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January 3, 2013

Mr. Inderjit (Tony) Singh
Metro Mart, Inc.
1015 W Lewis Street
Pasco, Washington 99301
Email: inpreet@yahoo.com

Carol Lybeer
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Dear Tony,

RE: Site Characterization Report – Metro Mart, 520 E Columbia Drive, Kennewick

The Site Characterization Assessment of the Metro Mart gas station, located at 520 E Columbia Drive, Kennewick, has been completed. Please find the enclosed copy of the report.

Should you have any questions regarding this report or follow-up services that PBS Engineering and Environmental Inc. may provide, please do not hesitate to contact me at 509.735.2698.

Yours faithfully,

Ken Nogeire, LG

320 N Johnson Street, Suite 700, Kennewick, WA 99336
509.735.2698 Main
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Site Characterization Report

Metro Mart
520 East Columbia Drive
Kennewick, Washington

Prepared for:
Metro Mart, Inc.
1015 W Lewis Street
Pasco, Washington 99301

January 2013
Project No. 63257

Bend | Boise | Coquille | Eugene | Portland | Seattle | Tri-Cities | Vancouver

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TABLE OF CONTENTS

SUPPORTING DATA

FIGURES

TABLES

ATTACHMENTS

EXECUTIVE SUMMARY

PBS Engineering and Environmental Inc. (PBS) has completed site characterization activities, associated with a confirmed petroleum hydrocarbon release from a regulated Underground Storage Tank (UST) system, at the Conoco badged Metro Mart gas station, located at 520 E Columbia Drive in Kennewick, Washington (Site).

PBS initially conducted soil sampling beneath the six on-site dispensers. Soil sampling was conducted as part of a Site Assessment, which was required for the portion of the UST system that was closed in place. Sample analysis detected petroleum hydrocarbons in exceedance of the Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses. As per Washington State law WAC 173-360, a confirmed release from the UST system was reported to Ecology. A Site Characterization was completed after the confirmed release was reported to Ecology.

A summary of the pertinent findings of the Site Characterization investigation are presented below:

- Confirmed release from the UST system was based on field observation and sample results that indicated contaminant levels in soil beneath four of the dispensers exceed the MTCA cleanup level for soil.

- Site Characterization included targeted excavation of contaminated soil beneath the dispenser pump island(s), followed by the advancement of 14 soil borings for lateral and vertical delineation. Soil samples were collected for laboratory analysis following the excavation activities and from the test borings. Groundwater samples were also collected from three of the test bores.

- Sample analysis indicates impacted soil was completely removed from two of the dispenser locations (D3 and D5).

- Based on the field observations and analytical results from sampling conducted after soil excavation works and the drilling investigation, residual levels of petroleum in soil in excess of the MTCA criteria exist in defined locations below the dispenser locations D1 and D6. Sample analysis from lateral and vertical delineation sampling at both of these locations indicates there is less than five cubic yards of impacted soil remaining in the subsurface.

- Toluene, xylenes and diesel concentrations were detected in the Site groundwater samples, albeit below the MTCA cleanup levels. Concentrations of the remaining potential contaminants analyzed were below the laboratory detection limit for the analytical method.

With regard to the current contamination status of subsurface soil and groundwater on site, PBS recommends the following:

- Enrolment of the site into Ecology's Voluntary Cleanup Program (VCP), with the request for consideration for site closure. PBS has been advised by Ecology that the VCP program is currently the best pathway to regulatory closure with a *No Further Action* (NFA) designation.

1.0 INTRODUCTION

PBS Engineering and Environmental Inc. (PBS) has completed site characterization activities, associated with a confirmed petroleum hydrocarbon release from a UST system, at the Conoco badged Metro Mart gas station, located at 520 E Columbia Drive in Kennewick, Washington (Site).

Site Description and Topography

Site Address:	520 East Columbia Drive, Kennewick, Washington 99336
Tax Lot:	Benton County Assessor tax lot 106802000001000
Township, Range, Section:	Township 8 North, Range 30, Section 6
Size:	0.653 total acres
Current Use:	Metro Mart gas station and retail store

Site Ownership

The property is currently owned by I & J Investments of 1015 W Lewis Street, Pasco, Washington.

2.0 REGIONAL GEOLOGY AND HYDROGEOLOGY

The City of Kennewick lies within the Pasco Basin, an area both structurally and topographically low. The principal stratigraphic units are the Columbia River Basalt Group and the overlying sedimentary deposits of the Ringold and Hanford Formations. Overlying the Hanford Formation are surficial Quaternary sediments deposited since the end of the ice ages.

Based on proximity to Columbia River, the shallowest occurrence of groundwater is expected to be at approximately 15 feet bgs. Based on topography, the direction of shallow, unconfined groundwater flow is expected to be towards the northeast.

3.0 SITE INVESTIGATIONS

Initial Assessment

On May 2, 2012, under agreement with Metro Mart, Inc., PBS conducted soil sampling beneath the six on-site dispensers. Soil sampling was conducted as part of a Site Assessment in accordance with Washington State Department of Ecology (Ecology) *Guidance for Site Checks and Site Assessments for Underground Storage Tanks* (1991) (Ecology 1991). Soil sampling was conducted in conjunction with the decommissioning of previous piping and the installation of new product piping, which required a Site Assessment as a portion of an UST system that was closed in place. Site Assessment sampling was undertaken at this time because tank line replacement works allowed easy access to subsurface soils beneath the dispensers.

Sample analysis reported petroleum hydrocarbons in exceedance of the Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses (adopted criteria), beneath dispensers D1, D3, D5 and D6. As per Washington State law WAC 173-360, a confirmed release from a UST system was reported to Ecology on May 8, 2012. In accordance with Ecology requirements, a Site Characterization is required to be completed in accordance with WAC 173-340-450 after a confirmed release is reported to Ecology.

Soil Investigation

On May 9, 2012 PBS conducted petroleum contaminated soil removal and validation sampling activities on Site. The purpose of the soil excavation was to remove impacted soil and validate the removal while the forecourt was open and excavation machinery remained on Site. The excavation of impacted soil was undertaken with the aid of a 2.5 ton excavator, which was supervised by PBS and operated by Rapid Services. Once impacted soil was removed, or the maximum excavation was completed, based on limitations of the excavation equipment and/or obstruction by utilities, a validation sample was collected from the base of the excavation. Lateral delineation sampling was not conducted at this time, based on structural concerns of undercutting the concrete slab.

On May 22, 2012 PBS submitted a status report to Ecology via email, as required under WAC 173-340-450 within 20 days of a confirmed release. The status report detailed works undertaken on Site and included a Site plan and analytical results. PBS reported that additional soil sampling is recommended to further delineate identified, impacted soil.

PBS proposed to test for hazardous substances in the environment where they are most likely to be present, in accordance with a Sampling and Analysis Plan (SAP) prepared per WAC 173-340-820. The SAP was reviewed by Ecology (Project Manager Breean Zimmerman) on July 31. No changes were recommended.

Prior to beginning the drilling investigation, PBS filed a public utility notification request. On August 24, 2012, PBS supervised a private utility locates company (Geophysical Survey of Kennewick, Washington) while they conducted borehole clearance for subsurface obstructions. The advancement of boreholes and implementation of the SAP was conducted on August 29 to 31, 2012, with the assistance of NRC of Pasco and Environmental West Explorations of Spokane. A site-specific health and safety plan (HASP) was prepared and reviewed with all field personnel and subcontractors prior to beginning work.

The soil investigation consisted of the advancement of fourteen temporary borings for soil and/or groundwater sampling. The boring locations were selected for the purpose of laterally and vertically delineating previously identified, petroleum impacted soils. For health and safety concerns and to protect subsurface infrastructure, a Nondestructive Digging (NDD) vacuum truck was used to advance borings through the uppermost, unconsolidated soil and into natural soil. A direct-push drill rig was then utilized to advance borings to a maximum depth of 21 feet below ground surface (bgs). Refer to Figure 2 for boring locations.

During the advancement of boreholes, 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 Attachment I.

All samples were collected in laboratory-supplied containers, placed on ice in a cooler and transported to Friedman & Bruya Lab in Seattle, Washington, with chain-of-custody documentation. Analyses were conducted under normal turnaround time including, but not limited to, the following analysis related to gas station contaminants of concern.

- Hydrocarbon Identification (HCID)
- Gasoline range Total Petroleum Hydrocarbons (TPH) by method NWTPH-Gx
- BTEX by EPA Method 8021B
- Diesel range TPH by method NWTPH-Dx
- Lead by EPA method 200.8

Sample analysis is further detailed in the Findings Section.

Sampling equipment was decontaminated between borings using a detergent wash and tap water rinse. PBS personnel wore new disposable nitrile gloves when collecting samples. Upon completion of sampling, temporary boreholes were backfilled and sealed with bentonite to six inches below grade, and the surface restored to match the surrounding area.

Groundwater Investigation

A groundwater sample was collected from three boring locations (SB2, SB11 and SB12), for the purpose of evaluating the contamination status of groundwater. Groundwater samples were collected by advancing a temporary screen across the groundwater table and extracting water using a peristaltic pump and disposable plastic tubing. Groundwater was encountered at approximately 17 below ground surface (bgs).

4.0 INVESTIGATION-DERIVED WASTES

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

Excavated soil was stockpiled on site in two stockpiles. Soil Stockpile SSP1 (approximately 35 cubic yards) was primarily composed of soil excavated from the beneath the canopy on the north side of the building. Soil stockpile SSP2 (approximately 25 cubic yards) was primarily composed of soil excavated from near the dispensers on the south side of the retail building.

Stockpiled soil was placed on plastic and bermmed with bales of straw. Stockpiles were covered in plastic to prevent soil from mobilizing due to wind and precipitation. Stockpiled soil was stored on Site for several months before soil characterization for off-site disposal.

Soil characterization was comprised of the collection of three representative samples from each stockpile and analysis for petroleum contaminants of concern and select metals (per the request of the receiving landfill). Soil samples were collected with hand tools and the standard decontamination and sample handling procedures were followed as described in Section 3.

Stockpiled soil was transported to Finley Buttes Regional Landfill and received under a Special Waste Application. The Landfill Special Waste Application and associated analytical report is presented in Attachment II.

5.0 FINDINGS

Soil and Groundwater Field Observations

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

Classification	Description	Approximate Depth Range (feet bgs)
Disturbed natural and fill material	Loose, pale brown gravel with coarse sand and cobbles; damp, gravel is rounded and cobbles up to 7 inches diameter	0 to 3
Silty sand	Stiff, pale brown silty sand; damp, sand is fine to very fine	3 to 21
	Groundwater	17

Graphic boring logs are provided in Appendix B.

A summary of field screening information is presented in the table below:

Site Investigation	Date	Observations	PID Readings
Initial assessment	5/02/12	Strong hydrocarbon odors, most notable beneath dispenser 1.	Under dispenser 1 (D1) at 3 feet bgs: 970 Under dispenser 6 (D6) at 3.5 feet bgs: 98 All other locations: 0.0 – 9.7
Post excavation works	5/09/12	Impacted soil excavated from all locations except D1 and D6	D1 at 10 feet bgs: 250 D6 at 6 feet bgs: 29
Delineation sampling	8/27 – 8/29/12	No odors, staining or discoloration noted at any location	0.0 – 8.0

No odor or sheen was observed at collected groundwater.

Soil Analytical Results

Results of soil sample analysis indicated exceedance of the MTCA cleanup levels for a combination of gasoline, diesel, BTEX and naphthalene in soil samples collected on Site. A summary of these exceedance levels are presented below:

Site Investigation	Sample Location	Sample Depth (bgs)	Contaminant Exceeds the MTCA cleanup levels
Initial assessment	D1	3	TPH-Gx, BTEX, naphthalene
Initial assessment	D3	3.5	TPH-Gx, naphthalene

Site Investigation	Sample Location	Sample Depth (bgs)	Contaminant Exceeds the MTCA cleanup levels
Initial assessment	D5	3.5	TPH-Dx
Initial assessment	D6	3.5	TPH-Dx, naphthalene
Post excavation works	D1	10	Benzene
Post excavation works	D6	6	TPH-Dx

Additional analysis was requested for select samples which had high concentrations of gasoline and/or diesel range hydrocarbons. The additional analysis was conducted in general accordance with MTCA Table 830-1 *Required Testing for Petroleum Releases*. Other than listed in the table above, no contaminant concentrations were detected above the adopted criteria in remaining samples, including all samples collected during the delineation drilling and sampling program.

Soil analytical results are presented in Table 1. Results of the expanded analysis conducted on select soil samples are presented in Table 2.

Groundwater Analytical Results
Toluene and xylenes concentrations were detected in groundwater collected from sample location SB2 and petroleum hydrocarbons in the diesel range were detected at sample location SB11, albeit below the MTCA cleanup level. Concentrations of all remaining potential contaminants analyzed were below the laboratory detection limit for the analytical method.

Groundwater analytical results are presented in Table 3.

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

Blind Duplicate
A blind duplicate sample was submitted to the laboratory for analysis without notification to the laboratory that they had been duplicated. A duplicate soil sample (BR-8.29.12) was collected from soil boring SB4 at a depth of 12 feet bgs, and was analyzed for BTEX. Neither of the samples (SB4-12 or the Duplicate) had detections above the laboratory reporting limit.

6.0 CONCEPTUAL SITE MODEL

Assessing a site with known or suspected contamination requires a conceptual understanding of potential or suspected sources of hazardous substances, types and concentrations of hazardous substances, potentially contaminated media, and actual and potential exposure pathways and receptors. This is called a conceptual site model (CSM). This section provides information to develop the CSM for this site.

Source of Release
The source of release on Site is related to the storage and handling of petroleum hydrocarbons in the UST system. Based on the findings of the subsurface investigation, it is likely that leaking has occurred at several of the dispensers, potentially from leaks in the lines beneath the dispenser, leaking from within the dispensers, or, from surface releases in the vicinity of the dispensers.

Contaminants of Concern

The contaminants of concern (COCs) have been identified through an industry standard analytical pathway. The range of hydrocarbons is determined through a hydrocarbon identification analytical method. Contaminant concentrations are quantified using NWTPH-Gx and NWTPH-Dx. Follow up analysis was conducted in general accordance with MTCA Table 830-1 *Required Testing for Petroleum Releases*. The identified COCs are diesel and gasoline-range TPHs, BTEX and naphthalene.

Potentially Contaminated Media

Based on the field observations and analytical results from sampling conducted after soil excavation works and the drilling investigation, residual levels of petroleum in soil in excess of the MTCA cleanup levels exist in defined locations below the dispenser locations D1 and D6. Diesel impacted soil at dispenser D6 at approximately six feet bgs, and benzene impacted soil below dispenser D1 at ten feet bgs. Sample analysis from lateral and vertical delineation sampling at both of these locations indicates there is no significant volume of impacted soil remaining in the subsurface.

Current and Likely Future Uses of Land and Groundwater

Current land use near the site and adjacent areas is mixed-use commercial and light industrial. Given that the site lies on a busy vehicular intersection, future land use is expected to remain as commercial/light industrial.

PBS reviewed water well logs available through the Department of Ecology's website (http://apps.ecy.wa.gov/welllog/textsearch.asp) on December 20, 2012. The Site is located in Section 6 of Township 8 North, Range 30, W.M. Well logs in the vicinity of the Site were geotechnical investigation bores. One domestic water supply well was identified approximately ¾ mile east of the Site, near 90 South Verbene in Kennewick. Based on the distance from the site and depth of the well, the level of concern for Site contamination to affect water in this well is negligible.

Current and Future Receptors

Current receptors in the vicinity of the Site are the Columbia River and the Verbene well. Future receptors include new wells.

Potentially Complete Exposure Pathways

A potentially complete exposure pathway consists of: 1) an identified contaminant source; 2) a transport pathway to locations (exposure points) where potential receptors might come in contact with the contaminant of interest (COI); and 3) an exposure route (e.g., soil ingestion, vapor inhalation, drinking water) through which potential receptors might be exposed to COI.

Exposure pathways to the identified off Site receptors are not considered to be complete, as groundwater has not been impacted in exceedance of the MTCA criteria. The only potentially complete exposure pathway is through future site development to depths of six feet or greater (i.e., dermal contact of site workers). There are currently no complete exposure pathways.

7.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS

Contaminated site assessment and cleanup is conducted under the 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 on Site has been and will continue to be performed under MTCA regulations. This section reiterates the cleanup standards established for this site.

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 standard levels. Method B and C are used when developing site-specific cleanup levels. Considering the current and potential future land use as commercial/industrial property, MTCA level A cleanup levels are the most appropriate. PBS used tables 740-1 and 720-1 in WAC 173-340-900 to determine Method A cleanup levels for soil and groundwater, respectively, and those values are shown on Table 1.

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).

8.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

A summary of the pertinent findings of the Site Characterization investigation are presented below:

- Confirmed release from the Underground Storage Tank (UST) system was based on field observation and sample results that indicated contaminant levels in soil beneath four of the dispensers exceed the MTCA cleanup level for soil.

- Soil excavation was completed on Site and validation sampling was conducted, followed by the advancement of 14 soil boring for lateral and vertical delineation. Sample analysis indicates impacted soil was completely removed from two of the locations (D3 and D5).

- Based on the field observations and analytical results from sampling conducted after soil excavation works and the drilling investigation, residual levels of petroleum in soil in excess of the MTCA cleanup levels exist in defined locations below the dispenser locations D1 and D6. Sample analysis from lateral and vertical delineation sampling at both of these locations indicates there is less than 5 cubic yards of impacted soil remaining in the subsurface.

- Toluene, xylenes and diesel concentrations were detected in Site groundwater, albeit below the MTCA cleanup levels. Concentrations of the remaining potential contaminants analyzed were below the laboratory detection limit for the analytical method.

Recommendations

With regard to the current contamination status of subsurface soil and groundwater on site, PBS recommends the following:

- Enrolment of the site into Ecology's Voluntary Cleanup Program (VCP), with the request for consideration for site closure. PBS has been advised by Ecology that the VCP program is currently the best pathway to regulatory closure with a *No Further Action* (NFA) designation.

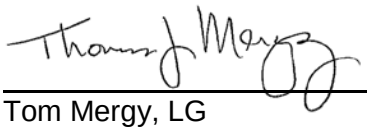
9.0 LIMITATIONS

PBS has prepared this report for use by Metro Mart Inc. This report is for the exclusive use of the client and is not to be relied upon by other parties. It is not to be photographed, photocopied, or similarly reproduced, in total or in part, without the expressed written consent of the client and PBS.

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. Groundwater data collected from temporary borings is considered preliminary; detections may need confirmation by installation of permanent wells.

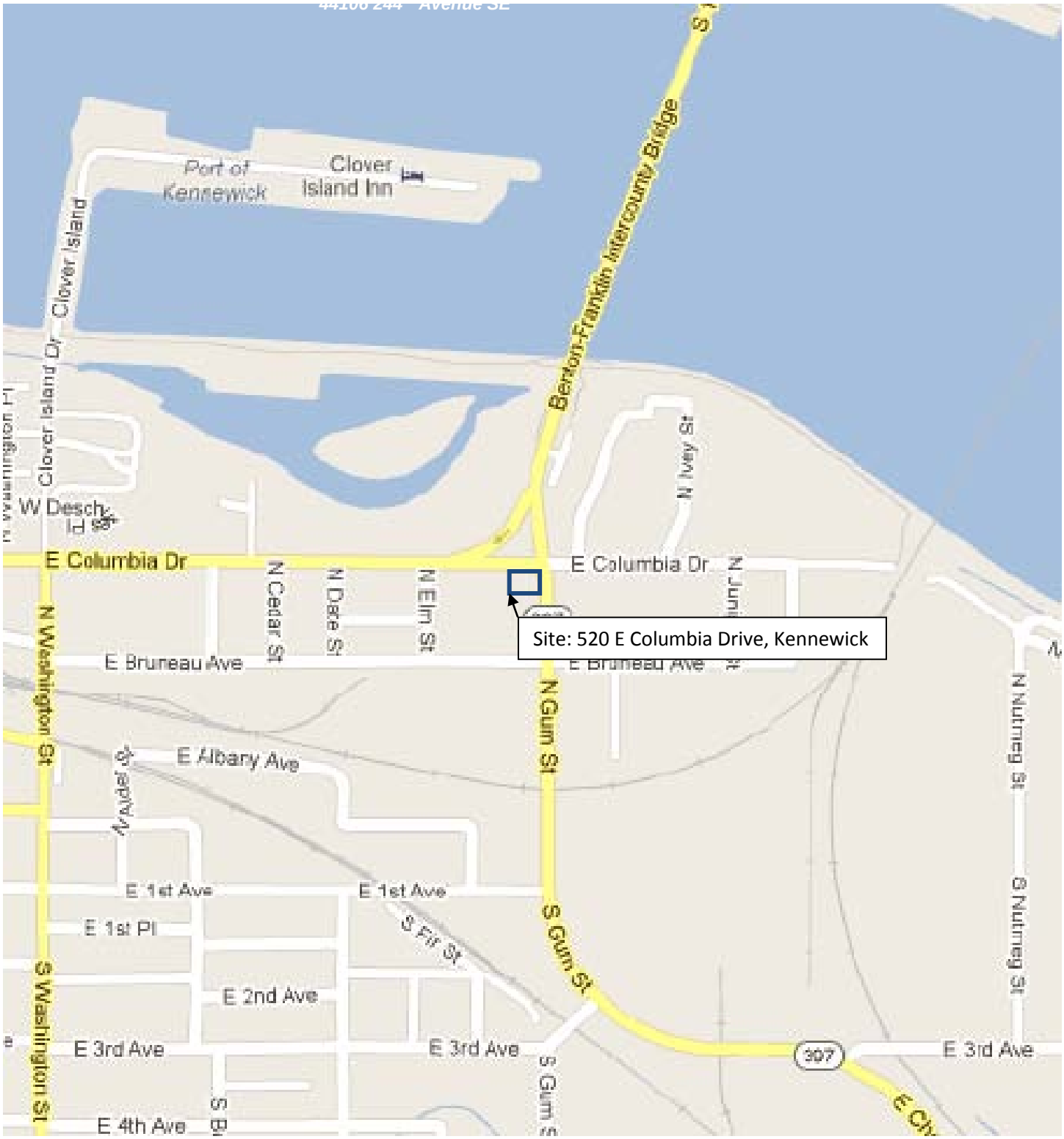
PBS Engineering and Environmental Inc.

1/03/2013
Ken Nogeire, LG Date
Senior Geologist

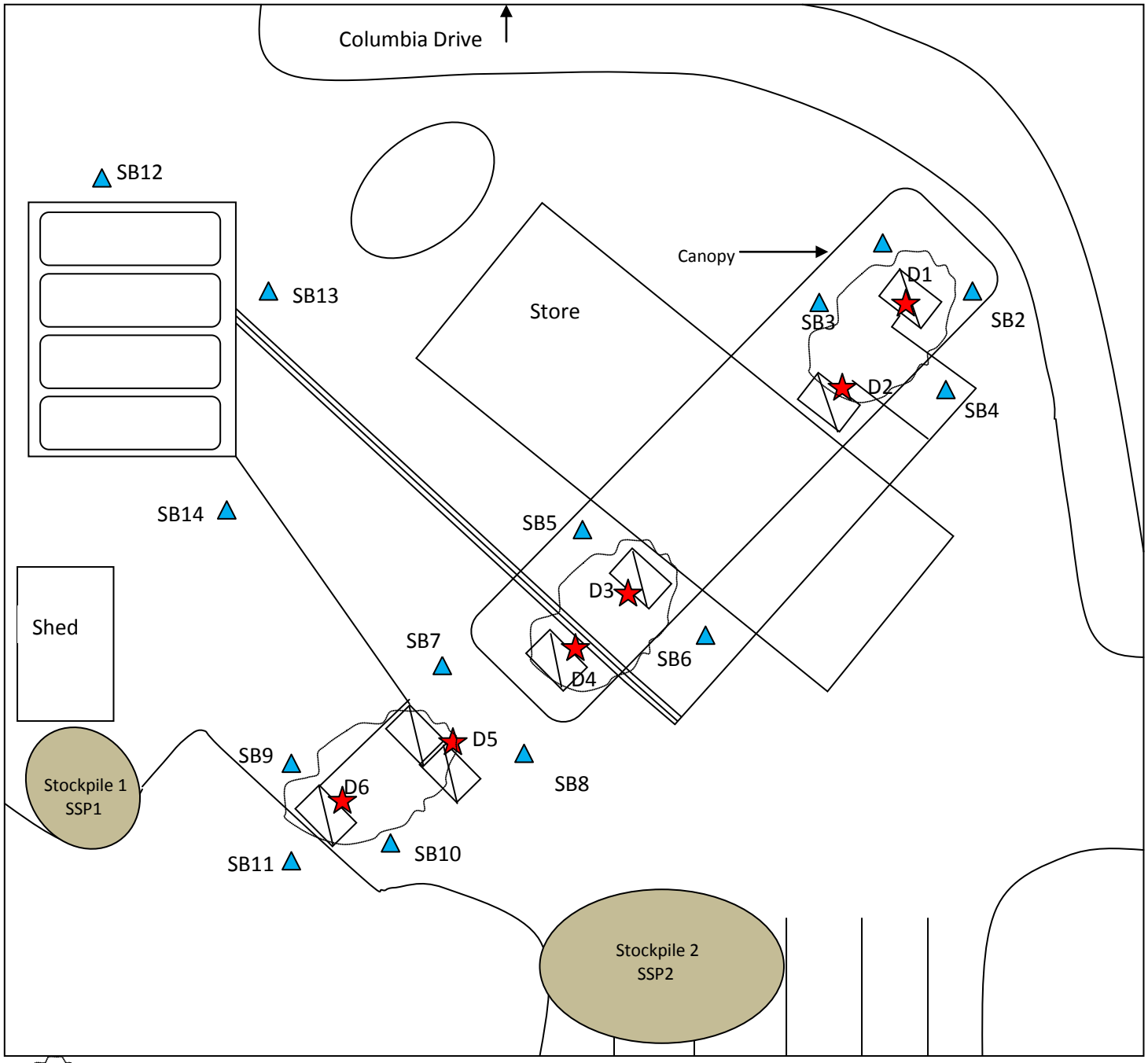


1/03/2013
Tom Mergy, LG Date
Senior Geologist

FIGURES



PBS	PROJECT # 63257 DATE January 2013	**FIGURE 1. SITE VICINITY PLAN** **520 East Columbia Drive** **Kennewick, Washington 99336**	**Figure 1**



May 2012 Soil Excavations

D1 – Dispenser 1

May 2012 Sampling locations

September 2012 Boring Locations

Soil Stockpile

Underground Storage Tank

Subsurface Product piping

NOT TO SCALE

PBS	PROJECT # 63257 DATE January 2013	FIGURE 2. SITE PLAN 520 East Columbia Drive Kennewick, Washington 99336	Figure 2

TABLES

TABLE 1 SOIL RESULTS

SITE: 520 E Columbia Drive, Kennewick WA 99336

CONTRACT NO: 63257

Result mg/kg											
Criteria		**TPHs: HCID**			**TPHs: Quantified**			**BETX**			
		Gasoline	**Diesel**	**Oil**	**Gx**	**Dx**	**Oil**	**Benzene**	**Toluene**	**Ethyl Benzene**	**Xylene**
Adopted Criteria	**MTCA Method A Soil Cleanup for Unrestricted Land Use**	**-**	**-**	**-**	**30 / 100**	**2000**	**2000**	**0.03**	**7**	**6**	**9**
Location/ Depth	**Description**	**TPHs: HCID**			**TPHs: Quantified**						
		Gasoline	**Diesel**	**Oil**	**Gx**	**Dx**	**Oil**	**Benzene**	**Toluene**	**Ethyl Benzene**	**Xylene**
Soil Sampling: May 2, 2012 original investigation											
D1-3	Silty sand	**D**	ND	ND	**16,000**	-	-	**100**	**1,200**	**260**	**1,500**
D2-3.5	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
D3-3.5	Fill material	**D**	**D**	ND	**1,200**	1,400	<250	<0.02	<0.02	<0.02	<0.06
D4-3.5	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
D5-3.5	Fill material	ND	**D**	ND	-	**3,900**	<250	-	-	-	-
D6-3.5	Silty sand	ND	**D**	ND	-	**30,000**	580	-	-	-	-
Soil Sampling: May 9, 2012 post excavation works											
D1-10	Silty sand	-	-	-	4	-	-	**0.043**	0.39	<0.02	<0.06
D3-10	Silty sand	-	-	-	<2	-	-	<0.02	<0.02	<0.02	<0.06
D3-3.5	Silty sand	-	-	-	-	<50	<250	-	-	-	-
D5-9	Silty sand	-	-	-	-	71	<250	-	-	-	-
D6-6	Silty sand	-	-	-	-	**9,400**	<250	-	-	-	-
Soil Sampling: August 26-30, 2012 lateral and vertical delineation of identified impacted soil											
SB1-3.0	Silty sand	-	-	-	<2	-	-	<0.02	<0.02	<0.02	<0.06
SB1-12	Silty sand	-	-	-	<2	-	-	<0.02	<0.02	<0.02	<0.06
SB2-4.5	Silty sand	-	-	-	<2	-	-	<0.02	<0.02	<0.02	<0.06
SB2-12	Silty sand	-	-	-	4	-	-	<0.02	0.03	<0.02	0.91
SB3-8	Silty sand	-	-	-	<2	-	-	-	-	-	-
SB3-16	Silty sand	-	-	-	<2	-	-	-	-	-	-
SB4-2.5	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
SB4-12	Silty sand	-	-	-	<2	-	-	<0.02	<0.02	<0.02	<0.06
BR-8.29.12	Blind duplicate sample for SB4-12	-	-	-	<2	-	-	<0.02	<0.02	<0.02	<0.06
SB5-8	Silty sand	-	-	-	<2	<50	<250	<0.02	<0.02	<0.02	<0.06
SB5-16	Silty sand	-	-	-	<2	<50	<250	<0.02	<0.02	<0.02	<0.06
SB6-4	Silty sand	-	-	-	<2	<50	<250	<0.02	<0.02	<0.02	<0.06

TABLE 1 SOIL RESULTS

SITE: 520 E Columbia Drive, Kennewick WA 99336

CONTRACT NO: 63257

Result mg/kg											
Criteria		TPHs: HCID			TPHs: Quantified			BETX			
		Gasoline	Diesel	Oil	Gx	Dx	Oil	Benzene	Toluene	Ethyl Benzene	Xylene
Adopted Criteria	**MTCA Method A Soil Cleanup for Unrestricted Land Use**	**-**	**-**	**-**	**30 / 100**	**2000**	**2000**	**0.03**	**7**	**6**	**9**
Location/ Depth	**Description**	**TPHs: HCID**			**TPHs: Quantified**						
		Gasoline	**Diesel**	**Oil**	**Gx**	**Dx**	**Oil**	**Benzene**	**Toluene**	**Ethyl Benzene**	**Xylene**
SB6-8	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
SB7-3.5	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
SB7-8	Silty sand	-	-	-		<50	<250	-	-	-	-
SB8-3	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
SB8-8	Silty sand	-	-	-	-	<50	<250	-	-	-	-
SB9-2	Silty sand	-	-	-	-	<50	<250	-	-	-	-
SB9-12	Silty sand	-	-	-	-	<50	<250	-	-	-	-
SB10-2	Silty sand	-	-	-	-	<50	<250	-	-	-	-
SB10-8	Silty sand	-	-	-	-	<50	<250	-	-	-	-
SB10-12	Silty sand	-	-	-	-	<50	<250	-	-	-	-
SB11-2	Silty sand	-	-	-	-	<50	<250	-	-	-	-
SB11-8	Silty sand	-	-	-	-	<50	<250	-	-	-	-
SB12-8	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
SB13-4	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
SB13-12	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
SB14-8	Silty sand	ND	ND	ND	-	-	-	-	-	-	-
SB14-12	Silty sand	ND	ND	ND	-	-	-	-	-	-	-

mg/kg - milligrams of contaminant per kilogram of dry weight soil

D - detected constituent

<50 - less than the laboratory method reporting limit

ND - no detected

Gx - gasoline range hydrocarbons

Dx - diesel range hydrocarbons

TABLE 2 SOIL RESULTS (Expanded Analysis)

SITE: 520 E Columbia Drive, Kennewick WA 99336

CONTRACT NO: 63257

Result mg/kg																			
Criteria		TPHs: HCID			TPHs: Quantified			BETX				Additional Gx Constituents				PAHs			Lead
		Gasoline	Diesel	Oil	Gx	Dx	Oil	Benzene	Toluene	Ethyl Benzene	Xylene	EDC	EDB	MTBE	Hexane	B(a)P	Naph	total detected	
Adopted Criteria	**MTCA Method A Soil Cleanup for Unrestricted Land Use**	-	-	-	30 / 100	2000	2000	0.03	7	6	9	-	0.005	0.1	-	0.1	5	-	250
Location/ Depth	**Description**	TPHs: HCID			TPHs: Quantified														Lead
		Gasoline	Diesel	Oil	Gx	Dx	Oil	Benzene	Toluene	Ethyl Benzene	Xylene	EDC	EDB	MTBE	Hexane	B(a)P	Naph	total detected	
Soil Sampling: original investigation on May 2, 2012																			
D1-3	Silty sand	**D**	ND	ND	**16,000**	-	-	**100**	**1,200**	**260**	**1,500**	<5	<0.05	<5	140	-	**120**	-	14.6
D3-3.5	Filling material	**D**	**D**	ND	**1,200**	1,400	<250	<0.02	<0.02	<0.02	<0.06	<0.5	<0.005	<0.5	<2.5	-	**18**	-	10
D5-3.5	Filling material	ND	**D**	ND	-	**3,900**	<250	-	-	-	-	-	-	-	-	<0.01	1.6	0.021	-
D6-3.5	Silty sand	ND	**D**	ND	-	**30,000**	580	-	-	-	-	-	-	-	-	<0.1	**8.6**	0.1	7.12

mg/kg - milligrams of contaminant per kilogram of dry weight soil

D - detected constituent

<50 - less than the laboratory method reporting limit

ND - no detected

Gx - gasoline range hydrocarbons

Dx - diesel range hydrocarbons

TABLE 3 GROUNDWATER RESULTS

SITE: 520 E Columbia Drive, Kennewick WA 99336

CONTRACT NO: 63257

Result ug/L									
Criteria		TPHs			BETX				PAHs
		Gx	Dx	Oil	Benzene	Toluene	Ethyl Benzene	Xylene	Naphthaleness
Adopted Criteria	**MTCA Method A Cleanup levels for Groundwater**	**800**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**160**
Location/ Depth	**Description**	**TPHs: Quantified**							
		Gx	**Dx**	**Oil**	**Benzene**	**Toluene**	**Ethyl Benzene**	**Xylene**	**Naphthaleness**
Groundwater Sampling: August 29, 2012									
SB2-W	Groundwater	<100	<50	<250	<1	4.3	<1	8.4	-
SB11-W	Groundwater	<100	490	<250	<1	<1	<1	<3	<0.3
SB12-W	Groundwater	<100	<50	<250	<1	<1	<1	<3	-

ug/L - micrograms per litre

D - detected constituent

<50 - less than the laboratory method reporting limit

ND - no detected

Gx - gasoline range hydrocarbons

Dx - diesel range hydrocarbons

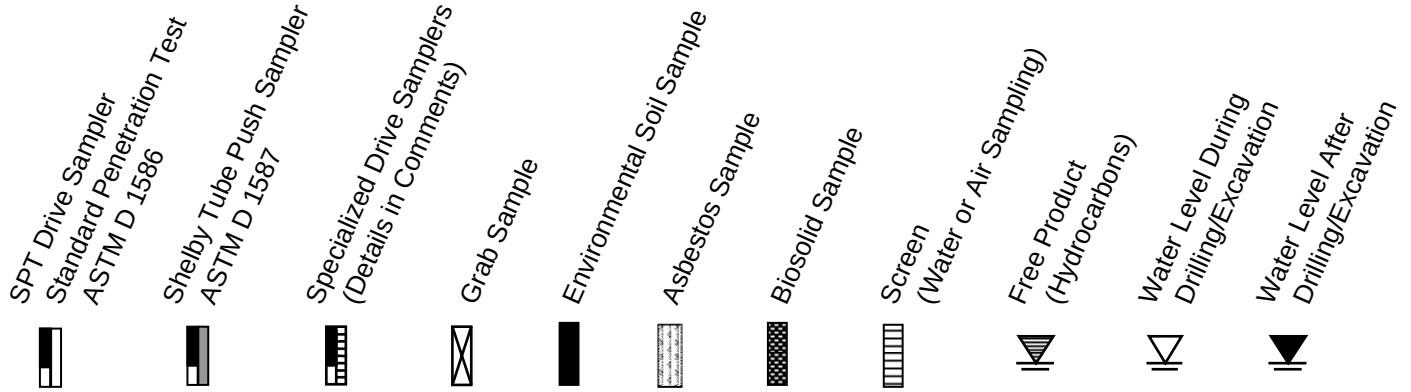
ATTACHMENT I

Soil Boring Logs

PBS Engineering + Environmental

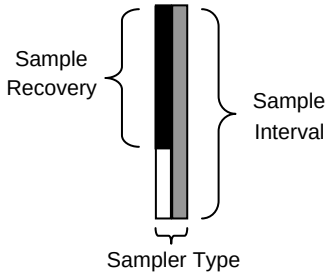
Key To Test Pit and Boring Log Symbols

SAMPLING DESCRIPTIONS

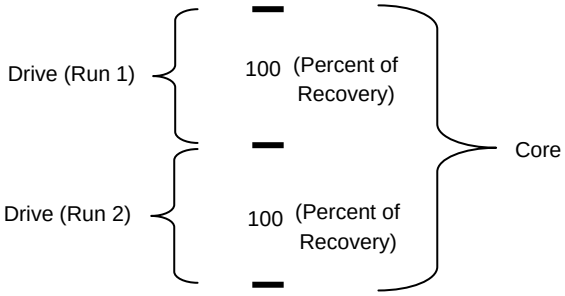


LOG GRAPHICS

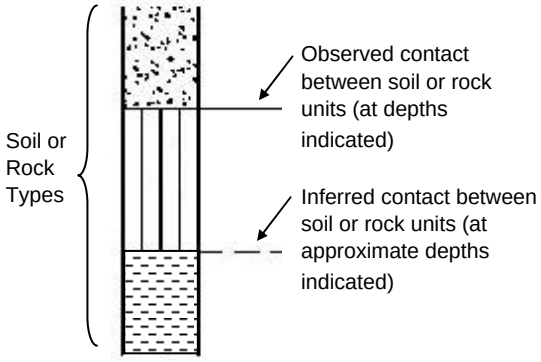
Sampling Symbols



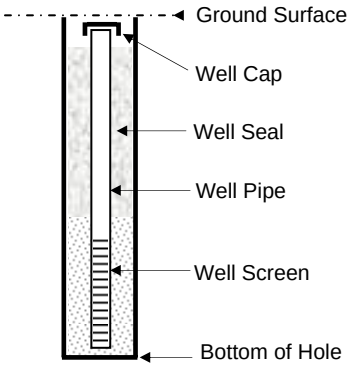
Direct Push, Geoprobe®, Sonic, Vibracore Drilling



Soil and Rock



Well Detail



ENVIRONMENTAL TESTING EXPLANATIONS

ATD	At Time of Drilling	PPM	Parts Per Million
BGS	Below Ground Surface	VOC	Volatile Organic Compounds
MSL	Mean Sea Level	ND	Not Detected
MW	Monitoring Well (Water Sampling)	NS	No Sheen
NWTPH-Gx	Gasoline-Range Petroleum Hydrocarbon Testing	SS	Slight Sheen
OD	Outside Diameter	MS	Moderate Sheen
PID	Photoionization Detector Headspace Analysis	HS	High Sheen

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METRO MART
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KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
63257.000

BORING SB1

BORING SB1 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		CONCRETE						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles					0	
2.0		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp		8	SB1-3			Non-destructive digging to 3.0 feet bgs
4.0							17	
6.0							100	
8.0				0.0	SB1-8			
10.0		grades to damp					100	
12.0				0.0	SB1-12			
		Final depth 12.0 feet bgs; boring backfilled with hydrated bentonite chips						
14.0								
16.0								
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

BORING LOG-ENV CORE 63257_SB1-14_090712_DRAFT.GPJ DATATMPL.GDT PRINT DATE: 10/3/12:RSD

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BORING SB2

BORING SB2 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		CONCRETE						
		Loose, pale brown, GRAVEL (GW) with coarse disturbed natural silty sand; slightly damp, rounded, cobbles 7-inch diameter						
2.0							10	
		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp						
4.0				3	SB2-4.5			Non-destructive digging to 4.0 feet bgs
6.0							17	
8.0				0.5	SB2-8			
10.0							100	
12.0				1	SB2-12			
14.0							100	
16.0		grades to damp to wet	ATD	1	SB2-16			
18.0					SBW		13	Temporary screet set from 16.0 to 20.0 feet bgs
20.0		Final depth 20.0 feet bgs; boring backfilled with hydrated bentonite chips						

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

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PBS PROJECT NUMBER:
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BORING SB3

BORING SB3 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		CONCRETE						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles					17	
2.0		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp		0.0	SB3-3.0			Non-destructive digging to 3.0 feet bgs
4.0							30	
6.0								
8.0				0.0	SB3-8.0			
10.0							0	
12.0								
14.0							13	
16.0		grades to damp to wet Final depth 16.0 feet bgs; boring backfilled with hydrated bentonite chips		0.0	SB3-16			
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

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BORING SB4

BORING SB4 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		ASPHALT						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles						
2.0		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp		3.0	SB4-2.5		13	Non-destructive digging to 3.0 feet bgs
4.0								
6.0							63	
8.0				0.0	SB4-8.0			
10.0							75	
12.0				0.0	SB4-12.0			
		Final depth 12.0 feet bgs; boring backfilled with hydrated bentonite chips						
14.0								
16.0								
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

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BORING SB5

BORING SB5 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		CONCRETE						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles						
2.0		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp		0.0	SB5-2.5		13	Non-destructive digging to 3.0 feet bgs
4.0								
6.0							50	
8.0				0.0	SB5-8			
10.0							63	
12.0				0.0	SB5-12			
14.0							100	
16.0		Final depth 16.0 feet bgs; boring backfilled with hydrated bentonite chips		0.0	SB5-16			
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

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BORING SB6

BORING SB6 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		ASPHALT						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles						
2.0							13	
		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp		6.0	SB6-4.0			Non-destructive digging to 3.5 feet bgs
4.0			ATD					
6.0							75	
8.0		grades to damp		0.0	SB6-8.0			
10.0							100	
12.0				2.5	SB6-12.0			
14.0							100	
16.0		Final depth 16.0 feet bgs; boring backfilled with hydrated bentonite chips		0.0	SB6-16			
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

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BORING SB7

BORING SB7 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		CONCRETE						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles						
2.0							13	
		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp		0.0	SB7-3.5			Non-destructive digging to 3.0 feet bgs
4.0								
6.0							50	
8.0				0.0	SB7-8.0			
10.0		grades to damp					50	
12.0				0.0	SB7-12			
		Final depth 12.0 feet bgs; boring backfilled with hydrated bentonite chips						
14.0								
16.0								
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

BORING LOG-ENV CORE 63257_SB1-14_090712_DRAFT.GPJ DATATMPL.GDT PRINT DATE: 10/3/12:RSD

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PBS PROJECT NUMBER:
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BORING SB8

BORING SB8 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		CONCRETE						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles					17	
2.0				0.0	SB8-3.0			Non-destructive digging to 3.0 feet bgs
		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp						
4.0							20	
6.0								
8.0				0.0	SB8-8.0			
10.0		grades to damp					0	
12.0								
14.0							100	
16.0		grades to moist		0.0	SB8-16.0			
		Final depth 16.0 feet bgs; boring backfilled with hydrated bentonite chips						
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

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PBS PROJECT NUMBER:
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BORING SB9

BORING SB9 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		CONCRETE						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles		0.0	SB9-2.0	■	13	
2.0		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp						Non-destructive digging to 3.0 feet bgs
4.0							50	
6.0								
8.0				0.0	SB9-8.0	■		
10.0		grades to damp					38	
12.0				0.0	SB9-12.0	■		
		Final depth 12.0 feet bgs; boring backfilled with hydrated bentonite chips						
14.0								
16.0								
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

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PBS PROJECT NUMBER:
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BORING SB10

BORING SB10 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		CONCRETE						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles		0.0	SB10-2.0	■	13	
2.0								
		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp						Non-destructive digging to 3.0 feet bgs
4.0								
							38	
6.0								
				2.5	SB10-8.0	■		
8.0								
							38	
10.0		grades to damp						
				0.0	SB10-12.0	■		
12.0		Final depth 12.0 feet bgs; boring backfilled with hydrated bentonite chips						
14.0								
16.0								
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

BORING LOG-ENV CORE 63257_SB1-14_090712_DRAFT.GPJ DATATMPL.GDT PRINT DATE: 10/3/12:RSD

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PBS PROJECT NUMBER:
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BORING SB11

BORING SB11 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		GRASS						
		Loose, pale brown, GRAVEL (GW) with coarse sand; slightly damp, rounded, cobbles to 7-inch diameter			SB11-2.0		13	
2.0								
4.0		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp,						Non-destructive digging to 5.0 feet bgs
6.0							50	
8.0				3.0	SB11-8.0			
10.0		grades to damp					50	
12.0				3.0	SB11-12.0			
14.0							0	
16.0		grades to wet, increasing coarse sand	ATD					
18.0					SB11-W		13	Temporary screen from 17.0 to 21.0 feet bgs
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

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PBS PROJECT NUMBER:
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BORING SB11
(continued)

BORING SB11 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
20.0								
		Final depth 21.0 feet bgs; boring backfilled with hydrated bentonite chips						
22.0								
24.0								
26.0								
28.0								
30.0								
32.0								
34.0								
36.0								
38.0								
40.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

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PBS PROJECT NUMBER:
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BORING SB12

BORING SB12 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		ASPHALT						
		Loose, pale brown, GRAVEL (GW) with disturbed natural coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles			SB12-4.5			
2.0		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp					10	
4.0				0.0				Non-destructive digging to 5.0 feet bgs
6.0							67	
8.0				0.0	SB12-8			
10.0		grades to damp					50	
12.0				0.0	SB12-12			
14.0							0	
16.0			ATD					
18.0		grades to wet			SB12-W		13	
20.0		Final depth 20.0 feet bgs; boring backfilled with hydrated bentonite chips						

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

BORING LOG-ENV CORE 63257 SB1-14 090712 DRAFT.GPJ DATATMPL.GDT PRINT DATE: 10/3/12:RSD

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PBS PROJECT NUMBER:
63257.000

BORING SB13

BORING SB13 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		ASPHALT						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles						
2.0							13	
4.0		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp		0.0	SB13-4.0			Non-destructive digging to 5.0 feet bgs
6.0							13	
8.0				0.0	SB13-8.0			
10.0							13	
12.0				0.0	SB13-12.0			
		Final depth 12.0 feet bgs; boring backfilled with hydrated bentonite chips						
14.0								
16.0								
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

BORING LOG-ENV CORE 63257_SB1-14_090712_DRAFT.GPJ DATATMPL.GDT PRINT DATE: 10/3/12:RSD

PBS Engineering + Environmental
320 N Johnson Street
Suite 700
Kennewick, WA 99336
Phone: 509.735.2698
Fax: 866.727.0140

METRO MART
520 E COLUMBRA DRIVE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
63257.000

BORING SB14

BORING SB14 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		ASPHALT						
		Loose, pale brown, GRAVEL (GW) with coarse sand and cobbles; slightly damp, rounded gravel, 7-inch-diameter cobbles						
2.0		Stiff, pale brown, silty fine to very fine SAND (SM); slightly damp		0.0	SB14-2.5		13	
4.0								Non-destructive digging to 5.0 feet bgs
6.0							63	
8.0				0.0	SB14-8.0			
		grades to damp						
10.0							25	
12.0				0.0	SB14-12.0			
		Final depth 12.0 feet bgs; boring backfilled with hydrated bentonite chips						
14.0								
16.0								
18.0								
20.0								

BORING METHOD: Vacuum/Direct Push
DRILLED BY: NRC and EWE
BORING BIT DIAMETER: 2-inch OD

LOGGED BY: K. Nogeire
COMPLETED: 8/29/12

ATTACHMENT II

Landfill Special Waste Application and Report

Finley Buttes Regional Landfill
73221 Bombing Range Road
Boardman, OR 97818
PH: 541.481.2233
FX: 541.481.2234

SPECIAL WASTE APPLICATION

FOR OFFICE USE ONLY
APPROVAL NUMBER:
EXPIRATION DATE:
APPROVED BY:

Information utilized for completion of this form must originate from an authorized representative of the generator of the waste material.
The information on this form must be COMPLETELY FILLED OUT, TYPE WRITTEN, and the form must be SIGNED BY AUTHORIZED REPRESENTATIVE.

A. PROFILE INFORMATION

1. ☒ Initial ☐ Recertification, list prior approval number(s):

2. Have there been any changes to the composition of, or process generating this waste stream that would alter the characteristics of the waste stream?
☐ YES ☒ NO (Updated analysis may be required even if no change to process or composition.)

B. GENERATOR INFORMATION

1. Generator Name: PBS Engineering and Environmental
2. Address: 320 N Johnson Street, Suite 700
City: Kennewick | County: Benton
State: WA | Zip: 99336
3. Site Location (if different): Metro Mart, 320 Columbia Drive, Kennewick, WA
4. Contact Name: Ken Nogeire
5. Phone Number: (509) 572-8163 | 6. Fax Number: (866) 727-0140
7. Email Address: ken.nogeire@pbsenv.com
8. State Facility ID # (if applicable):
9. State Waste Code (if applicable):

C. CUSTOMER/BILLING INFORMATION

1. Billing Name: NRC Environmental Services
2. Address: 720 N California Ave, Suite E
City: Pasco | County: Franklin
State: WA | Zip: 99301
3. Contact Name: Nancy Korgel
4. Phone Number: (509) 545-6110 | 5. Fax Number: (509) 547-6128
6. Email Address: nkorgel@nrcc.com
7. Is there a service agreement on file? ☐ YES ☐ NO
8. Agent / Consultant:
9. Letter of Authorization: ☐ YES ☐ NO

D. TRANSPORTER/SHIPPING INFORMATION

1. Name: NRC Environmental Services
2. Street Address: 720 N California Ave, Suite E
City: Pasco | State: WA | Zip: 99301
3. Phone Number: (509) 545-6110 | 4. Fax Number: (509) 547-6128
5. Contact Name: Erin McElaney
6. Email Address: emcelaney@nrcc.com
7. EPA or State Transporter ID #:
8. Packaging: ☐ Bulk Solids ☐ Bulk Liquids ☐ Drums ☐ Roll-Off ☒ Dump Truck ☐ Tank Truck ☐ Vacuum Box ☐ Bagged
9. Estimated Volume: 50 ☒ Tons ☐ Cubic Yards ☐ Drums ☐ Gallons ☐ Other: _____
10. Shipping Frequency: _____ per: ☒ One Time Project ☐ Month ☐ Quarter ☐ Year ☐ Other: _____

E. WASTE STREAM INFORMATION

1. Common Name of Material or Waste Stream:
Petroleum contaminated soils
2. Detailed Description of Process or How Generated (Attach additional sheet if needed):
Remediated soil from gas station
3. Physical State at 70°F: ☒ Solid ☐ Semi-Solid ☐ Sludge ☐ Liquid ☐ Powder ☐ Other _____
4. Free Liquids: ☒ NO ☐ YES % Liquids:
5. Color: | 6. pH Range:
7. Odor: ☐ None ☐ Mild ☐ Significant Describe:
8. Flash Point: ☐ °F ☐ °C
9. Reactive: ☐ NO ☐ YES with:
10. State Required Information (if applicable):

F. NON-HAZARDOUS DETERMINATION

1. Attached Document(s) (check all that apply): ☐ Not Applicable ☐ Process Knowledge ☐ MSDS ☒ Certified Analytical Report ☐ Exempt Waste
2. If Process Knowledge, provide details:
3. If analytical data is attached, is the data derived from testing a representative sample in accordance with 40 CFR 261 and/or other applicable laws?
☒ YES ☐ NO Type of Sample: ☐ Composite ☐ Grab Analysis Provided:
4. If Exempt Waste, check applicable item below: ☐ UST Corrective Action – 40 CFR 261.4(b)(10) ☐ PCB Bulk Product Waste – 40 CFR 761.62 ☐ Oil & Gas E&P Waste – 40 CFR 261.4(b)(5) ☐ RCRA-Empty Containers – 40 CFR 261.7 ☐ Other (provide reference):

G. GENERATOR CERTIFICATION STATEMENT:

I hereby certify that all information contained herein is true and correct, and the material described is properly identified, classified, packaged, labeled, and prepared as indicated. I certify this waste is not hazardous or dangerous as defined by the U.S. EPA, or the state or province of origin. I certify this waste does not contain any regulated radioactive materials, that all known and suspected hazards have been disclosed, and that the waste is not a regulated hazardous waste by government or local authority, and does not contain PCB's regulated by TSCA or any other regulatory authority. I certify that all samples used for this analysis are representative of the materials described herein. I understand that all wastes may undergo inspection upon arrival at the designated facility and may be refused if the delivered material does not conform to the description herein. Notification will be provided immediately if there is a change in the composition of, or process generating this waste stream, prior to offering the waste for shipment or management.

Ken Nogeire
AUTHORIZED REPRESENTATIVE NAME/TITLE

PBS Environmental
COMPANY NAME

AUTHORIZED REPRESENTATIVE SIGNATURE

10/1/12
DATE COMPLETED

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
e-mail: fbi@isomedia.com

October 1, 2012

Ken Nogeire, Project Manager
PBS Engineering and Environmental, Inc.
320 N. Johnson St. Suite 700
Kennewick, WA 99336

Dear Mr. Nogeire:

Included are the results from the testing of material submitted on September 14, 2012 from the Metro Mart PO 63257, F&BI 209211 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
PBS1001R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 14, 2012 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental Metro Mart PO 63257, F&BI 209211 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	PBS Engineering and Environmental
209211-01	SSP1-N
209211-02	SSP1-E
209211-03	SSP1-S
209211-04	SSP2-N
209211-05	SSP2-E
209211-06	SSP2-W

All quality control requirements were acceptable.

Date of Report: 10/01/12
Date Received: 09/14/12
Project: Metro Mart PO 63257, F&BI 209211
Date Extracted: 09/17/12
Date Analyzed: 09/19/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
SSP1-N 209211-01	<0.02	<0.02	<0.02	<0.06	15	95
SSP1-E 209211-02	<0.02	<0.02	<0.02	<0.06	16	96
SSP1-S 209211-03	<0.02	<0.02	<0.02	<0.06	15	94
SSP2-N 209211-04	<0.02	<0.02	<0.02	<0.06	75	95
SSP2-E 209211-05	<0.02	<0.02	<0.02	<0.06	<2	96
SSP2-W 209211-06	<0.02	<0.02	<0.02	<0.06	6.3	95
Method Blank 02-1680 MB	<0.02	<0.02	<0.02	<0.06	<2	99

Date of Report: 10/01/12
Date Received: 09/14/12
Project: Metro Mart PO 63257, F&BI 209211
Date Extracted: 09/17/12
Date Analyzed: 09/19/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SSP1-N 209211-01	960	<250	119
SSP1-E 209211-02	630	<250	108
SSP1-S 209211-03	480	<250	116
SSP2-N 209211-04	180	<250	128
SSP2-E 209211-05	<50	<250	110
SSP2-W 209211-06	<50	<250	118
Method Blank 02-1675 MB	<50	<250	110

Analysis For Total Metals By EPA Method 200.8

Client ID:	SSP1-N	Client:	PBS Engineering and Environmental
Date Received:	09/14/12	Project:	Metro Mart PO 63257, F&BI 209211
Date Extracted:	09/21/12	Lab ID:	209211-01
Date Analyzed:	09/24/12	Data File:	209211-01.060
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	89	60	125
Indium	74	60	125
Holmium	85	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	6.14
Arsenic	2.48
Selenium	<1
Silver	<1
Cadmium	<1
Barium	74.9
Lead	6.98

Analysis For Total Metals By EPA Method 200.8

Client ID:	SSP1-E	Client:	PBS Engineering and Environmental
Date Received:	09/14/12	Project:	Metro Mart PO 63257, F&BI 209211
Date Extracted:	09/21/12	Lab ID:	209211-02
Date Analyzed:	09/24/12	Data File:	209211-02.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	89	60	125
Indium	75	60	125
Holmium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	6.08
Arsenic	2.46
Selenium	<1
Silver	<1
Cadmium	<1
Barium	77.3
Lead	7.27

Analysis For Total Metals By EPA Method 200.8

Client ID:	SSP1-S	Client:	PBS Engineering and Environmental
Date Received:	09/14/12	Project:	Metro Mart PO 63257, F&BI 209211
Date Extracted:	09/21/12	Lab ID:	209211-03
Date Analyzed:	09/24/12	Data File:	209211-03.062
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	90	60	125
Indium	74	60	125
Holmium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	6.24
Arsenic	2.72
Selenium	<1
Silver	<1
Cadmium	<1
Barium	76.9
Lead	7.24

Analysis For Total Metals By EPA Method 200.8

Client ID:	SSP2-N	Client:	PBS Engineering and Environmental
Date Received:	09/14/12	Project:	Metro Mart PO 63257, F&BI 209211
Date Extracted:	09/21/12	Lab ID:	209211-04
Date Analyzed:	09/24/12	Data File:	209211-04.063
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	91	60	125
Indium	74	60	125
Holmium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	8.52
Arsenic	2.83
Selenium	<1
Silver	<1
Cadmium	<1
Barium	97.3
Lead	8.75

Analysis For Total Metals By EPA Method 200.8

Client ID:	SSP2-E	Client:	PBS Engineering and Environmental
Date Received:	09/14/12	Project:	Metro Mart PO 63257, F&BI 209211
Date Extracted:	09/21/12	Lab ID:	209211-05
Date Analyzed:	09/24/12	Data File:	209211-05.057
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	90	60	125
Indium	72	60	125
Holmium	85	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	8.93
Arsenic	2.85
Selenium	<1
Silver	<1
Cadmium	<1
Barium	106
Lead	13.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	SSP2-W	Client:	PBS Engineering and Environmental
Date Received:	09/14/12	Project:	Metro Mart PO 63257, F&BI 209211
Date Extracted:	09/21/12	Lab ID:	209211-06
Date Analyzed:	09/24/12	Data File:	209211-06.064
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	88	60	125
Indium	74	60	125
Holmium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	6.80
Arsenic	2.49
Selenium	<1
Silver	<1
Cadmium	<1
Barium	86.4
Lead	10.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	PBS Engineering and Environmental
Date Received:	NA	Project:	Metro Mart PO 63257, F&BI 209211
Date Extracted:	09/21/12	Lab ID:	I2-639 mb
Date Analyzed:	09/24/12	Data File:	I2-639 mb.055
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	81	60	125
Indium	80	60	125
Holmium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1

Date of Report: 10/01/12
Date Received: 09/14/12
Project: Metro Mart PO 63257, F&BI 209211
Date Extracted: 09/21/12
Date Analyzed: 09/26/12 and 09/28/12

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SSP1-N 209211-01	<0.1
SSP1-E 209211-02	0.12
SSP1-S 209211-03	<0.1
SSP2-N 209211-04	<0.1
SSP2-E 209211-05	<0.1
SSP2-W 209211-06	<0.1
Method Blank	<0.1
Method Blank	<0.1

Date of Report: 10/01/12
Date Received: 09/14/12
Project: Metro Mart PO 63257, F&BI 209211

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 209230-01 (Duplicate)

Analyte	Reporting Units	(Wet Wt) Sample Result	(Wet Wt) Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	87	66-121
Toluene	mg/kg (ppm)	0.5	92	72-128
Ethylbenzene	mg/kg (ppm)	0.5	92	69-132
Xylenes	mg/kg (ppm)	1.5	92	69-131
Gasoline	mg/kg (ppm)	20	90	61-153

Date of Report: 10/01/12
Date Received: 09/14/12
Project: Metro Mart PO 63257, F&BI 209211

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 209211-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	96	93	73-135	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	92	74-139

Date of Report: 10/01/12
Date Received: 09/14/12
Project: Metro Mart PO 63257, F&BI 209211

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 209211-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Chromium	mg/kg (ppm)	50	8.93	80	79	63-120	1
Arsenic	mg/kg (ppm)	10	2.85	99 b	98 b	56-125	1 b
Selenium	mg/kg (ppm)	5	<1	84	88	64-118	5
Silver	mg/kg (ppm)	10	<1	95	94	83-112	1
Cadmium	mg/kg (ppm)	10	<1	104	103	85-117	1
Barium	mg/kg (ppm)	50	106	108 b	106 b	65-132	2 b
Lead	mg/kg (ppm)	50	13.1	101 b	101 b	64-139	0 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	mg/kg (ppm)	50	99	81-117
Arsenic	mg/kg (ppm)	10	103	79-112
Selenium	mg/kg (ppm)	5	101	83-113
Silver	mg/kg (ppm)	10	97	85-113
Cadmium	mg/kg (ppm)	10	105	88-114
Barium	mg/kg (ppm)	50	111	87-113
Lead	mg/kg (ppm)	50	108	83-118

Date of Report: 10/01/12
Date Received: 09/14/12
Project: Metro Mart PO 63257, F&BI 209211

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 209211-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.1	109	114	54-156	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	81	73-131

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Friedman & Bruya
3012 16th Avenue W
Seattle, WA 98119
206.285.8282

209211

Chain of Custody Record ME 09-14-12

VS1 / AE2

Client Contact	Project Manager: K Nogeire	Site Contact: K Nogeire	Date: 9.13.12	COC No: 63257-c
PBS Engineering and Environmental	Tel/Fax:	Lab Contact: ME	Carrier:	1 of 2
320 N Johnson Street Suite 700	Analysis Turnaround Time			Job No. 63257-c
Kennewick, WA 99336	Calendar (C) or Work Days (W) _____			
509.735.2698	TAT if different from Below _____			SDG No.
ken.nogeire@pbsenv.com	■ 2 weeks			
Project Name: Metro Mart	☐ 1 week			
Site: 520 E Columbia Drive	☐ 2 days			
P O # 63257	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	NWTPH-Gx and BTEX	NWTPH-Dx	RCRA 8 metals	Lab	Sample Specific Notes:
SSP1-N	9.13.12	1200	soil	s	3	x	x	x	01 A-C	
SSP1-E	9.13.12	1200	soil	s	3	x	x	x	02 A-C	
SSP1-S	9.13.12	1200	soil	s	3	x	x	x	03 A-C	
SSP2-N	9.13.12	1200	soil	s	3	x	x	x	04 A-C	
SSP2-E	9.13.12	1200	soil	s	3	x	x	x	05 A-C	
SSP2-W	9.13.12	1200	soil	s	3	x	x	x	06 A-C	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☒ *Archive For* 1 *Months*

Special Instructions/QC Requirements & Comments: Please extract/preserve as necessary. Hold all analysis for now

Samples received at 4 °C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	PBS	9/13/12 1300		FeBI	9-14-12 0910
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

ATTACHMENT III

Laboratory Reports

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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May 22, 2012

Ken Nogeire, Project Manager
PBS Engineering and Environmental, Inc.
320 N. Johnson St. Suite 700
Kennewick, WA 99336

Dear Mr. Nogeire:

Included are the results from the testing of material submitted on May 4, 2012 from the 63257, F&BI 205067 project. There are 27 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
PBS0522R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 4, 2012 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental 63257, F&BI 205067 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	PBS Engineering and Environmental
205067-01	D1-3.0
205067-02	D2-3.5
205067-03	D3-3.5
205067-04	D4-3.5
205067-05	D5-3.5
205067-06	D6-3.5

The low level EDB analysis could not performed on sample D1-3.0 due to high concentrations of interfering compounds.

An 8270D internal standard failed the acceptance criteria for samples D5-3.5 and D6-3.5 due to matrix interferences. The data were flagged accordingly. The samples were diluted and reanalyzed.

All other quality control requirements were acceptable.

Date of Report: 05/22/12
Date Received: 05/04/12
Project: 63257, F&BI 205067
Date Extracted: 05/04/12
Date Analyzed: 05/05/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery) (Limit 50-150)
D1-3.0 205067-01	D	ND	ND	113
D2-3.5 205067-02	ND	ND	ND	92
D3-3.5 205067-03	D	D	ND	84
D4-3.5 205067-04	ND	ND	ND	107
D5-3.5 205067-05	ND	D	ND	99
D6-3.5 205067-06	ND	D	ND	ip
Method Blank 02-758 MB	ND	ND	ND	112

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

Date of Report: 05/22/12
Date Received: 05/04/12
Project: 63257, F&BI 205067
Date Extracted: 05/08/12
Date Analyzed: 05/08/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
D1-3.0 205067-01 1/1000	100	1,200	260	1,500	16,000	85
D3-3.5 205067-03 1/5	<0.02 j	0.93	2.3	84	1,200	109
Method Blank 02-0771 MB	<0.02	<0.02	<0.02	<0.06	<2	86

Date of Report: 05/22/12
Date Received: 05/04/12
Project: 63257, F&BI 205067
Date Extracted: 05/07/12
Date Analyzed: 05/07/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
D3-3.5 205067-03	1,400	<250	98
D5-3.5 205067-05	3,900	<250	96
D6-3.5 205067-06	30,000	580 x	84
Method Blank 02-770 MB	<50	<250	103

Analysis For Total Metals By EPA Method 200.8

Client ID:	D1-3.0	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/07/12	Lab ID:	205067-01
Date Analyzed:	05/08/12	Data File:	205067-01.014
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	14.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	D3-3.5	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/07/12	Lab ID:	205067-03
Date Analyzed:	05/08/12	Data File:	205067-03.015
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	10.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	D6-3.5	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/07/12	Lab ID:	205067-06
Date Analyzed:	05/08/12	Data File:	205067-06.016
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	7.12

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	PBS Engineering and Environmental
Date Received:	NA	Project:	63257, F&BI 205067
Date Extracted:	05/07/12	Lab ID:	I2-297 mb
Date Analyzed:	05/08/12	Data File:	I2-297 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	D1-3.0	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	205067-01
Date Analyzed:	05/10/12	Data File:	051012.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	76	62	142
Toluene-d8	70	55	145
4-Bromofluorobenzene	124	65	139

Compounds:	Concentration mg/kg (ppm)
Hexane	150 ve
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Naphthalene	12 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	D1-3.0	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	205067-01 1/100
Date Analyzed:	05/16/12	Data File:	051623.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Hexane	140
Methyl t-butyl ether (MTBE)	<5
1,2-Dichloroethane (EDC)	<5
1,2-Dibromoethane (EDB)	<5
Naphthalene	120

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	D3-3.5	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	205067-03
Date Analyzed:	05/10/12	Data File:	051011.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	62	142
Toluene-d8	94	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Naphthalene	18 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	D3-3.5	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	205067-03 1/10
Date Analyzed:	05/16/12	Data File:	051622.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Hexane	<2.5
Methyl t-butyl ether (MTBE)	<0.5
1,2-Dichloroethane (EDC)	<0.5
Naphthalene	18

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	PBS Engineering and Environmental
Date Received:	NA	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	02-0777 mb2
Date Analyzed:	05/10/12	Data File:	051006.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	62	142
Toluene-d8	91	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	D3-3.5	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/11/12	Lab ID:	205067-03
Date Analyzed:	05/11/12	Data File:	051118.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	88	50	150
4-Bromofluorobenzene	375 J vo	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005 J

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	PBS Engineering and Environmental
Date Received:	NA	Project:	63257, F&BI 205067
Date Extracted:	05/11/12	Lab ID:	02-0779 mb
Date Analyzed:	05/11/12	Data File:	051113.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	94	50	150
4-Bromofluorobenzene	92	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	D5-3.5	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	205067-05 1/5
Date Analyzed:	05/21/12	Data File:	052106.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90 J	50	150
Benzo(a)anthracene-d12	139 vo ca	50	129

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.024 J
2-Methylnaphthalene	0.47 J
1-Methylnaphthalene	0.76 J
Benz(a)anthracene	<0.01
Chrysene	0.021
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	D5-3.5	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	205067-05 1/50
Date Analyzed:	05/18/12	Data File:	051727.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	140 J ds	50	150
Benzo(a)anthracene-d12	153 ca ds	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
2-Methylnaphthalene	0.63
1-Methylnaphthalene	0.99
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	D6-3.5	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	205067-06 1/50
Date Analyzed:	05/18/12	Data File:	051728.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	241 ds J	50	150
Benzo(a)anthracene-d12	167 ds ca	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1 J
2-Methylnaphthalene	4.1 J
1-Methylnaphthalene	5.3 J
Benz(a)anthracene	<0.1
Chrysene	0.10
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	D6-3.5	Client:	PBS Engineering and Environmental
Date Received:	05/04/12	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	205067-06 1/500
Date Analyzed:	05/18/12	Data File:	051817.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	163 ds	50	150
Benzo(a)anthracene-d12	214 ds	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<1
2-Methylnaphthalene	3.7
1-Methylnaphthalene	4.9
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	PBS Engineering and Environmental
Date Received:	NA	Project:	63257, F&BI 205067
Date Extracted:	05/10/12	Lab ID:	02-0814 mb2 1/5
Date Analyzed:	05/14/12	Data File:	051419.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	119	50	150
Benzo(a)anthracene-d12	119	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Date of Report: 05/22/12
Date Received: 05/04/12
Project: 63257, F&BI 205067

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 205075-06 (Duplicate)

Analyte	Reporting Units	(Wet Wt) Sample Result	(Wet Wt) Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	78	69-120
Toluene	mg/kg (ppm)	0.5	84	70-117
Ethylbenzene	mg/kg (ppm)	0.5	84	65-123
Xylenes	mg/kg (ppm)	1.5	85	66-120
Gasoline	mg/kg (ppm)	20	100	71-131

Date of Report: 05/22/12
Date Received: 05/04/12
Project: 63257, F&BI 205067

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205067-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	3,000	110	118	64-133	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	104	58-147

Date of Report: 05/22/12
Date Received: 05/04/12
Project: 63257, F&BI 205067

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 205079-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	49.0	76 b	90 b	64-139	17 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	102	83-118

Date of Report: 05/22/12
Date Received: 05/04/12
Project: 63257, F&BI 205067

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 205115-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Hexane	mg/kg (ppm)	2.5	<0.25	12	10-137
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	54	21-145
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	62	12-160
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	64	28-142
Naphthalene	mg/kg (ppm)	2.5	<0.05	60	14-157

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Hexane	mg/kg (ppm)	2.5	81	82	43-142	1
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	90	81	60-123	11
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	97	97	56-135	0
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	102	102	74-132	0
Naphthalene	mg/kg (ppm)	2.5	106	105	60-125	1

Date of Report: 05/22/12
Date Received: 05/04/12
Project: 63257, F&BI 205067

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	90	99	70-130	10

Date of Report: 05/22/12
Date Received: 05/04/12
Project: 63257, F&BI 205067

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	97	97	58-121	0
2-Methylnaphthalene	mg/kg (ppm)	0.17	80	91	58-123	13
1-Methylnaphthalene	mg/kg (ppm)	0.17	87	93	60-124	7
Benz(a)anthracene	mg/kg (ppm)	0.17	92	94	51-115	2
Chrysene	mg/kg (ppm)	0.17	99	99	55-129	0
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	106	113	56-123	6
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	101	100	54-131	1
Benzo(a)pyrene	mg/kg (ppm)	0.17	96	99	51-118	3
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	99	104	49-148	5
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	105	107	50-141	2

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205067

SAMPLE CHAIN OF CUSTODY ME 05/04/12

VS1/B04

Page # ______ of ______

Send Report To Ken.nogeire@pbsenv.com

Company PBS

Address 320 N Johnson St. #700

City, State, ZIP Kennewick, WA 99336

Phone # 509.735.2698 Fax # ______

SAMPLERS (*signature*)

PROJECT NAME/NO. 63257

PO#

REMARKS Please call me when results are known to confirm need for additional analysis

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour

Rush charges authorized by Nogeire

SAMPLE DISPOSAL
- ☒ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	HCID	TOTAL Pb	EDB, EDC, hex, naphthalene	cPAHs + naphthalene		Notes
D1-3.0	01 A-E	5.2.12		Soil	5		⊗	⊗				X	⊗	✓			⊗ - per KN 05/07/12
D2-3.5	02 A-E	↓		↓	5							X					
D3-3.5	03 A-D	↓		↓	5	⊗	⊗	✓ (circled)				X	⊗	✓			✓ - per KN 5/9/12 me
D4-3.5	04 A-E	↓		↓	5							X					
D5-3.5	05 A-E	↓		↓	5	⊗						X			✓		
D6-3.5	06 A-E	↓		↓	5	⊗						X	⊗		✓		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Ken Nogeire	PBS	5.3.12	900
Received by: [signature]	Nhan Phan	FeBI	5/4/12	0850
Relinquished by:				
Received by:		Samples received at 2 °C		

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
e-mail: fbi@isomedia.com

May 16, 2012

Ken Nogeire, Project Manager
PBS Engineering and Environmental, Inc.
320 N. Johnson St. Suite 700
Kennewick, WA 99336

Dear Ms. Nogeire:

Included are the results from the testing of material submitted on May 11, 2012 from the 63257-2, F&BI 205159 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
PBS0516R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 11, 2012 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental 63257-2, F&BI 205159 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	PBS Engineering and Environmental
205159-01	SP1-N
205159-02	SP1-E
205159-03	SP1-W
205159-04	SP2-N
205159-05	SP2-N
205159-06	SP2-S
205159-07	SP3-N
205159-08	SP3-E
205159-09	SP3-W
205159-10	D1-6.5
205159-11	D1-10
205159-12	D3-6.5
205159-13	D3-10
205159-14	D5-6.0
205159-15	D5-9.0
205159-16	D6-6

All quality control requirements were acceptable.

Date of Report: 05/16/12
Date Received: 05/11/12
Project: 63257-2, F&BI 205159
Date Extracted: 05/11/12
Date Analyzed: 05/11/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery) (Limit 50-150)
SP2-N 205159-04	ND	ND	ND	86
SP2-N 205159-05	ND	ND	ND	84
SP2-S 205159-06	ND	ND	ND	83
Method Blank 02-824 MB	ND	ND	ND	89

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

Date of Report: 05/16/12
Date Received: 05/11/12
Project: 63257-2, F&BI 205159
Date Extracted: 05/11/12
Date Analyzed: 05/11/12 and 05/14/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SP1-N 205159-01	<0.02	0.12	0.046	1.6	33	86
SP1-E 205159-02 1/100	5.4	300	100	730	7,500	86
SP1-W 205159-03	<0.02	0.34	<0.02	11	260	108
SP3-N 205159-07	<0.02	0.12	<0.02	4.4	290	139
SP3-E 205159-08	<0.02	0.038	0.13	3.0	93	89
SP3-W 205159-09	<0.02	<0.02	<0.02	<0.06	<2	82
D1-10 205159-11	0.043	0.39	<0.02	0.62	4.2	83
D3-10 205159-13	<0.02	<0.02	<0.02	<0.06	<2	82
Method Blank 02-0823 MB	<0.02	<0.02	<0.02	<0.06	<2	80

Date of Report: 05/16/12
Date Received: 05/11/12
Project: 63257-2, F&BI 205159
Date Extracted: 05/11/12
Date Analyzed: 05/11/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SP3-N 205159-07	1,600	<250	95
SP3-E 205159-08	<50	<250	98
SP3-W 205159-09	760	<250	96
D3-10 205159-13	<50	<250	108
D5-9.0 205159-15	71	<250	96
D6-6 205159-16	9,400	<250	106
Method Blank 02-825 MB	<50	<250	107

Date of Report: 05/16/12
Date Received: 05/11/12
Project: 63257-2, F&BI 205159

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 205159-13 (Duplicate)

Analyte	Reporting Units	(Wet Wt) Sample Result	(Wet Wt) Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	81	69-120
Toluene	mg/kg (ppm)	0.5	85	70-117
Ethylbenzene	mg/kg (ppm)	0.5	84	65-123
Xylenes	mg/kg (ppm)	1.5	84	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 05/16/12
Date Received: 05/11/12
Project: 63257-2, F&BI 205159

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205165-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	97	98	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	79-144

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205159

SAMPLE CHAIN OF CUSTODY

ME 05-11-12 BI2/VS2

Page # 1 of 2

Send Report To Ken.nogeire@pbsenv.com

Company PBS Engineering and Environmental

Address 320 N. Johnson St. #700

City, State, ZIP Kennewick, WA 99336

Phone # 509.572.8163 Fax #

SAMPLERS (signature) Ken Nogeire

PROJECT NAME/NO. 63257-2

PO#

REMARKS Hello, please call me when received and logged in. Thanks

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☑ RUSH 1 week

Rush charges authorized by

SAMPLE DISPOSAL
- ☑ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	HCID						Notes
						ANALYSES REQUESTED												
SP1-N	01A-C	5/9/12	1200	soil	3-4		X	X										
SP1-E	02						X	X										
SP1-W	03						X	X										
SP2-N	04A-C											X						24 hour turnaround
SP2-S	05											X						24 hour turnaround
SP2-E	06											X						"
SP3-N	07					X	X	X										
SP3-E	08					X	X	X										
SP3-W	09					X	X	X										

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Ken Nogeire	PBS	5/10/12	900am
Received by:	D d VO	F+BI	5-11-12	9.00
Relinquished by:		Samples received at 4 °C		
Received by:				

FORMS\COC\COC.DOC

205159

SAMPLE CHAIN OF CUSTODY ME 05-11-12

BE2/VS2

Page # 2 of 2

Send Report To Ken Nogeire

Company PBS

Address

City, State, ZIP

Phone # 509.572.8163 Fax #

SAMPLERS *(signature)*	
PROJECT NAME/NO. 63257-2	PO#
REMARKS	

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☐ RUSH
- Rush charges authorized by

SAMPLE DISPOSAL
- ☑ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
						ANALYSES REQUESTED												
D1-6.5	10AC	5.9.12	1200	Soil	3-4													hold
D1-10	11AC	↓	↓	↓	↓		X	X										
D3-6.5	12AD																	hold
D3-10	13					X	X	X										
D5-6.0	14																	hold
D5-9.0	15					X												
D6-6	16	↓	↓	↓	↓	X												

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Ken Nogeire	PBS	5.10.12	900
Received by:	D d VO	F & BI	5/11/12	9:10
Relinquished by:		Samples received at 4 °C		
Received by:				

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
e-mail: fbi@isomedia.com

September 10, 2012

Ken Nogeire, Project Manager
PBS Engineering and Environmental, Inc.
320 N. Johnson St. Suite 700
Kennewick, WA 99336

Dear Mr. Nogeire:

Included are the results from the testing of material submitted on August 29, 2012 from the Metro Mart 63257-a, F&BI 208409 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
PBS0910R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 29, 2012 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental Metro Mart 63257-a, F&BI 208409 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	PBS Engineering and Environmental
208409-01	SB1-3.0
208409-02	SB2-4.5
208409-03	SB3-3.0
208409-04	SB4-2.5
208409-05	SB5-2.5
208409-06	SB6-4.0
208409-07	SB7-3.5
208409-08	SB8-3.0
208409-09	SB9-2.0
208409-10	SB10-2.0
208409-11	SB11-2.0
208409-12	SB12-4.5
208409-13	SB13-4.0
208409-14	SB14-2.5

All quality control requirements were acceptable.

Date of Report: 09/10/12
Date Received: 08/29/12
Project: Metro Mart 63257-a, F&BI 208409
Date Extracted: 09/04/12
Date Analyzed: 09/04/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery) (Limit 50-150)
SB4-2.5 208409-04	ND	ND	ND	100
SB7-3.5 208409-07	ND	ND	ND	110
SB8-3.0 208409-08	ND	ND	ND	100
SB13-4.0 208409-13	ND	ND	ND	127
Method Blank 02-1572 MB	ND	ND	ND	89

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

Date of Report: 09/10/12
Date Received: 08/29/12
Project: Metro Mart 63257-a, F&BI 208409
Date Extracted: 09/04/12
Date Analyzed: 09/04/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB1-3.0 208409-01	<0.02	<0.02	<0.02	<0.06	<2	89
SB2-4.5 208409-02	<0.02	<0.02	<0.02	<0.06	<2	92
SB6-4.0 208409-06	<0.02	<0.02	<0.02	<0.06	<2	90
Method Blank 02-1568 MB	<0.02	<0.02	<0.02	<0.06	<2	91

Date of Report: 09/10/12
Date Received: 08/29/12
Project: Metro Mart 63257-a, F&BI 208409
Date Extracted: 09/04/12
Date Analyzed: 09/05/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
SB6-4.0 208409-06	<50	<250	93
SB9-2.0 208409-09	<50	<250	85
SB10-2.0 208409-10	<50	<250	97
SB11-2.0 208409-11	<50	<250	99
Method Blank 02-1564 MB	<50	<250	95

Date of Report: 09/10/12
Date Received: 08/29/12
Project: Metro Mart 63257-a, F&BI 208409

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 209004-02 (Duplicate)

Analyte	Reporting Units	(Wet Wt) Sample Result	(Wet Wt) Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	100	69-120
Toluene	mg/kg (ppm)	0.5	96	70-117
Ethylbenzene	mg/kg (ppm)	0.5	96	65-123
Xylenes	mg/kg (ppm)	1.5	95	66-120
Gasoline	mg/kg (ppm)	20	100	71-131

Date of Report: 09/10/12
Date Received: 08/29/12
Project: Metro Mart 63257-a, F&BI 208409

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 208478-10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	113	111	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	58-147

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

208409

ME 08/29/12 VS2/BI3

Friedman & Bruya
3012 16th Avenue W
Seattle, WA 98119
206.285.8282

Chain of Custody Record

Client Contact	Project Manager: K Nogeire	Site Contact: K Nogeire	Date: 8.28.12	COC No: 63257-a
PBS Engineering and Environmental	Tel/Fax:	Lab Contact: ME	Carrier:	1 of 2
320 N Johnson Street Suite 700	Analysis Turnaround Time			Job No. 63257-a
Kennewick, WA 99336	Calendar (C) or Work Days (W) _____			
509.735.2698	TAT if different from Below _____			SDG No.
ken.nogeire@pbsenv.com	■ 2 weeks			
Project Name: Metro Mart	☐ 1 week			
Site: 520 E Columbia Drive	☐ 2 days			
P O # 63257-a	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	NWTPH Gx/BTEX	NWTPH-Dx	HCID	Lab ID	Sample Specific Notes:
SB1-3.0	8.27.12	1200	soil	s	3	X			01 A-C	X-perk
SB2-4.5	8.27.12	1200	soil	s	3	X			02 A-C	
SB3-3.0	8.27.12	1200	soil	s	3				03 A-C	
SB4-2.5	8.27.12	1200	soil	s	3			X	04 A-C	
SB5-2.5	8.27.12	1200	soil	s	3				05 A-C	
SB6-4.0	8.27.12	1200	soil	s	3	X	X		06 A-C	
SB7-3.5	8.27.12	1200	soil	s	3			X	07 A-C	
SB8-3.0	8.27.12	1200	soil	s	3			X	08 A-C	
SB9-2.0	8.27.12	1200	soil	s	3		X		09 A-C	
SB10-2.0	8.27.12	1200	soil	s	3		X		10 A-C	
SB11-2.0	8.27.12	1200	soil	s	3		X		11 A-C	
SB12-4.5	8.27.12	1200	soil	s	3				12 A-C	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ■ *Archive For* 1 *Months*

Special Instructions/QC Requirements & Comments: Please extract/preserve as necessary. Hold all analysis for now

Relinquished by:	Company: PBS	Date/Time: 8/28/12 1200	Received by:	Company: FedEx	Date/Time: 08/29/12 0940
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Samples received at 4 °C

Friedman & Bruya
3012 16th Avenue W
Seattle, WA 98119
206.285.8282

208409

Chain of Custody Record

ME 08/29/12

VS2 / BI3

Client Contact	Project Manager: K Nogeire	Site Contact: K Nogeire	Date: 8.28.12	COC No: 63257-a
PBS Engineering and Environmental	Tel/Fax:	Lab Contact: ME	Carrier:	2 of 2
320 N Johnson Street Suite 700	Analysis Turnaround Time			Job No. 63257-a
Kennewick, WA 99336	Calendar (C) or Work Days (W) _____			
509.735.2698	TAT if different from Below _____			SDG No.
ken.nogeire@pbsenv.com	■ 2 weeks			
Project Name: Metro Mart	☐ 1 week			
Site: 520 E Columbia Drive	☐ 2 days			
P O # 63257-a	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	NWTPH-Gx/BTEX	NWTPH-Dx	HCID	Lab ID	Archive	Sample Specific Notes:
SB13-4.0	8.27.12	1200	soil	s	3			X	13 A-C	A-C	(NP)
SB14-2.5	8.27.12	1200	soil	s	3				14 A-C	A-C	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ■ *Archive For* 1 *Months*

Special Instructions/QC Requirements & Comments: Please extract/preserve as necessary. Hold all analysis for now

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PBS	8.28.12 1200	[signature]	FEBI	08/29/12 09:40
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
e-mail: fbi@isomedia.com

September 18, 2012

Ken Nogeire, Project Manager
PBS Engineering and Environmental, Inc.
320 N. Johnson St. Suite 700
Kennewick, WA 99336

Dear Mr. Nogeire:

Included are the results from the testing of material submitted on August 31, 2012 from the Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
PBS0918R.DOC
c: Averie Powell, Heidi Yantz

CASE NARRATIVE

This case narrative encompasses samples received on August 31, 2012 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	PBS Engineering and Environmental
208478-01	SB1-8.0
208478-02	SB1-12.0
208478-03	SB2-8.0
208478-04	SB2-12.0
208478-05	SB2-16.0
208478-06	SB3-8.0
208478-07	SB3-16.0
208478-08	SB4-8.0
208478-09	SB4-12.0
208478-10	SB5-8.0
208478-11	SB5-12.0
208478-12	SB5-16.0
208478-13	SB6-8.0
208478-14	SB6-12.0
208478-15	SB6-16.0
208478-16	SB7-8.0
208478-17	SB7-12.0
208478-18	SB8-8.0
208478-19	SB8-16.0
208478-20	SB9-8.0
208478-21	SB9-12.0
208478-22	SB10-8.0
208478-23	SB10-12.0
208478-24	SB11-8.0
208478-25	SB11-12.0
208478-26	SB12-8.0
208478-27	SB12-12.0
208478-28	SB13-8.0
208478-29	SB13-12.0
208478-30	SB14-8.0

CASE NARRATIVE (Continued)

Laboratory ID	PBS Engineering and Environmental
208478-31	SB14-12.0
208478-32	BR-8.29.12
208478-33	SB2-W
208478-34	SB11-W
208478-35	SB12-W

The 8270D SIM 2-methylnaphthalene results in the method blank was due to the presence of carryover from a previous sample injection. The result was flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478
Date Extracted: 09/04/12
Date Analyzed: 09/04/12 and 09/05/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery) (Limit 50-150)
SB6-8.0 208478-13	ND	ND	ND	125
SB12-8.0 208478-26	ND	ND	ND	114
SB13-12.0 208478-29	ND	ND	ND	108
SB14-8.0 208478-30	ND	ND	ND	101
SB14-12.0 208478-31	ND	ND	ND	99
Method Blank 02-1572 MB	ND	ND	ND	89

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478
Date Extracted: 09/04/12
Date Analyzed: 09/04/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING EPA METHOD 8015M

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB3-8.0 208478-06	<2	92
SB3-16.0 208478-07	<2	92
Method Blank 02-1665 MB	<2	72

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478
Date Extracted: 09/04/12
Date Analyzed: 09/04/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB1-12.0 208478-02	<0.02	<0.02	<0.02	<0.06	<2	90
SB2-12.0 208478-04	<0.02	0.033	<0.02	0.91	4.1	87
SB4-12.0 208478-09	<0.02	<0.02	<0.02	<0.06	<2	91
SB5-8.0 208478-10	<0.02	<0.02	<0.02	<0.06	<2	90
SB5-16.0 208478-12	<0.02	<0.02	<0.02	<0.06	<2	90
BR-8.29.12 208478-32	<0.02	<0.02	<0.02	<0.06	<2	90
Method Blank 02-1568 MB	<0.02	<0.02	<0.02	<0.06	<2	91

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478
Date Extracted: 09/06/12
Date Analyzed: 09/07/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB2-W 208478-33	<1	4.3	<1	8.4	<100	88
SB11-W 208478-34	<1	<1	<1	<3	<100	90
SB12-W 208478-35	<1	<1	<1	<3	<100	91
Method Blank 02-1595 MB	<1	<1	<1	<3	<100	96

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478
Date Extracted: 09/04/12
Date Analyzed: 09/05/12

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
SB5-8.0 208478-10	<50	<250	105
SB5-16.0 208478-12	<50	<250	97
SB7-8.0 208478-16	<50	<250	108
SB8-8.0 208478-18	<50	<250	110
SB9-12.0 208478-21	<50	<250	103
SB10-8.0 208478-22	<50	<250	105
SB10-12.0 208478-23	<50	<250	109
SB11-8.0 208478-24	<50	<250	106
Method Blank 02-1564 MB	<50	<250	95

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478
Date Extracted: 09/05/12
Date Analyzed: 09/06/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SB2-W 208478-33	<50	<250	114
SB11-W 208478-34	490 x	<250	131
SB12-W 208478-35	<50	<250	119
Method Blank 02-1566 MB2	<50	<250	122

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB11-W	Client:	PBS Engineering and Environmental
Date Received:	08/31/12	Project:	Metro Mart 63257, F&BI 208478
Date Extracted:	09/06/12	Lab ID:	208478-34 1/2
Date Analyzed:	09/10/12	Data File:	091006.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	103	50	150
Benzo(a)anthracene-d12	114	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
2-Methylnaphthalene	<0.1
1-Methylnaphthalene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	PBS Engineering and Environmental
Date Received:	Not Applicable	Project:	Metro Mart 63257, F&BI 208478
Date Extracted:	09/06/12	Lab ID:	02-1587 mb
Date Analyzed:	09/12/12	Data File:	091209.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	98	50	150
Benzo(a)anthracene-d12	112	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.05
2-Methylnaphthalene	0.068 lc
1-Methylnaphthalene	<0.05

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 209004-02 (Duplicate)

Analyte	Reporting Units	(Wet Wt) Sample Result	(Wet Wt) Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	100	69-120
Toluene	mg/kg (ppm)	0.5	96	70-117
Ethylbenzene	mg/kg (ppm)	0.5	96	65-123
Xylenes	mg/kg (ppm)	1.5	95	66-120
Gasoline	mg/kg (ppm)	20	100	71-131

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 208479-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	102	72-119
Toluene	ug/L (ppb)	50	98	71-113
Ethylbenzene	ug/L (ppb)	50	98	72-114
Xylenes	ug/L (ppb)	150	92	72-113
Gasoline	ug/L (ppb)	1,000	106	70-119

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 208478-10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	113	111	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	58-147

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	97	102	61-133	5

Date of Report: 09/18/12
Date Received: 08/31/12
Project: Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	1	94	92	61-109	2
2-Methylnaphthalene	ug/L (ppb)	1	88	86	57-115	2
1-Methylnaphthalene	ug/L (ppb)	1	92	89	64-112	3

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

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Seattle, WA 98119
206.285.8282

208478

Chain of Custody Record

ME 08/31/12 VS3/V2/D03

Client Contact	Project Manager: K Nogeire	Site Contact: K Nogeire	Date: 8.30.12	COC No: 63257-b
PBS Engineering and Environmental	Tel/Fax:	Lab Contact: ME	Carrier:	1 of 3
320 N Johnson Street Suite 700	Analysis Turnaround Time			Job No. 63257-b
Kennewick, WA 99336	Calendar (C) or Work Days (W)			
509.735.2698	TAT if different from Below			SDG No.
ken.nogeire@pbsenv.com	■ 2 weeks			
Project Name: Metro Mart	☐ 1 week			
Site: 520 E Columbia Drive	☐ 2 days			
P O # 63257	☐ 1 day			

Sample Identification	Lab ID	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	NWTPH-Gx and BTEX	NWTPH-Gx	NWTPH-Dx	Naphthalenes	HCID	Sample Specific Notes:
SB1-8.0	01A-C	8/29/12	1200	soil	s	3						
SB1-12.0	02A-C	8/29/12	1200	soil	s	3	x					
SB2-8.0	03A-C	8/29/12	1200	soil	s	3						
SB2-12.0	04A-C	8/29/12	1200	soil	s	3	x					
SB2-16.0	05A-C	8/29/12	1200	soil	s	3						
SB3-8.0	06A-C	8/29/12	1200	soil	s	3		x				
SB3-16.0	07A-C	8/29/12	1200	soil	s	3		x				
SB4-8.0	08A-C	8/29/12	1200	soil	s	3						
SB4-12.0	09A-C	8/29/12	1200	soil	s	3	x					
SB5-8.0	10A-C	8/29/12	1200	soil	s	3	x		x			
SB5-12.0	11A-C	8/29/12	1200	soil	s	3						
SB5-16.0	12A-C	8/29/12	1200	soil	s	3	x		x			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ■ *Archive For* 1 *Months*

Special Instructions/QC Requirements & Comments:

Samples received at 5 °C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	PBS	8/30/12 1400		FEBI	08/31/12 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Samples received at 5 °C

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208478

Chain of Custody Record

ME 08/31/12 VS3/V2/D03

Client Contact	Project Manager: K Nogeire	Site Contact: K Nogeire	Date: 8.30.12	COC No: 63257-b
PBS Engineering and Environmental	Tel/Fax:	Lab Contact: ME	Carrier:	2 of 3
320 N Johnson Street Suite 700	Analysis Turnaround Time			Job No. 63257-b
Kennewick, WA 99336	Calendar (C) or Work Days (W)			
509.735.2698	TAT if different from Below			SDG No.
ken.nogeire@pbsenv.com	■ 2 weeks			
Project Name: Metro Mart	☐ 1 week			
Site: 520 E Columbia Drive	☐ 2 days			
PO # 63257	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	NWTPH-Gx and BTEX	NWTPH-Gx	NWTPH-Dx	Naphthalene	HCID	Sample Specific Notes:
SB6-8.0 13A-C	8/29/12	1200	soil	s	3					x	
SB6-12.0 14A-C	8/29/12	1200	soil	s	3						
SB6-16.0 15A-C	8/29/12	1200	soil	s	3						
SB7-8.0 16A-C	8/29/12	1200	soil	s	3			x			
SB7-12.0 17A-C	8/29/12	1200	soil	s	3						
SB8-8.0 18A-C	8/29/12	1200	soil	s	3			x			
SB8-12.0	8/29/12	1200	soil	s	3						Not Prosessed SB
SB8-16.0 19A-C	8/29/12	1200	soil	s	3						
SB9-8.0 20	8/29/12	1200	soil	s	1						
SB9-12.0 21	8/29/12	1200	soil	s	1			x			
SB10-8.0 22A-C	8/29/12	1200	soil	s	3			x			
SB10-12.0 23	8/29/12	1200	soil	s	1			x			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ■ X Archive For 1 Months

Special Instructions/QC Requirements & Comments:

Samples received at 5 °C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PBS	8/30/12 1400	[signature]	FedEx	08/31/12 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Samples received at 5 °C

Friedman & Bruya
3012 16th Avenue W
Seattle, WA 98119
206.285.8282

208 478

Chain of Custody Record

ME 08/31/12 VSB/12/D03

Client Contact	Project Manager: K Nogeire	Site Contact: K Nogeire	Date: 8.30.12	COC No: 63257-b
PBS Engineering and Environmental	Tel/Fax:	Lab Contact: ME	Carrier:	3 of 3
320 N Johnson Street Suite 700	Analysis Turnaround Time			Job No. 63257-b
Kennewick, WA 99336	Calendar (C) or Work Days (W)			
509.735.2698	TAT if different from Below			SDG No.
ken.nogeire@pbsenv.com	■ 2 weeks			
Project Name: Metro Mart	☐ 1 week			
Site: 520 E Columbia Drive	☐ 2 days			
PO# 63257	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	NWTPH-Gx and BTEX	NWTPH-Gx	NWTPH-Dx	Naphthalenes	HCID	Sample Specific Notes
SB11-8.0 24 AC	8/29/12	1200	soil	s	3			x			
SB11-12.0 25	8/29/12	1200	soil	s	1						4 oz jar only
SB12-8.0 26 AC	8/29/12	1200	soil	s	3					x	
SB12-12.0 27 AC	8/29/12	1200	soil	s	3						
SB13-8.0 28 AC	8/29/12	1200	soil	s	3						
SB13-12.0 29 AC	8/29/12	1200	soil	s	3					x	
SB14-8.0 30 AC	8/29/12	1200	soil	s	3					x	
SB14-12.0 31 AC	8/29/12	1200	soil	s	3					x	
BR-8.29.12 32 AB	8/29/12	1200	soil	s	2	x					
SB2-W 33 AD	8/29/12	1200	water	w	4	x		x			+3 VOA
SB11-W 34 AD	8/29/12	1200	water	w	4	x		x	x		+3 VOA
SB12-W 35 AD	8/29/12	1200	water	w	4	x		x			+3 VOA

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ■ X Archive For 1 Months

Special Instructions/QC Requirements & Comments:

Samples received at _____ °C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	PBS	8/30/12 1400		FEBT	08/31/12 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Samples received at 5 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
e-mail: fbi@isomedia.com

October 11, 2012

Ken Nogeire, Project Manager
PBS Engineering and Environmental, Inc.
320 N. Johnson St. Suite 700
Kennewick, WA 99336

Dear Mr. Nogeire:

Included are the additional results from the testing of material submitted on August 31, 2012 from the 520 E Columbia Drive PO 63257, F&BI 208478 project. There are 5 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
PBS1011R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 31, 2012 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental Metro Mart 520 E. Columbia.Drive 63257, F&BI 208478 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	PBS Engineering and Environmental
208478-01	SB1-8.0
208478-02	SB1-12.0
208478-03	SB2-8.0
208478-04	SB2-12.0
208478-05	SB2-16.0
208478-06	SB3-8.0
208478-07	SB3-16.0
208478-08	SB4-8.0
208478-09	SB4-12.0
208478-10	SB5-8.0
208478-11	SB5-12.0
208478-12	SB5-16.0
208478-13	SB6-8.0
208478-14	SB6-12.0
208478-15	SB6-16.0
208478-16	SB7-8.0
208478-17	SB7-12.0
208478-18	SB8-8.0
208478-19	SB8-16.0
208478-20	SB9-8.0
208478-21	SB9-12.0
208478-22	SB10-8.0
208478-23	SB10-12.0
208478-24	SB11-8.0
208478-25	SB11-12.0
208478-26	SB12-8.0
208478-27	SB12-12.0
208478-28	SB13-8.0
208478-29	SB13-12.0
208478-30	SB14-8.0

CASE NARRATIVE (Continued)

Laboratory ID	PBS Engineering and Environmental
208478-31	SB14-12.0
208478-32	BR-8.29.12
208478-33	SB2-W
208478-34	SB11-W
208478-35	SB12-W

All quality control requirements were acceptable.

Date of Report: 10/11/12
Date Received: 08/31/12
Project: 520 E Columbia Drive PO 63257, F&BI 208478
Date Extracted: 09/05/12
Date Analyzed: 10/09/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
SB11-W 208478-34	<60	<300	123
Method Blank 02-1566 MB2	<50	<250	77

Date of Report: 10/11/12
Date Received: 08/31/12
Project: 520 E Columbia Drive PO 63257, F&BI 208478

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	86	63-142	11

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

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Seattle, WA 98119
206.285.8282

208478

Chain of Custody Record

ME 08/31/12 VS3/V2/D03

Client Contact	Project Manager: K Negaire	Site Contact: K Negaire	Date: 8.30.12	COC No: 63257-b
PBS Engineering and Environmental	Tel/Fax:	Lab Contact: ME	Carrier:	1 of 3
320 N Johnson Street Suite 700	Analysis Turnaround Time			Job No. 63257-b
Kennewick, WA 99336	Calendar (C) or Work Days (W)			
509.735.2698	TAT if different from Below			SDG No.
ken.negaire@pbseny.com	■ 2 weeks			
Project Name: Metro Mart	☐ 1 week			
Site: 520 E Columbia Drive	☐ 2 days			
P O # 63257	☐ 1 day			

Sample Identification	Lab ID	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	NWTPH-Gx and BTEX	NWTPH-Gx	NWTPH-Dx	Naphthalene	ECD	Sample Specific Notes:
SB1-8.0	01A-C	8/29/12	1200	soil	s	3						
SB1-12.0	02A-C	8/29/12	1200	soil	s	3	x					
SB2-8.0	03A-C	8/29/12	1200	soil	s	3						
SB2-12.0	04A-C	8/29/12	1200	soil	s	3	x					
SB2-16.0	05A-C	8/29/12	1200	soil	s	3						
SB3-8.0	06A-C	8/29/12	1200	soil	s	3		x				
SB3-16.0	07A-C	8/29/12	1200	soil	s	3		x				
SB4-8.0	08A-C	8/29/12	1200	soil	s	3						
SB4-12.0	09A-C	8/29/12	1200	soil	s	3	x					
SB5-8.0	10A-C	8/29/12	1200	soil	s	3	x		x			
SB5-12.0	11A-C	8/29/12	1200	soil	s	3						
SB5-16.0	12A-C	8/29/12	1200	soil	s	3	x		x			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
■ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ■ X *Archive For* 1 *Months*

Special Instructions/QC Requirements & Comments:

Samples received at 5 °C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	PBS	8/30/12 1400		FEBI	08/31/12 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Samples received at 5 °C

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208478

Chain of Custody Record

ME 08/31/12 V-S3/V2/D83

Client Contact	Project Manager: K Negeire	Site Contact: K Negeire	Date: 8.30.12	COC No: 63257-b
PBS Engineering and Environmental	Tel/Fax:	Lab Contact: ME	Carrier:	2 of 3
320 N Johnson Street Suite 700	Analysis Turnaround Time			Job No. 63257-b
Kennewick, WA 99336	Calendar (C) or Work Days (W)			
509.735.2698	TAT if different from Below			SDG No.
ken.negeire@pbsenv.com	■ 2 weeks			
Project Name: Metro Mart	☐ 1 week			
Site: 520 E Columbia Drive	☐ 2 days			
PO # 63257	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	NWTPH-Gx and BTEX	NWTPH-Gx	NWTPH-Dx	Naphthalenes	HCID	Sample Specific Notes:
SB6-8.0 13A-C	8/29/12	1200	soil	s	3					x	
SB6-12.0 14A-C	8/29/12	1200	soil	s	3						
SB6-16.0 15A-C	8/29/12	1200	soil	s	3						
SB7-8.0 16A-C	8/29/12	1200	soil	s	3			x			
SB7-12.0 17A-C	8/29/12	1200	soil	s	3						
SB8-8.0 18A-C	8/29/12	1200	soil	s	3			x			
SB8-12.0	8/29/12	1200	soil	s	3						Not Analyzed per PB
SB8-16.0 19A-C	8/29/12	1200	soil	s	3						
SB9-8.0 20	8/29/12	1200	soil	s	1						
SB9-12.0 21	8/29/12	1200	soil	s	1			x			
SB10-8.0 22A-C	8/29/12	1200	soil	s	3			x			
SB10-12.0 23	8/29/12	1200	soil	s	1			x			

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other

Possible Hazard Identification
■ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ■ X Archive For 1 Months

Special Instructions/QC Requirements & Comments:

Samples received at 5 °C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	PBS	8/30/12 1400		FedEx	08/31/12 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Samples received at 5 °C

Friedman & Bruya
3012 16th Avenue W
Seattle, WA 98119
206.285.8282

208 478

Chain of Custody Record

ME 08/31/12 VSB 9/2/ D03

Client Contact	Project Manager: K Negaire	Site Contact: K Negaire	Date: 8.30.12	COC No: 63257-b
PBS Engineering and Environmental	Tel/Fax:	Lab Contact: ME	Carrier:	3 of 3
320 N Johnson Street Suite 700	Analysis Turnaround Time			Job No. 63257-b
Kennewick, WA 99336	Calendar (C) or Work Days (W)			
509.736.2668	TAT if different from Below			SDG No.
ken.negaire@pbsenv.com	■ 2 weeks			
Project Name: Metro Mart	☐ 1 week			
Site: 520 E Columbia Drive	☐ 2 days			
PO# 63257	☐ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	NWTPH-Gx and BTEX	NWTPH-Gx	NWTPH-Dx	Naphthalene	EDB	Silica Gel	Sample Specific Notes:
SB11-8.0	24 AC	8/29/12	1200	soil	s	3			x				
SB11-12.0	25	8/29/12	1200	soil	s	1							4 oz jar only
SB12-8.0	26 AC	8/29/12	1200	soil	s	3					x		* per KN 10/3/12
SB12-12.0	27 AC	8/29/12	1200	soil	s	3							MS
SB13-8.0	28 AC	8/29/12	1200	soil	s	3							
SB13-12.0	29 AC	8/29/12	1200	soil	s	3					x		
SB14-8.0	30 AC	8/29/12	1200	soil	s	3					x		
SB14-12.0	31 AC	8/29/12	1200	soil	s	3					x		
BR-8.29.12	32 AB	8/29/12	1200	soil	s	2	x						
SB2-W	33 AD	8/29/12	1200	water	w	4	x		x				+3 VOA
SB11-W	34 AD	8/29/12	1200	water	w	4	x		x	x		*	+3 VOA
SB12-W	35 AD	8/29/12	1200	water	w	4	x		x				+3 VOA

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification
■ Non-Hazard ☐ Flammable ☐ Skin Irritant Poison B ☐ Unknown ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ■ Archive For 1 Months

Special Instructions/QC Requirements & Comments:

Samples received at ____ °C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	PBS	8/30/12 1400		FEBT	08/31/12 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Samples received at 5 °C