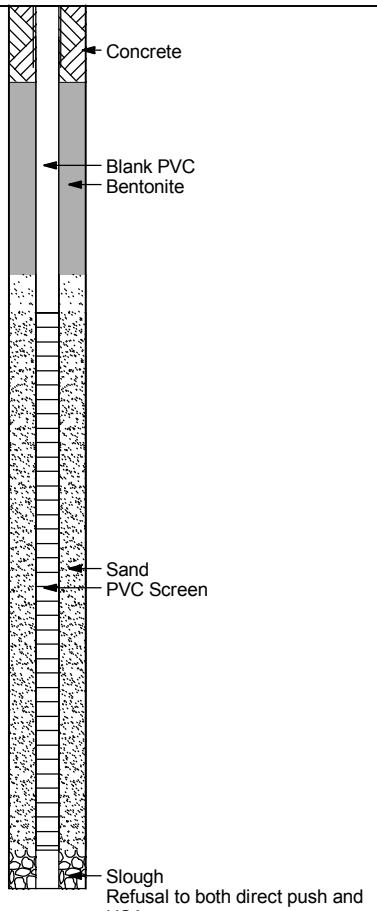
SUNSET DISTRIBUTORS
4912 14TH STREET NW
SEATTLE, WA

PBS PROJECT NUMBER:
41276.000

BORING MW-3

BORING MW-3 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE/ TEMPORARY WELL	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		Concrete						
		Medium dense, brown, silty SAND with clay (SM); moist		0.0			40	
2.0								
4.0				1.0	MW3-4			
		Stiff, green-brown, sandy CLAY (CL); moist, low to medium plasticity						
6.0							40	
8.0				0.0				
			5/29/14 ▽					
10.0							40	
		Final depth 11.5 feet bgs; groundwater encountered at 9.5 feet bgs during drilling Monitoring well installed						
12.0								
14.0								
16.0								
18.0								
20.0								



BORING METHOD: Direct Push+Hollow Stem Auger
DRILLED BY: Holocene Drilling
BORING BIT DIAMETER: 6-inch

LOGGED BY: K. Nogeire
COMPLETED: 5/29/14

APPENDIX II

Groundwater Sampling Forms

	PBS Engineering and Environmental	Project No:	41276
PBS	GROUNDWATER SAMPLING FORM	Location:	4912 14th Avenue NW Seattle, WA
		Date:	6/9/2014

Field Personnel:	Megan Nogeire	**Monitoring Well ID:**	MW1
		Initial DTW (feet bgs):	5.23
Weather Conditions:	Overcast, warm	**Screen Interval(feet bgs):**	3.5-8.5
Time:	1650	**Well depth (feet bgs):**	8.5
Sampling method	Low flow: peristaltic pump	**Depth of pump inlet (feet bgs):**	5.5
Purge Rate (L/m)	1L/5m	**Sample ID**	MW1
GW volume purged (L)	6L	**QC sample(s)**	DUP_6.9.14

WELL PURGING INFORMATION

Elapsed Time (min)	Volume purged (liters)	DTW (feet)	Temperature (C)	Specific Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbity*	Observations
5	1	5.4	17.65	0.889	0.59	7.43	-54.0	-	-
10	2	5.4	18.04	0.909	0.18	7.18	-71.7	-	-
15	3	5.4	18.09	0.962	0.16	6.98	-63.2	-	-
20	4	5.4	18.11	0.979	0.14	6.94	-62.2	-	-
25	5	5.4	18.11	1.020	0.10	6.88	-63.0	-	-
30	6	5.4	18.09	1.020	0.11	6.88	-63.5	-	-

* only needed when analyzing for metals - stabalized or less than or equal to 10 NTU

FIELD OBSERVATIONS / NOTES (i.e. well head condition, groundwater color, sediment load, recovery, sheen, odor, equipment functionality)

Well head in good condition. Groundwater is slightly cloudy with yellow/brown tint, medium sediment load, medium recovery and no odor.

	PBS Engineering and Environmental	Project No:	41276
PBS	GROUNDWATER SAMPLING FORM	Location:	4912 14th Avenue NW Seattle, WA
		Date:	6/9/2014

Field Personnel:	Megan Nogeire	**Monitoring Well ID:**	MW2
		Initial DTW (feet bgs):	5.51
Weather Conditions:	Sunny, warm	**Screen Interval(feet bgs):**	4.3-14.3
Time:	1552	**Well depth (feet bgs):**	14.21
Sampling method	Low flow: peristaltic pump	**Depth of pump inlet (feet bgs):**	10
Purge Rate (L/m)	1L/5-10m	**Sample ID**	MW2
GW volume purged (L)	6L	**QC sample(s)**	N/A

WELL PURGING INFORMATION

Elapsed Time (min)	Volume purged (liters)	DTW (feet)	Temperature (C)	Specific Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbity*	Observations
5	1	6.5	15.52	0.771	0.38	6.39	52.3	-	-
15	2	6.6	15.51	0.760	0.26	6.51	42.7	-	-
25	3	6.8	15.77	0.757	0.39	6.60	39.0	-	-
30	4	6.8	15.61	0.761	0.33	6.50	33.7	-	-
35	5	6.8	15.58	0.764	0.35	6.61	33.7	-	-
40	6	6.9	15.59	0.765	0.37	6.62	34.1	-	-

* only needed when analyzing for metals - stabalized or less than or equal to 10 NTU

FIELD OBSERVATIONS / NOTES (i.e. well head condition, groundwater color, sediment load, recovery, sheen, odor, equipment functionality)

Well head in good condition. Groundwater is clear, no sediment, medium to high recovery, no odor.

	PBS Engineering and Environmental	Project No:	41276
PBS	GROUNDWATER SAMPLING FORM	Location:	4912 14th Avenue NW Seattle, WA
		Date:	6/9/2014

Field Personnel:	Megan Nogeire	**Monitoring Well ID:**	MW3
		Initial DTW (feet bgs):	5.05
Weather Conditions:	Sunny, warm	**Screen Interval(feet bgs):**	4-11
Time:	1446	**Well depth (feet bgs):**	9.81
Sampling method	Low flow: peristaltic pump	**Depth of pump inlet (feet bgs):**	6
Purge Rate (L/m)	1L/4m	**Sample ID**	MW3
GW volume purged (L)	7L	**QC sample(s)**	N/A

WELL PURGING INFORMATION

Elapsed Time (min)	Volume purged (liters)	DTW (feet)	Temperature (C)	Specific Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbity*	Observations
4	1	5.5	16.91	1.102	3.95	5.72	31.0	-	-
8	2	5.8	16.99	1.084	4.88	5.94	48.9	-	-
12	3	5.8	17.01	1.077	4.93	5.98	43.1	-	-
16	4	6.1	17.07	1.048	4.99	6.06	42.6	-	-
20	5	6.1	17.09	1.039	4.90	6.11	41.1	-	-
24	6	6.1	17.10	1.034	4.90	6.09	46.5	-	-
28	7.0	6.3	17.07	1.033	4.88	6.12	46.7	-	-

* only needed when analyzing for metals - stabalized or less than or equal to 10 NTU

FIELD OBSERVATIONS / NOTES (i.e. well head condition, groundwater color, sediment load, recovery, sheen, odor, equipment functionality)

Well head in good condition. Groundwater is clear, no sediment, medium recovery, no odor.

APPENDIX II

Laboratory Reports and
Chain-of-Custody Documentation

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PBS Engineering & Environmental
Ken Nogeire
2517 Eastlake Ave, E #100
Seattle, WA 98102

RE: Sunset Distributors
Lab ID: 1405279

June 06, 2014

Attention Ken Nogeire:

Fremont Analytical, Inc. received 4 sample(s) on 5/30/2014 for the analyses presented in the following report.

Gasoline by NWTPH-Gx
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *06/06/2014*

CLIENT: PBS Engineering & Environmental
Project: Sunset Distributors
Lab Order: 1405279

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1405279-001	MW1-4	05/29/2014 9:50 AM	05/30/2014 11:22 AM
1405279-002	MW1-8	05/29/2014 10:00 AM	05/30/2014 11:22 AM
1405279-003	MW2-6	05/29/2014 11:40 AM	05/30/2014 11:22 AM
1405279-004	MW3-4	05/29/2014 12:10 PM	05/30/2014 11:22 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1405279**
Date: **6/6/2014**

CLIENT: PBS Engineering & Environmental
Project: Sunset Distributors

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1405279**
Date Reported: **6/6/2014**

Client: PBS Engineering & Environmental
Collection Date: 5/29/2014 9:50:00 AM
Project: Sunset Distributors
Lab ID: 1405279-001
Matrix: Soil
Client Sample ID: MW1-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: R14629		Analyst: GH
Gasoline	ND	3.34		mg/Kg-dry	1	5/31/2014 12:16:00 AM
Gasoline Range Organics C6-C12	8.13	3.34		mg/Kg-dry	1	5/31/2014 12:16:00 AM
Surr: 4-Bromofluorobenzene	99.6	65-135		%REC	1	5/31/2014 12:16:00 AM
Surr: Toluene-d8	96.7	65-135		%REC	1	5/31/2014 12:16:00 AM
NOTES:						
GRO - Indicates the presence of unresolved compounds eluting from toluene to dodecane (~C7->C12).						
Volatile Organic Compounds by EPA Method 8260				Batch ID: 7685		Analyst: GH
Benzene	0.0381	0.0134		mg/Kg-dry	1	5/31/2014 12:16:00 AM
Toluene	0.106	0.0134		mg/Kg-dry	1	5/31/2014 12:16:00 AM
Ethylbenzene	ND	0.0201		mg/Kg-dry	1	5/31/2014 12:16:00 AM
m,p-Xylene	0.0943	0.0134		mg/Kg-dry	1	5/31/2014 12:16:00 AM
o-Xylene	ND	0.0134		mg/Kg-dry	1	5/31/2014 12:16:00 AM
Surr: Dibromofluoromethane	92.4	63.7-129		%REC	1	5/31/2014 12:16:00 AM
Surr: Toluene-d8	93.6	61.4-128		%REC	1	5/31/2014 12:16:00 AM
Surr: 1-Bromo-4-fluorobenzene	101	63.1-141		%REC	1	5/31/2014 12:16:00 AM
Total Metals by EPA Method 6020				Batch ID: 7679		Analyst: TN
Lead	6.97	0.169		mg/Kg-dry	1	5/30/2014 5:11:06 PM
Sample Moisture (Percent Moisture)				Batch ID: R14620		Analyst: TK
Percent Moisture	10.3			wt%	1	5/30/2014 5:01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1405279**
Date Reported: **6/6/2014**

Client: PBS Engineering & Environmental
Collection Date: 5/29/2014 10:00:00 AM
Project: Sunset Distributors
Lab ID: 1405279-002
Matrix: Soil
Client Sample ID: MW1-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: R14629		Analyst: GH
Gasoline	ND	4.15		mg/Kg	1	5/31/2014 2:12:00 AM
Gasoline Range Organics C6-C12	5.03	4.15		mg/Kg	1	5/31/2014 2:12:00 AM
Surr: 4-Bromofluorobenzene	96.9	65-135		%REC	1	5/31/2014 2:12:00 AM
Surr: Toluene-d8	95.9	65-135		%REC	1	5/31/2014 2:12:00 AM
NOTES:						
GRO - Indicates the presence of unresolved compounds eluting from toluene to dodecane (~C7->C12).						
Volatile Organic Compounds by EPA Method 8260				Batch ID: 7685		Analyst: GH
Benzene	ND	0.0166		mg/Kg	1	5/31/2014 2:12:00 AM
Toluene	ND	0.0166		mg/Kg	1	5/31/2014 2:12:00 AM
Ethylbenzene	ND	0.0249		mg/Kg	1	5/31/2014 2:12:00 AM
m,p-Xylene	ND	0.0166		mg/Kg	1	5/31/2014 2:12:00 AM
o-Xylene	ND	0.0166		mg/Kg	1	5/31/2014 2:12:00 AM
Surr: Dibromofluoromethane	92.7	63.7-129		%REC	1	5/31/2014 2:12:00 AM
Surr: Toluene-d8	95.4	61.4-128		%REC	1	5/31/2014 2:12:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.4	63.1-141		%REC	1	5/31/2014 2:12:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1405279**
Date Reported: **6/6/2014**

Client: PBS Engineering & Environmental
Collection Date: 5/29/2014 11:40:00 AM
Project: Sunset Distributors
Lab ID: 1405279-003
Matrix: Soil
Client Sample ID: MW2-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: R14629		Analyst: GH
Gasoline	ND	3.33		mg/Kg-dry	1	5/31/2014 2:42:00 AM
Surr: 4-Bromofluorobenzene	94.4	65-135		%REC	1	5/31/2014 2:42:00 AM
Surr: Toluene-d8	95.6	65-135		%REC	1	5/31/2014 2:42:00 AM
Volatile Organic Compounds by EPA Method 8260				Batch ID: 7685		Analyst: GH
Benzene	ND	0.0133		mg/Kg-dry	1	5/31/2014 2:42:00 AM
Toluene	ND	0.0133		mg/Kg-dry	1	5/31/2014 2:42:00 AM
Ethylbenzene	ND	0.0200		mg/Kg-dry	1	5/31/2014 2:42:00 AM
m,p-Xylene	ND	0.0133		mg/Kg-dry	1	5/31/2014 2:42:00 AM
o-Xylene	ND	0.0133		mg/Kg-dry	1	5/31/2014 2:42:00 AM
Surr: Dibromofluoromethane	94.9	63.7-129		%REC	1	5/31/2014 2:42:00 AM
Surr: Toluene-d8	94.3	61.4-128		%REC	1	5/31/2014 2:42:00 AM
Surr: 1-Bromo-4-fluorobenzene	95.6	63.1-141		%REC	1	5/31/2014 2:42:00 AM
Total Metals by EPA Method 6020				Batch ID: 7679		Analyst: TN
Lead	3.33	0.188		mg/Kg-dry	1	5/30/2014 5:14:14 PM
Sample Moisture (Percent Moisture)				Batch ID: R14620		Analyst: TK
Percent Moisture	14.1			wt%	1	5/30/2014 5:01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1405279**
Date Reported: **6/6/2014**

Client: PBS Engineering & Environmental
Collection Date: 5/29/2014 12:10:00 PM
Project: Sunset Distributors
Lab ID: 1405279-004
Matrix: Soil
Client Sample ID: MW3-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: R14629		Analyst: GH
Gasoline	ND	4.86		mg/Kg-dry	1	5/31/2014 3:12:00 AM
Surr: 4-Bromofluorobenzene	95.4	65-135		%REC	1	5/31/2014 3:12:00 AM
Surr: Toluene-d8	97.7	65-135		%REC	1	5/31/2014 3:12:00 AM
Volatile Organic Compounds by EPA Method 8260				Batch ID: 7685		Analyst: GH
Benzene	ND	0.0195		mg/Kg-dry	1	5/31/2014 3:12:00 AM
Toluene	ND	0.0195		mg/Kg-dry	1	5/31/2014 3:12:00 AM
Ethylbenzene	ND	0.0292		mg/Kg-dry	1	5/31/2014 3:12:00 AM
m,p-Xylene	ND	0.0195		mg/Kg-dry	1	5/31/2014 3:12:00 AM
o-Xylene	ND	0.0195		mg/Kg-dry	1	5/31/2014 3:12:00 AM
Surr: Dibromofluoromethane	93.4	63.7-129		%REC	1	5/31/2014 3:12:00 AM
Surr: Toluene-d8	95.1	61.4-128		%REC	1	5/31/2014 3:12:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.7	63.1-141		%REC	1	5/31/2014 3:12:00 AM
Total Metals by EPA Method 6020				Batch ID: 7679		Analyst: TN
Lead	15.3	0.196		mg/Kg-dry	1	5/30/2014 5:17:22 PM
Sample Moisture (Percent Moisture)				Batch ID: R14620		Analyst: TK
Percent Moisture	18.2			wt%	1	5/30/2014 5:01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1405279
CLIENT: PBS Engineering & Environmental
Project: Sunset Distributors

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **MB-7679**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **5/30/2014**	RunNo: **14621**
Client ID: **MBLKS**	Batch ID: **7679**		Analysis Date: **5/30/2014**	SeqNo: **300372**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.200									

Sample ID: **LCS-7679**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **5/30/2014**	RunNo: **14621**
Client ID: **LCSS**	Batch ID: **7679**		Analysis Date: **5/30/2014**	SeqNo: **300373**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	254	0.400	303.0	0	83.7	75.9	124				

Sample ID: **1405277-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **5/30/2014**	RunNo: **14621**
Client ID: **BATCH**	Batch ID: **7679**		Analysis Date: **5/30/2014**	SeqNo: **300375**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	13.8	0.179						6.128	77.2	30	R

NOTES:
R - High RPD due to suspected sample inhomogeneity/matrix effect. The method is in control as indicated by the Laboratory Control Sample (LCS).

Sample ID: **1405277-001AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **5/30/2014**	RunNo: **14621**
Client ID: **BATCH**	Batch ID: **7679**		Analysis Date: **5/30/2014**	SeqNo: **300377**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	35.5	0.179	22.43	6.128	131	75	125				S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1405279
CLIENT: PBS Engineering & Environmental
Project: Sunset Distributors

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1405277-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/30/2014** RunNo: **14621**
Client ID: **BATCH** Batch ID: **7679** Analysis Date: **5/30/2014** SeqNo: **300378**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	45.1	0.179	22.43	6.128	174	75	125	35.53	23.7	30	S

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **1405277-001APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **5/30/2014** RunNo: **14621**
Client ID: **BATCH** Batch ID: **7679** Analysis Date: **5/30/2014** SeqNo: **300381**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	27.6	0.179	22.4	6.13	95.8	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *6/6/2014*

Work Order: 1405279
CLIENT: PBS Engineering & Environmental
Project: Sunset Distributors

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **1405286-001BDUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **5/30/2014**	RunNo: **14629**
Client ID: **BATCH**	Batch ID: **R14629**		Analysis Date: **5/30/2014**	SeqNo: **300481**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	7.62						0		30	
Surr: Toluene-d8	3.71		3.811		97.2	65	135		0		
Surr: 4-Bromofluorobenzene	3.64		3.811		95.6	65	135		0		

Sample ID: **LCS-R14629**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **5/30/2014**	RunNo: **14629**
Client ID: **LCSS**	Batch ID: **R14629**		Analysis Date: **5/30/2014**	SeqNo: **300485**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	17.0	5.00	25.00	0	67.9	65	135				
Surr: Toluene-d8	2.44		2.500		97.6	65	135				
Surr: 4-Bromofluorobenzene	2.44		2.500		97.8	65	135				

Sample ID: **MB-R14629**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **5/30/2014**	RunNo: **14629**
Client ID: **MBLKS**	Batch ID: **R14629**		Analysis Date: **5/30/2014**	SeqNo: **300486**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	2.46		2.500		98.5	65	135				
Surr: 4-Bromofluorobenzene	2.51		2.500		100	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1405279
CLIENT: PBS Engineering & Environmental
Project: Sunset Distributors

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405279-001BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/30/2014** RunNo: **14628**
Client ID: **MW1-4** Batch ID: **7685** Analysis Date: **5/31/2014** SeqNo: **300465**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.575	0.0134	0.6685	0.03811	80.2	63.5	133				
Toluene	0.654	0.0134	0.6685	0.1063	82.0	63.4	132				
Ethylbenzene	0.601	0.0201	0.6685	0.01370	87.9	54.5	134				
m,p-Xylene	1.18	0.0134	1.337	0.09426	80.9	53.1	132				
o-Xylene	0.550	0.0134	0.6685	0	82.3	53.3	139				
Surr: Dibromofluoromethane	1.51		1.671		90.5	63.7	129				
Surr: Toluene-d8	1.57		1.671		94.2	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	1.67		1.671		99.7	63.1	141				

Sample ID: **1405286-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/30/2014** RunNo: **14628**
Client ID: **BATCH** Batch ID: **7685** Analysis Date: **5/30/2014** SeqNo: **300470**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0305						0		30	
Toluene	ND	0.0305						0		30	
Ethylbenzene	ND	0.0457						0		30	
m,p-Xylene	ND	0.0305						0		30	
o-Xylene	ND	0.0305						0		30	
Surr: Dibromofluoromethane	3.60		3.811		94.3	63.7	129		0		
Surr: Toluene-d8	3.64		3.811		95.5	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	3.69		3.811		96.8	63.1	141		0		

Sample ID: **LCS-7685** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/30/2014** RunNo: **14628**
Client ID: **LCSS** Batch ID: **7685** Analysis Date: **5/30/2014** SeqNo: **300474**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.787	0.0200	1.000	0	78.7	74.6	124				
Toluene	0.793	0.0200	1.000	0	79.3	78.4	122				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1405279
CLIENT: PBS Engineering & Environmental
Project: Sunset Distributors

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-7685** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/30/2014** RunNo: **14628**
Client ID: **LCSS** Batch ID: **7685** Analysis Date: **5/30/2014** SeqNo: **300474**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	0.838	0.0300	1.000	0	83.8	74	129				
m,p-Xylene	1.60	0.0200	2.000	0	79.8	79.8	128				
o-Xylene	0.796	0.0200	1.000	0	79.6	72.7	124				
Surr: Dibromofluoromethane	2.33		2.500		93.2	63.7	129				
Surr: Toluene-d8	2.43		2.500		97.3	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.53		2.500		101	63.1	141				

Sample ID: **MB-7685** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/30/2014** RunNo: **14628**
Client ID: **MBLKS** Batch ID: **7685** Analysis Date: **5/30/2014** SeqNo: **300475**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0200									
Toluene	ND	0.0200									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Surr: Dibromofluoromethane	2.33		2.500		93.4	63.7	129				
Surr: Toluene-d8	2.39		2.500		95.8	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.53		2.500		101	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name:	**PBS**	Work Order Number:	**1405279**
Logged by:	**Chelsea Ward**	Date Received:	**5/30/2014 11:22:00 AM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

No corresponding jar for sample 002, only VOAs.

Item Information

Item #	Temp ºC	Condition
Cooler	6.6	Good
Sample	8.7	Good

Chain of Custody Record

Fremont Analytical
3600 Fremont Ave N. Tel: 206-352-3790
Seattle, WA 98103 Fax: 206-352-7178

Laboratory Project No (internal): 1405279
Date: 5.30.14 Page: 1 of: 1

Client: PBS Engineering and Environmental
Address: 2517 Eastlake Ave E Suite 100
City, State, Zip: Seattle, WA Tel:
Reports To (PM): Ken Nogeire Fax:

Project Name: Sunset Distributors
Location: Seattle
Collected by: K. Nogeire
Email: ken.nogeire@pbsenv.com Project No: 41276

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	RAV	Comments/Depth
1	MW1-4	5.29.14	950	Soil		X											X		
2	MW1-8	↓	1000	↓		X													
3	MW2-6		1140			X											X		
4	MW3-4	↓	1210	↓		X											X		
5																			
6																			
7																			
8																			
9																			
10																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	5/30/14 1122	x	5/30/14 1122
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

S: 8.7
C: 6.6

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PBS Engineering & Environmental
Ken Nogeire
2517 Eastlake Ave, E #100
Seattle, WA 98102

RE: 41276.000
Lab ID: 1406091

June 16, 2014

Attention Ken Nogeire:

Fremont Analytical, Inc. received 5 sample(s) on 6/9/2014 for the analyses presented in the following report.

Gasoline by NWTPH-Gx
Total Metals by EPA Method 200.8
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *06/16/2014*

CLIENT: PBS Engineering & Environmental
Project: 41276.000
Lab Order: 1406091

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1406091-001	MW1	06/09/2014 3:20 PM	06/09/2014 6:00 PM
1406091-002	MW2	06/09/2014 4:30 PM	06/09/2014 6:00 PM
1406091-003	MW3	06/09/2014 12:00 AM	06/09/2014 6:00 PM
1406091-004	DUP_6.9.14	06/09/2014 12:00 AM	06/09/2014 6:00 PM
1406091-005	TB01_6.9.14	06/06/2014 9:10 AM	06/09/2014 6:00 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1406091**
Date: **6/16/2014**

CLIENT: PBS Engineering & Environmental
Project: 41276.000

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1406091**
Date Reported: **6/16/2014**

Client: PBS Engineering & Environmental
Collection Date: 6/9/2014 3:20:00 PM
Project: 41276.000
Lab ID: 1406091-001
Matrix: Groundwater
Client Sample ID: MW1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: R14883		Analyst: EM
Gasoline	198	50.0		µg/L	1	6/14/2014 6:33:00 AM
Surr: 4-Bromofluorobenzene	131	65-135		%REC	1	6/14/2014 6:33:00 AM
Surr: Toluene-d8	110	65-135		%REC	1	6/14/2014 6:33:00 AM
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14882		Analyst: EM
Benzene	ND	1.00		µg/L	1	6/14/2014 6:33:00 AM
Toluene	ND	1.00		µg/L	1	6/14/2014 6:33:00 AM
Ethylbenzene	ND	1.00		µg/L	1	6/14/2014 6:33:00 AM
m,p-Xylene	ND	1.00		µg/L	1	6/14/2014 6:33:00 AM
o-Xylene	ND	1.00		µg/L	1	6/14/2014 6:33:00 AM
Surr: Dibromofluoromethane	121	61.7-130		%REC	1	6/14/2014 6:33:00 AM
Surr: Toluene-d8	99.6	54.5-132		%REC	1	6/14/2014 6:33:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.4	66.8-124		%REC	1	6/14/2014 6:33:00 AM
Total Metals by EPA Method 200.8				Batch ID: 7777		Analyst: TN
Lead	ND	1.00		µg/L	1	6/10/2014 3:11:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1406091**
Date Reported: **6/16/2014**

Client: PBS Engineering & Environmental
Collection Date: 6/9/2014 4:30:00 PM
Project: 41276.000
Lab ID: 1406091-002
Matrix: Groundwater
Client Sample ID: MW2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: R14883		Analyst: EM
Gasoline	ND	50.0		µg/L	1	6/14/2014 7:02:00 AM
Surr: 4-Bromofluorobenzene	122	65-135		%REC	1	6/14/2014 7:02:00 AM
Surr: Toluene-d8	114	65-135		%REC	1	6/14/2014 7:02:00 AM
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14882		Analyst: EM
Benzene	ND	1.00		µg/L	1	6/14/2014 7:02:00 AM
Toluene	ND	1.00		µg/L	1	6/14/2014 7:02:00 AM
Ethylbenzene	ND	1.00		µg/L	1	6/14/2014 7:02:00 AM
m,p-Xylene	ND	1.00		µg/L	1	6/14/2014 7:02:00 AM
o-Xylene	ND	1.00		µg/L	1	6/14/2014 7:02:00 AM
Surr: Dibromofluoromethane	104	61.7-130		%REC	1	6/14/2014 7:02:00 AM
Surr: Toluene-d8	57.6	54.5-132		%REC	1	6/14/2014 7:02:00 AM
Surr: 1-Bromo-4-fluorobenzene	90.1	66.8-124		%REC	1	6/14/2014 7:02:00 AM
Total Metals by EPA Method 200.8				Batch ID: 7777		Analyst: TN
Lead	ND	1.00		µg/L	1	6/10/2014 3:14:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1406091**
Date Reported: **6/16/2014**

Client: PBS Engineering & Environmental
Collection Date: 6/9/2014
Project: 41276.000
Lab ID: 1406091-003
Matrix: Groundwater
Client Sample ID: MW3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: R14883		Analyst: EM
Gasoline	ND	50.0		µg/L	1	6/14/2014 7:32:00 AM
Surr: 4-Bromofluorobenzene	124	65-135		%REC	1	6/14/2014 7:32:00 AM
Surr: Toluene-d8	114	65-135		%REC	1	6/14/2014 7:32:00 AM
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14882		Analyst: EM
Benzene	ND	1.00		µg/L	1	6/14/2014 7:32:00 AM
Toluene	ND	1.00		µg/L	1	6/14/2014 7:32:00 AM
Ethylbenzene	ND	1.00		µg/L	1	6/14/2014 7:32:00 AM
m,p-Xylene	ND	1.00		µg/L	1	6/14/2014 7:32:00 AM
o-Xylene	ND	1.00		µg/L	1	6/14/2014 7:32:00 AM
Surr: Dibromofluoromethane	104	61.7-130		%REC	1	6/14/2014 7:32:00 AM
Surr: Toluene-d8	54.9	54.5-132		%REC	1	6/14/2014 7:32:00 AM
Surr: 1-Bromo-4-fluorobenzene	91.1	66.8-124		%REC	1	6/14/2014 7:32:00 AM
Total Metals by EPA Method 200.8				Batch ID: 7777		Analyst: TN
Lead	ND	1.00		µg/L	1	6/10/2014 3:17:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1406091**
Date Reported: **6/16/2014**

Client: PBS Engineering & Environmental
Collection Date: 6/9/2014
Project: 41276.000
Lab ID: 1406091-004
Matrix: Groundwater
Client Sample ID: DUP_6.9.14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14882		Analyst: EM
Benzene	ND	1.00		µg/L	1	6/14/2014 8:01:00 AM
Toluene	ND	1.00		µg/L	1	6/14/2014 8:01:00 AM
Ethylbenzene	ND	1.00		µg/L	1	6/14/2014 8:01:00 AM
m,p-Xylene	ND	1.00		µg/L	1	6/14/2014 8:01:00 AM
o-Xylene	ND	1.00		µg/L	1	6/14/2014 8:01:00 AM
Surr: Dibromofluoromethane	102	61.7-130		%REC	1	6/14/2014 8:01:00 AM
Surr: Toluene-d8	103	54.5-132		%REC	1	6/14/2014 8:01:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.9	66.8-124		%REC	1	6/14/2014 8:01:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1406091**
Date Reported: **6/16/2014**

Client: PBS Engineering & Environmental
Collection Date: 6/6/2014 9:10:00 AM
Project: 41276.000
Lab ID: 1406091-005
Matrix: Water
Client Sample ID: TB01_6.9.14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14882		Analyst: EM
Benzene	ND	1.00		µg/L	1	6/14/2014 8:30:00 AM
Toluene	ND	1.00		µg/L	1	6/14/2014 8:30:00 AM
Ethylbenzene	ND	1.00		µg/L	1	6/14/2014 8:30:00 AM
m,p-Xylene	ND	1.00		µg/L	1	6/14/2014 8:30:00 AM
o-Xylene	ND	1.00		µg/L	1	6/14/2014 8:30:00 AM
Surr: Dibromofluoromethane	101	61.7-130		%REC	1	6/14/2014 8:30:00 AM
Surr: Toluene-d8	97.0	54.5-132		%REC	1	6/14/2014 8:30:00 AM
Surr: 1-Bromo-4-fluorobenzene	90.3	66.8-124		%REC	1	6/14/2014 8:30:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1406091
CLIENT: PBS Engineering & Environmental
Project: 41276.000

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID: **MB-7777**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **6/10/2014**	RunNo: **14803**
Client ID: **MBLKW**	Batch ID: **7777**		Analysis Date: **6/10/2014**	SeqNo: **304433**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.00									

Sample ID: **LCS-7777**	SampType: **LCS**	Units: **µg/L**	Prep Date: **6/10/2014**	RunNo: **14803**
Client ID: **LCSW**	Batch ID: **7777**		Analysis Date: **6/10/2014**	SeqNo: **304434**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	50.1	1.00	50.00	0	100	85	115				

Sample ID: **1406081-001ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **6/10/2014**	RunNo: **14803**
Client ID: **BATCH**	Batch ID: **7777**		Analysis Date: **6/10/2014**	SeqNo: **304436**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.29	1.00						2.139	6.80	30	

Sample ID: **1406081-001AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **6/10/2014**	RunNo: **14803**
Client ID: **BATCH**	Batch ID: **7777**		Analysis Date: **6/10/2014**	SeqNo: **304437**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	237	1.00	250.0	2.139	93.8	70	130				

Sample ID: **1406081-001AMSD**	SampType: **MSD**	Units: **µg/L**	Prep Date: **6/10/2014**	RunNo: **14803**
Client ID: **BATCH**	Batch ID: **7777**		Analysis Date: **6/10/2014**	SeqNo: **304438**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	238	1.00	250.0	2.139	94.2	70	130	236.6	0.392	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1406091
CLIENT: PBS Engineering & Environmental
Project: 41276.000

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **1406090-001BDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **6/14/2014**	RunNo: **14883**
Client ID: **BATCH**	Batch ID: **R14883**		Analysis Date: **6/14/2014**	SeqNo: **305792**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	57.0		50.00		114	65	135		0	0	
Surr: 4-Bromofluorobenzene	62.3		50.00		125	65	135		0	0	

Sample ID: **LCS-R14883**	SampType: **LCS**	Units: **µg/L**	Prep Date: **6/14/2014**	RunNo: **14883**
Client ID: **LCSW**	Batch ID: **R14883**		Analysis Date: **6/14/2014**	SeqNo: **305805**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	502	50.0	500.0	0	100	65	135				
Surr: Toluene-d8	54.2		50.00		108	65	135				
Surr: 4-Bromofluorobenzene	66.2		50.00		132	65	135				

Sample ID: **MB-R14883**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **6/13/2014**	RunNo: **14883**
Client ID: **MBLKW**	Batch ID: **R14883**		Analysis Date: **6/13/2014**	SeqNo: **305806**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: Toluene-d8	54.4		50.00		109	65	135				
Surr: 4-Bromofluorobenzene	62.6		50.00		125	65	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1406091
CLIENT: PBS Engineering & Environmental
Project: 41276.000

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1406090-002BMS** SampType: **MS** Units: **µg/L** Prep Date: **6/14/2014** RunNo: **14882**
Client ID: **BATCH** Batch ID: **R14882** Analysis Date: **6/14/2014** SeqNo: **305764**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.4	1.00	20.00	0	97.0	65.4	138				
Toluene	20.0	1.00	20.00	0	100	64	139				
Ethylbenzene	19.6	1.00	20.00	0	97.8	64.5	136				
m,p-Xylene	39.7	1.00	40.00	0	99.3	63.3	135				
o-Xylene	19.6	1.00	20.00	0	98.1	65.4	134				
Surr: Dibromofluoromethane	52.3		50.00		105	61.7	130				
Surr: Toluene-d8	49.8		50.00		99.7	54.5	132				
Surr: 1-Bromo-4-fluorobenzene	53.7		50.00		107	66.8	124				

Sample ID: **LCS-R14882** SampType: **LCS** Units: **µg/L** Prep Date: **6/13/2014** RunNo: **14882**
Client ID: **LCSW** Batch ID: **R14882** Analysis Date: **6/13/2014** SeqNo: **305777**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.6	1.00	20.00	0	103	76	123				
Toluene	20.9	1.00	20.00	0	104	71.5	130				
Ethylbenzene	19.8	1.00	20.00	0	99.1	72	130				
m,p-Xylene	40.1	1.00	40.00	0	100	73	131				
o-Xylene	19.9	1.00	20.00	0	99.5	72.1	131				
Surr: Dibromofluoromethane	50.6		50.00		101	61.7	130				
Surr: Toluene-d8	49.9		50.00		99.8	54.5	132				
Surr: 1-Bromo-4-fluorobenzene	51.6		50.00		103	66.8	124				

Sample ID: **MB-R14882** SampType: **MBLK** Units: **µg/L** Prep Date: **6/13/2014** RunNo: **14882**
Client ID: **MBLKW** Batch ID: **R14882** Analysis Date: **6/13/2014** SeqNo: **305778**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00									
Toluene	ND	1.00									

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1406091
CLIENT: PBS Engineering & Environmental
Project: 41276.000

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R14882** SampType: **MBLK** Units: **µg/L** Prep Date: **6/13/2014** RunNo: **14882**
Client ID: **MBLKW** Batch ID: **R14882** Analysis Date: **6/13/2014** SeqNo: **305778**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Surr: Dibromofluoromethane	49.9		50.00		99.7	61.7	130				
Surr: Toluene-d8	49.0		50.00		98.1	54.5	132				
Surr: 1-Bromo-4-fluorobenzene	46.1		50.00		92.3	66.8	124				

Sample ID: **1406090-001BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **6/14/2014** RunNo: **14882**
Client ID: **BATCH** Batch ID: **R14882** Analysis Date: **6/14/2014** SeqNo: **305781**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Surr: Dibromofluoromethane	54.7		50.00		109	61.7	130		0		
Surr: Toluene-d8	31.2		50.00		62.3	54.5	132		0		
Surr: 1-Bromo-4-fluorobenzene	45.9		50.00		91.9	66.8	124		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name:	**PBS**	Work Order Number:	**1406091**
Logged by:	**Chelsea Ward**	Date Received:	**6/9/2014 6:00:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No ☐	Not Present	☐
2.	How was the sample delivered?	Client				

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
5.	Custody seals intact on shipping container/cooler?	Yes	☐	No ☐	Not Required	☑
6.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes	☑	No ☐	NA	☐
8.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
10.	Are samples properly preserved?	Yes	☑	No ☐		
11.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
12.	Is the headspace in the VOA vials?	Yes	☐	No ☑	NA	☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No ☐		
14.	Does paperwork match bottle labels?	Yes	☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
16.	Is it clear what analyses were requested?	Yes	☑	No ☐		
17.	Were all holding times able to be met?	Yes	☑	No ☐		

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes	☐	No ☐	NA	☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	4.6	Good
Sample	7.5	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1406091

Date: 6/9/14

Page: 1 of: 1

Client: PBS
Address: 2517 Eastlake Ave E
City, State, Zip: Seattle, WA Tel: 206 233 9639
Reports To (PM): Ken Nogeire Fax:

Project Name: 41276.000
Location:
Collected by: M. Nogeire
Email:
Project No: 41276.000

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	Lead	Comments/Depth
1	MW1	6/9/14	1520	GW		X												X		
2	MW2	6/9/14	1630	GW		X												X		
3	MW3	6/9/14		GW		X												X		
4	DUP_6.9.14	6/9/14	—	GW		X	X													
5	TB01-6.9.14	6/9/14	—	GW		X	X													
6																				
7																				
8																				
9																				
10																				

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Special Remarks:

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x [signature]	6/9/14 1800	x [signature]	6/9/14 1800
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance

C:4.6
S:7.5

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com