ABOVE GROUND STORAGE SITE ASSESSMENT AND REMEDIAL ACTION REPORT

Parcel #20120831001
Moxee, Washington

Prepared for
Roy Farms
Moxee, Washington

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Prepared by
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PBS Project No: 62357.003

July 2009

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DEPARTMENT OF ECOLOGY - CENTRAL REGIONAL OFFICE

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1.0 PROJECT DESCRIPTION

1.1 Introduction

In the spring of 2009 PBS Engineering + Environmental (PBS) was employed by Roy Farms to aid in the management of two stages of environmental assessment, excavation based remedial action, bio-remediation and land farming of contaminated soil. This report details the results of work to date, provides a summary of future action at the site and recommendations.

1.2 Purpose and Scope

The purpose of this project is to assist responsible parties in complying with current United States Environmental Protection Agency (EPA) and Washington State Department of Ecology (WDOE) regulations and guidelines for environmental assessment and remedial action related to released petroleum product. The following scope of services was performed for this assessment:

- PBS Engineering and Environmental (PBS) and Roy Farms conducted a Phase II environmental site assessment (ESA) in March 2009. Contamination was discovered.
- Roy Farms conducted an excavation based remedial action in late March and April 2009.
- PBS oversaw a drilling based environmental site characterization in May 2009 that provided for the knowledge of the full lateral extent of contamination.
- Bio-remediation and landfarming of fuel contaminated soil was began in July 2009.
- This report was prepared to further document site assessment, remedial action, well construction and drilling activities, with findings and recommendations.

1.3 Project Background

We understand that the subject property has had rural residential, shop, office and hop support use for many years (Figure 1). Hop production occurs on most of the property. Roy Farms recently purchased the property, with the fueling infrastructure unchanged since prior to their purchase. The fuel system was taken out of service in March 2009, concurrent with the Phase II ESA.

1.4 Previous Project Reports

PBS recently completed a Phase I Environmental Site Assessment (Phase I) on the subject parcel and other parcels. The results of the Phase I recommended that soil testing be completed near the fueling location, because of the possibility of leakage from underground lines and pump structures.

An AST Assessment was completed in March 2009, with seven backhoe test pits excavated and sampled. The results of that assessment indicated that a release of gasoline and a small amount of diesel fuel had occurred to soil. A report describing that project is attached in Appendix D.

A "Good Faith" excavation based remedial action was begun by Roy Farms in late March and early April 2009. Approximately 4,000 cubic yards of gasoline contaminated soil was excavated and stockpiled onsite for future disposal or treatment (see Figure 2). Sampling results suggested that, except adjacent to the shop, all of the unsaturated zone contaminated soil had been excavated. The remedial action also indicated the presence of contaminated groundwater and contamination along the surface of the water table for an unknown distance downgradient. A limited report describing the excavation based remedial action is located in Appendix D.

2.0 SITE CHARACTERISTICS

2.1 Site Description

The project was conducted at Yakima County Parcel #20120831001, southeast of Moxee, Washington near the intersection of Walters and Desserault Road. Fueling occurred immediately north of the shop from two large ASTs that contained diesel and gasoline. The larger diesel AST was oriented vertically and was somewhat larger than the vertical unleaded gasoline AST (immediately to the east). Underground lines exited the lower north sides of the tanks and traveled underground approximately 30 feet to a gasoline and diesel fueling pump (see Figure 2). As discussed in earlier reports (see Appendix D) the contamination resulted from line and pump fitting leaks immediately north of the main Roy Farms shop.

During the May 2009 site characterization, ten borings and three wells were completed on the property. The wells were constructed to provide a means of determining groundwater flow direction and for future groundwater monitoring. The borings were completed to aid in the determination of the full horizontal and vertical extent of groundwater contamination.

Figure 3 shows the layout of the subject site including the former remedial excavation (now backfilled with clean soil), the locations of wells and borings and the location of the bio-

remediation/land farm area. Hop fields surrounds the subject property. Photograph exhibits are presented in Appendix A

2.2 Regional Physiographic and Geologic Conditions

The subject property is situated in the west portion of the Columbia River Plateau physiographic province. The Columbia Plateau is comprised of a series of flood basalts covering much of central and eastern Washington. The basalt flows of the Columbia Basalt Group are Miocene in age, forming an extensive volcanic plateau. Easterly trending ridges of folded basaltic rocks such as the Umtanum Ridge extend into this area from the Cascade Range, to the west. Alluvial silt, sand and gravel deposits overlie the Columbia River flood basalt and form the soils adjacent to the parcel.

2.3 Soils, Climate and Topography

The area of the site is underlain by silty sand and sandy silt for the full depth of the excavation, borings and wells. The units were partially lithified and hard with depth (see boring logs, Appendix C, for further information).

The elevation at the site is approximately 1050 feet above mean sea level. The average annual precipitation is 6 to 9 inches (USDA, 1971). The summers are hot and dry; and the winters are cloudy and cold, with sporadic snow and rain. The land at the site, and general area, slopes slightly to the north toward the Moxee Drain.

2.4 Groundwater/Surface water

Groundwater was exposed in the remedial action excavation during removal of contaminated soil at approximately 20 feet below ground surface (bgs). During completion of the borings and wells groundwater was observed as high as approximately 18 feet bgs (Appendix B). Groundwater flow direction was indicated to be northwest, as measured and calculated from monitoring the onsite wells (Figure 3).

3.0 FOCUSED ENVIRONMENTAL ASSESSMENT FINDINGS

3.1 Sampling Field Methods

Soil samples were collected from geoprobe plastic drive casings, augers, and driven split spoons during the completion of borings and monitoring well installations on the site. Water samples were collected with peristaltic pumps in the borings and with battery powered submersible pumps in the monitoring wells. Sample collection tools were decontaminated between samples to prevent cross-contamination. All samples were immediately placed in jars and preserved at a temperature of 4 ° C. Samples were shipped in a cooler to a state-certified laboratory following collection under chain-of-custody.

3.2 Field Activities

During earlier remedial action soil excavation activities in April 2009 it was determined that groundwater was contaminated, and that some contaminant movement with groundwater had occurred (Figure 2). At that time the limits of contamination was unknown, which necessitated the further work involved in completion of borings and wells and this project.

Drilling and well construction field activities began on May 13, 2009 and were completed on June 9, 2009. A problem with the drill rig required repair and extended field work activities. The multiple use drill rig allowed both auger and direct push use to provide borings and wells. The borings (B-1 through B-10) were completed to delineate the limits of contamination and provide a one-time sampling of soil and groundwater. The wells (MW-1 through MW-3) were installed for long term groundwater monitoring and to help determine (through surveying) the groundwater flow direction and fuel smear zone contamination thickness.

Borings #1 through #3 were completed nearby to the original contamination excavation zone in hopes of finding the lateral extent of contamination close to the excavation. Further borings were completed progressively further from the excavation as field indications of soil and groundwater impact were observed in the borings. Borings #1, 2, 3, 5 and 6 all exhibited potential field indications of contaminant impact, with Borings #4, 7, 8, 9 and 10 completed outside of the contaminant zone and providing a limit of the maximum lateral extent of contamination.

Well #1 was intended to be completed downgradient of the contamination released from the AST area; field indications and laboratory results did indicate contamination in that well. Well #2 was designed to be upgradient of the contamination, with indications of contamination also detected in that well during sampling. With Well #1 and Well #2 complete and a casing remaining from the installation of Boring #2, PBS surveyed to top of casing at each of the three installations. Top of well casing elevations are based on a temporary bench mark established on the concrete at the northeast corner of shop (1,000 feet, elevation). From the bench mark elevations the top of casing elevations are: MW #1 = 995.26' asl; MW #2 = 999.29' asl and B-2 = 995.39' asl. Measurements to groundwater (see Drill Logs Appendix B) then provided the elevation of groundwater at each location. Field calculations then determined the groundwater flow direction to be northwest, as shown on Figure 3. After determining groundwater flow direction, Monitoring Well #3 was placed directly down gradient from the remedial excavation. Well #3 samples also indicated the presence of groundwater contamination.

Some soil contamination developed in a smear zone on top of groundwater. With the unconfined groundwater table elevation higher during the season when irrigation is occurring and lower during the winter, petroleum contaminants are spread vertically through the soil system by water level fluctuations. The contaminated zone on top of groundwater appears to be approximately 2 to 3 feet thick at this time; when quarterly groundwater monitoring is performed in the monitoring wells a better estimation of the thickness of the smear zone can be provided.

3.3 Analytical Results

All the soil and groundwater samples collected from the borings and monitoring wells were submitted to ESN Laboratory in Olympia, Washington. Analysis was completed through NWTPH-HCID, which is a qualitative and semi-quantitative hydrocarbon identification screening used to

determine the presence and type of petroleum products present in soil. NWTPH-HCID laboratory results are reported as detected or not detected. If hydrocarbons are detected (typically gasoline, diesel, or heavy oils), then further specific analytical methods are used to quantify the detected hydrocarbons. Further sampling was completed for gasoline (NWTPH-Gx) and diesel (NWTPH-Dx) when indicated to be necessary by positive NWTPH-HCID results. Lead was not sampled for the drilling and well construction, because no significant lead was found during the remedial action soil samples. A photoionization detector (PID) was also used for field screening of samples to detect gasoline contaminant (results also in Table 1). Analytical results are provided in Table #1 below, with laboratory reports provided in Appendix B.

Table 1 - Summary of Sample Analytical Results

Sample #	Depth	Constituent	PID (ppm)	NWTPH-HCID	Gasoline	BTEX	Diesel/Oil
B-1	0 – 9'	Soil	0	NA	NA	NA	NA
B-1	9 – 12'	Soil	0	ND	ND	ND	NA
B-1	12-14'	Soil	0	NA	NA	NA	NA
B-1	17 – 19'	Soil	54	D	**230**	**0.3/1.8/0.76/3.8**	NA
B-1	18-21'	Soil	18	NA	NA	NA	NA
MW-1	4-5'	Soil	0	NA	NA	NA	NA
MW-1	8-9'	Soil	0	NA	NA	NA	NA
MW-1	12-14'	Soil	0	NA	NA	NA	NA
MW-1	18-21'	Soil	12.5	NA	NA	NA	NA
MW-1	28-31'	Soil	0	ND	NA	NA	NA
MW-1	NA	Water	NA	NA	**7,700**	**330/270/320/810**	NA
B-2	8-11'	Soil	0	NA	NA	NA	NA
B-2	11-14'	Soil	0	NA	NA	NA	NA
B-2	14-17'	Soil	0	NA	NA	NA	NA
B-2	17-19'	Soil	0.5	NA	NA	NA	NA
B-2	19-22'	Soil	5	NA	NA	NA	NA
B-2	24-25'	Soil	0	ND	ND	ND	NA
B-2	NA	Water	NA	NA	**12,000**	**18000/260/500/2300**	NA
MW-2	5-6'	Soil	0	NA	NA	NA	NA
MW-2	11-12'	Soil	0	NA	NA	NA	NA
MW-2	17-18'	Soil	0.5	NA	NA	NA	NA
MW-2	21-22'	Soil	4.4	NA	NA	NA	NA
MW-2	NA	Water	NA	D	**1,900**	**1200/98/13/280**	NA
B-3	9-14'	Soil	0	ND	NA	NA	NA
B-3	15-17'	Soil	0	ND	NA	NA	NA
B-3	17-19'	Soil	0	ND	NA	NA	NA
MW-3	13-15'	Soil	0	NA	NA	NA	NA
MW-3	17-19'	Soil	31	NA	NA	NA	NA
MW-3	26-28'	Soil	59	D	77	ND/0.17/0.12/0.81	NA
MW-3	NA	Water	NA	D	**17,000**	**13000/7600/790/3400**	NA
B-4	6-8'	Soil	2	NA	NA	NA	NA
B-4	13-14'	Soil	22	NA	NA	NA	NA
B-4	16-18'	Soil	17	ND	NA	NA	NA
B-4	NA	Water	NA	ND	ND	ND	NA
B-5	9-11'	Soil	4	NA	NA	NA	NA
B-5	12-14'	Soil	29	NA	NA	NA	NA
B-5	17-19'	Soil	64	ND	NA	NA	NA
B-5	20-23'	Soil	706	D	**1,200**	**1.8/34/28/110**	NA
B-6	12-13'	Soil	2.5	NA	NA	NA	NA
B-6	15-16'	Soil	2.9	ND	NA	NA	NA
B-6	17-20'	Soil	27	ND	NA	NA	NA
B-7	10-11'	Soil	17	ND	NA	NA	NA
B-7	13-14'	Soil	18	ND	NA	NA	NA
B-8	10-13'	Soil	11	NA	NA	NA	NA
B-8	15-17'	Soil	15	NA	NA	NA	NA
B-8	18-19'	Soil	17	NA	NA	NA	NA
B-8	20-21'	Soil	11	ND	NA	NA	NA
B-9	8-11'	Soil	15	ND	NA	NA	NA
B-10	16-17'	Soil	12	NA	NA	NA	NA
B-10	19-20'	Soil	12	NA	NA	NA	NA
B-10	22-23'	Soil	12	ND	NA	NA	NA
Cleanup Level	**MCTA Method A**	**Soil**			**100/30**	**0.3/7/6/9**	**2,000**
Cleanup Level	**MTCA Method A**	**Water**			**1,200**	**0.005/1/0.7/1**	**0.5/0.5**

Note: BTEX = Benzene, Toluene, Ethylbenzene and Xylenes
Bold results exceed Method A MTCA Cleanup levels
ND = Petroleum Hydrocarbon Constituents Non-Detected above laboratory detection limits
Analytical results in milligrams/kilogram (mg/kg) or milligrams/Liter (mg/L) for water.
NA = Not Analyzed

Row #52=Cleanup level for gasoline 30 mg/kg, with benzene, 100 mg/kg without benzene.

Results of sampling in borings and wells indicated soil and groundwater contamination exceeding MTCA Method A cleanup levels in Borings #1, 2, 3 and 5, with contamination indicated in all three monitoring wells (MW #1, 2 and 3). Although some indication of contamination was suspected in soil B-6, 17-20' from PID field screening, laboratory results did not indicate petroleum impact.

Although a minor leak in diesel was confirmed (Appendix D), all of the contamination at the site has been indicated to be from a gasoline release.

Earlier sampling during the remedial action of the most contaminated samples for lead, MTBE and EDB indicated very low values for those typical gasoline constituents. Due to the low prior presence of those constituents, they were not analyzed in soil and groundwater during the latest site characterization.

4.0 REMEDIAL ACTION ACTIVITIES

4.1 Bio-Remediation/Land Farm Activities

Remedial action activities related to the Roy Farms "Good Faith" excavation based independent remedial action of petroleum contaminated soil are described in the April 9, 2009 report (Appendix D). The excavation remedial action, although not able to remove all contaminated soil from below and adjacent to the shop building or the groundwater smear zone, was expected to have significantly reduced further downward movement of contaminant to groundwater and reduce the source of groundwater contamination. (Figure 2).

During the excavation based remedial action the amount of contaminated soil expected to be removed was not initially known. The final disposition of the contaminated soil was expected to be an off-site landfill certified to receive petroleum contaminated soil or the use of onsite land farming in accordance with WAC 173-350. Approximately 4000 cubic yards of light grade petroleum contaminated soil was excavated and stockpiled prior to making the decision concerning final disposition.

Based on the final volume of contaminated soil and the soils characteristic amenability to bio-venting and bacterial breakdown, Roy Farms decided to land farm the soil onsite. Land farming activities began in early July 2009, with the spreading of the contaminated soil from the stockpile into a 1.5 foot thick lift of soil over plastic. The land farm area was near the middle of the subject parcel and covered an area of approximately 1.6 acres. The edges of the land farm zone were covered and plastic lined into a collection trench to stop any liquid movement of contamination off of the remedial action zone.

Roy Farms completed the land farm zone and has been rototilling the soil as needed to periodically mix oxygen into the soil and encourage aerobic bacterial breakdown of the lighter grade petroleum hydrocarbons. Since very little diesel grade release was confirmed at the AST site the remediation project is expected to effectively remediate a significant amount of

petroleum contamination.

PBS supports periodically sampling the land farmed soil, with samples collected deep in the remedial system (near the basal plastic layer). If contamination values exceeding MTCA Method A Cleanup Levels exists and the remedial action extends longer than three months the remedial action project will become subject to WAC 173-350-320, with further regulatory actions required.

5.0 CONCLUSIONS/RECOMMENDATIONS

Roy Farms has completed a site characterization and began onsite remedial action of petroleum-contaminated soil on Parcel #20120831001. Three monitoring wells and ten borings were completed on the site, with soil and groundwater samples collected and analyzed. Petroleum contamination remains on the site, with contaminated soil continuing in the soil horizon near the shop building and on top of groundwater, downgradient from the location of the release and the former ASTs. Groundwater contamination is also present on the site downgradient from the location of the release (see Figures 2 and 3). Site assessment findings indicate that contamination has not left the subject property. Due to the presence of contamination and rules provided in WAC 173-340, the Washington State Department of Ecology (WDOE) has been notified of the contaminant release.

PBS has installed three monitoring wells to sample groundwater and analyze other groundwater parameters on a quarterly basis. The monitoring wells were established in May 2009, with groundwater flow direction northwest and all three wells indicated to be contaminated (Appendix B).

A large amount of petroleum contaminated soil was excavated and stockpiled on the subject property, with the chosen remedial methods onsite land farming. Land farming and bio-remediation of light grade petroleum contaminated soil began on the subject property in early July 2009. Further soil sampling of the land farmed soil is planned for September 2009. Land farmed soil remedial action is planned for completion by October 1, 2009, if analytical results support that result.

PBS recommends soil sampling of the land farmed contaminated soil area and another round of groundwater monitoring in September 2009. Further PBS recommendations for the site will involve a continuation of groundwater monitoring for at least one year; further recommendations may be provided based on the year of sampling results. Brief quarterly reports will be submitted with the monitoring results.

Based state regulations and the fact that contamination remains on the site, PBS recommends that this report be submitted to the WDOE. Roy Farms may wish to join the WDOE Voluntary Cleanup Program (VCP) so the agency can be hired to review the report and provide further recommendation on how to finalize the site. PBS recommends that Roy Farms at least discuss joining the VCP with WDOE before one-year of groundwater monitoring has been completed. Since the WDOE recommendations may be different than those provided by PBS; the site owner may want their input prior to further action. This report may be provided to WDOE by the owner

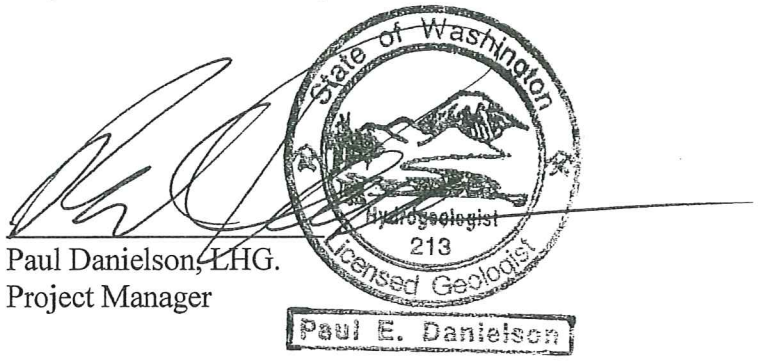
submitting a copy to the Washington State Department of Ecology, Frosty Smith, 15 West Yakima Avenue (Suite #200), Yakima, WA 98926.

6.0 LIMITATIONS

This work was performed in accordance with the generally accepted practices of consultants undertaking similar studies at the same time and in the same geographical area. PBS observed a degree of care and skill generally exercised by other consultants under similar circumstances and conditions. Findings and conclusions must be considered not as scientific certainties, but as opinions based on professional judgement concerning the significance of the data gathered during the course of monitoring. Other than this, no warranty is implied or intended.

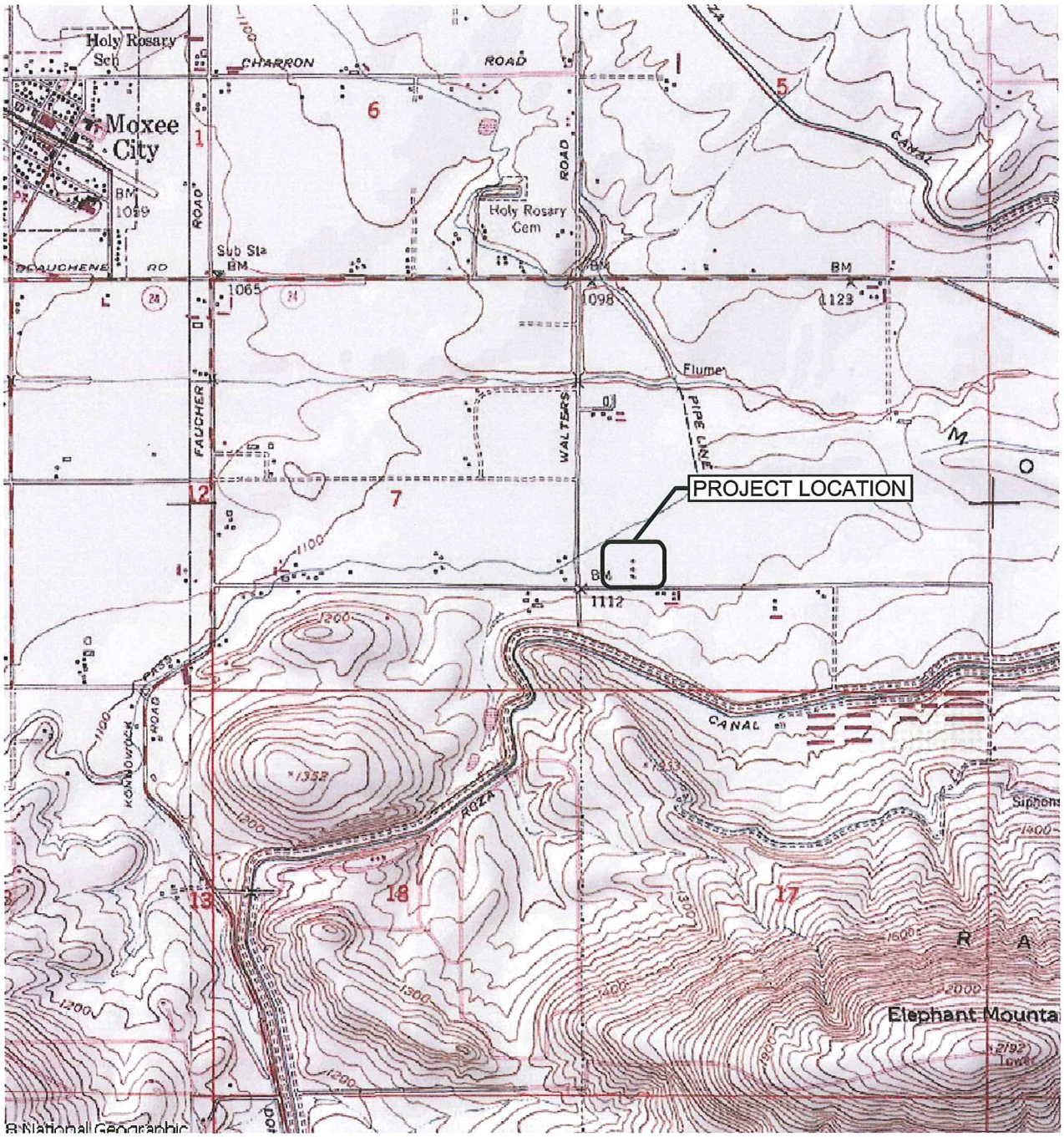
We appreciated the opportunity to provide this report. If you have any questions or need further services please contact us at (509) 735-2698.

Prepared and submitted by:

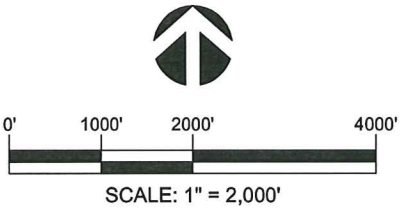


Paul Danielson, LHG.
Project Manager

Dana Ertel, LG.
Licensed Geologist



SOURCE: USGS ELEPHANT MOUNTAIN QUADRANGLE, WA 1985, PHOTO REVISED 1981.



SCALE: 1" = 2,000'

PREPARED FOR: ROY FARMS

PBS

PROJECT # 62357.003

DATE JULY 2009

SITE VICINITY MAP

REMEDIAL ACTION REPORT
PARCEL #20120831001
MOXEE, WASHINGTON

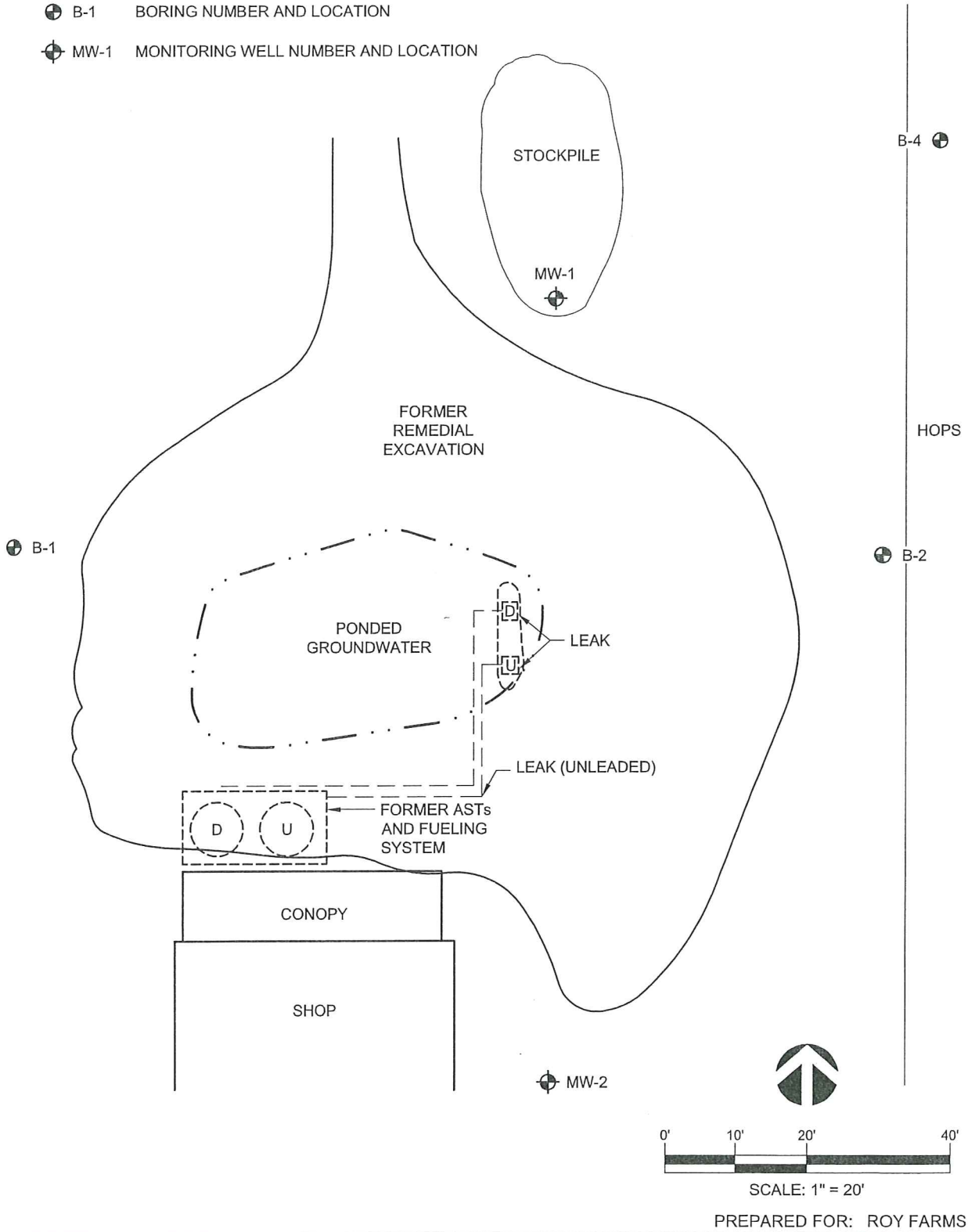
FIGURE 1

L:\PORTLAND\60000\62357.003\62357.003_remedial.dwg Jul 13, 2009 03:14pm jimb

LEGEND

B-1 BORING NUMBER AND LOCATION

MW-1 MONITORING WELL NUMBER AND LOCATION



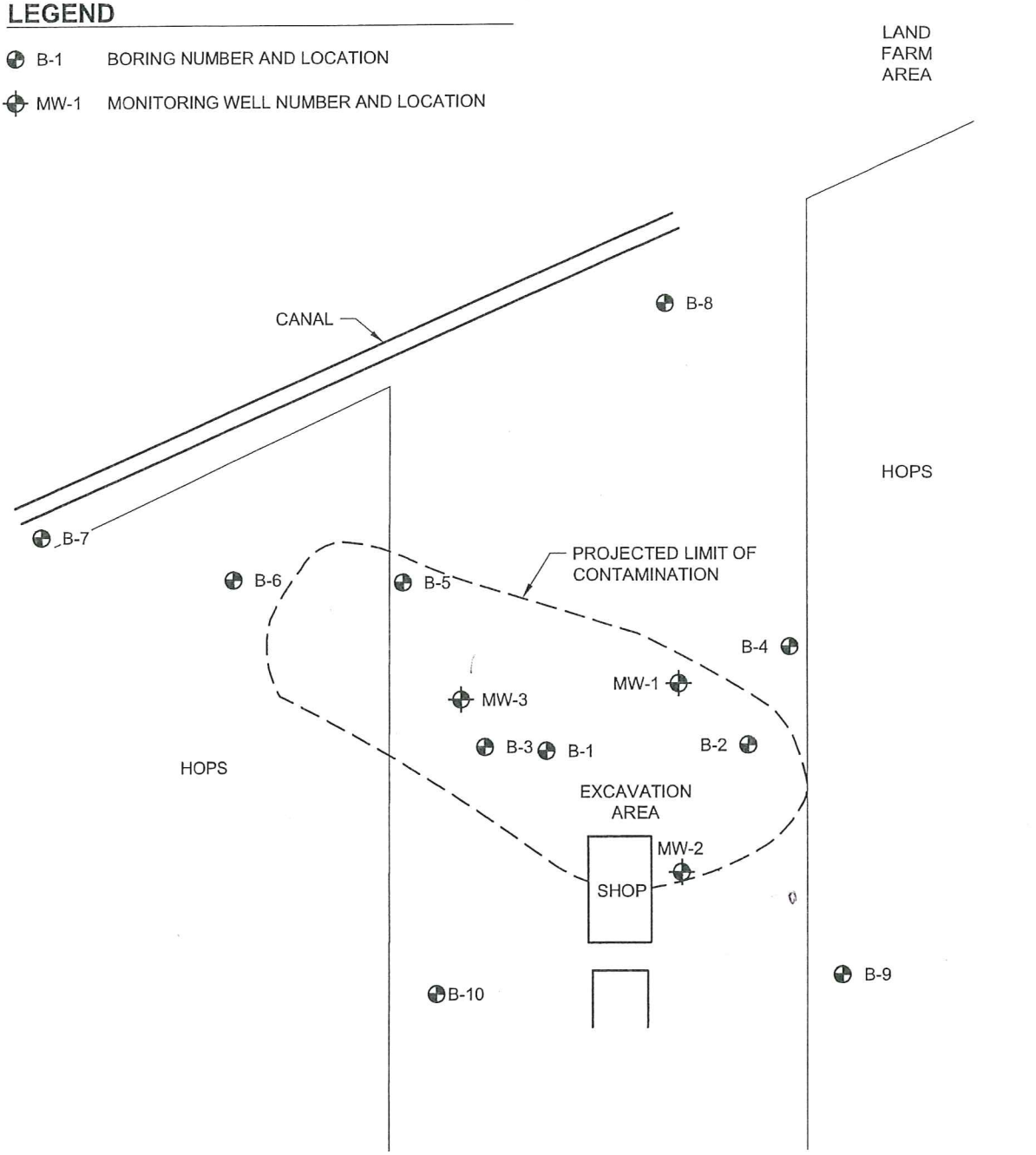
PREPARED FOR: ROY FARMS

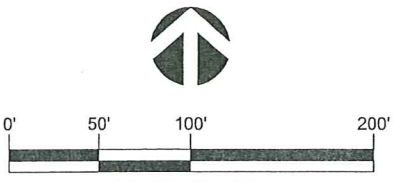
PBS	PROJECT # 62357.003 DATE JULY 2009	REMEDIATION ZONE SITE PLAN REMEDIAL ACTION REPORT PARCEL #20120831001 MOXEE, WASHINGTON	FIGURE 2

LEGEND

B-1 BORING NUMBER AND LOCATION

MW-1 MONITORING WELL NUMBER AND LOCATION





SCALE: 1" = 100'

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PBS	PROJECT # 62357.003 DATE JULY 2009	GENERAL SITE PLAN REMEDIAL ACTION REPORT PARCEL #20120831001 MOXEE, WASHINGTON	FIGURE 3

APPENDIX A

Project Photographs

Photo 1: Initial Phase II ESA soil sampling for petroleum product, March 2009.

Photo 2: Looking south at the point of maximum excavation of contaminated zone north of shop area and near former location of fuel pumps.

Photo 3: Looking south during drilling of Boring #6.

Photo 4: Looking north during construction of MW #2.

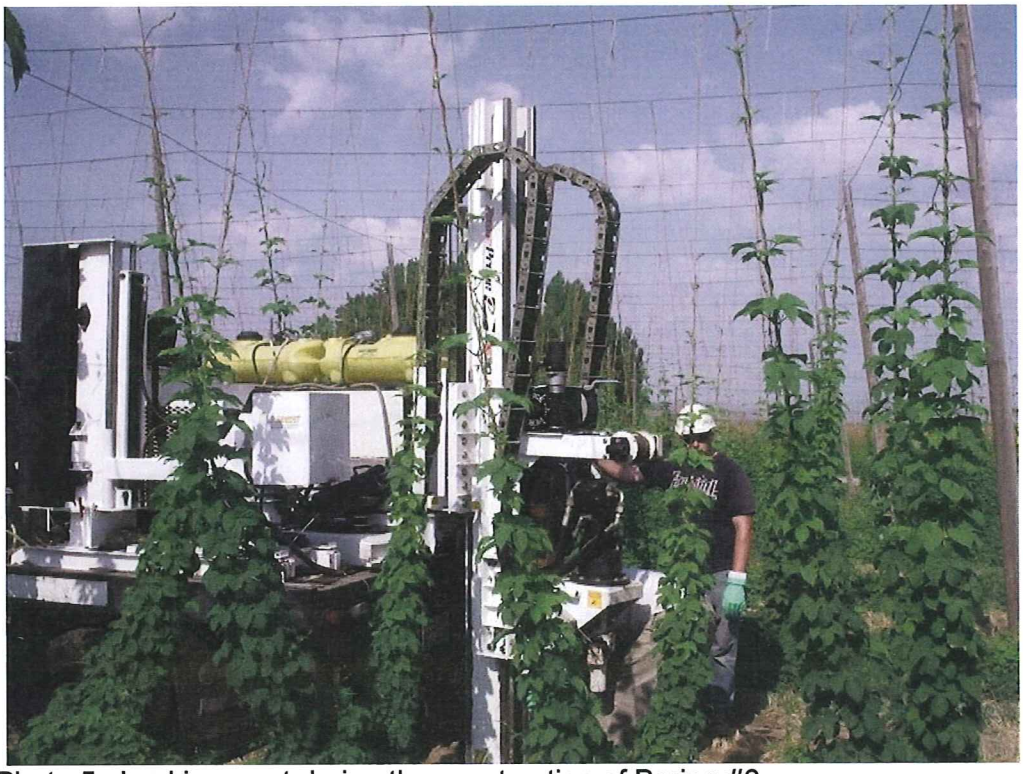


Photo 5: Looking west during the construction of Boring #6

Photo 6: Looking southwest at the shop and construction of MW #2.

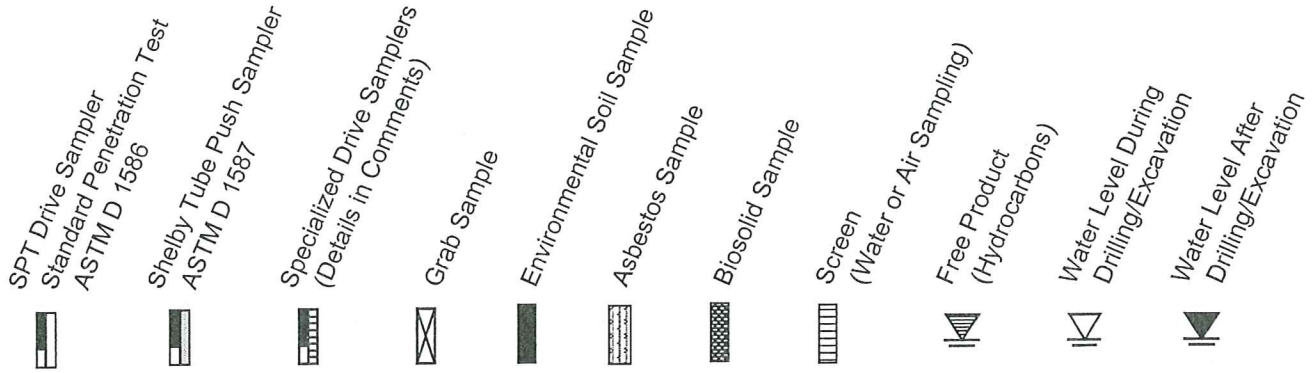
APPENDIX B

Drill Logs

PBS Engineering + Environmental

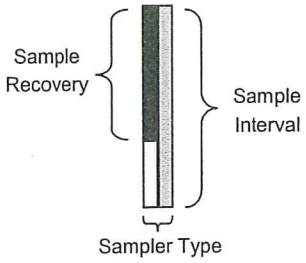
Key To Test Pit and Boring Log Symbols

SAMPLING DESCRIPTIONS

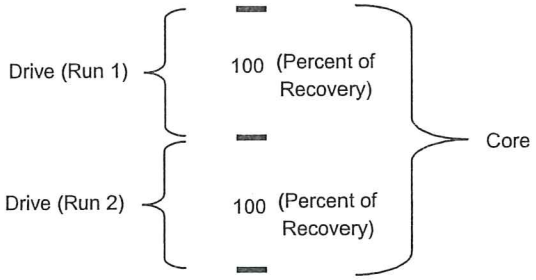


LOG GRAPHICS

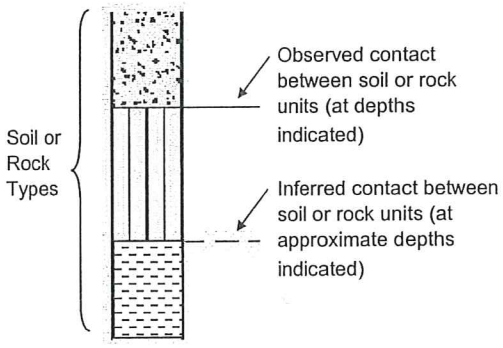
Sampling Symbols



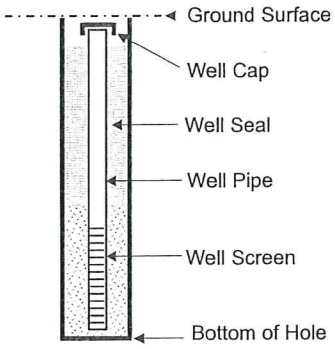
Direct Push, Geoprobe®, Sonic, Vibracore Drilling



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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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-1

BORING B-1 LOCATION:
53' N, 68' W from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Hard, brown, sandy SILT; moist, low plasticity					~75-80	
5							~75-80	
10		Dense, white-brown, silty SAND; moist, nonplastic, contains calcite		0.0	SK-Jar 9-11'		~75-80	
				0.0	SK 11-14'			
15		grades to brown with lenses of caliche grades to soft then hard					~75-80	
				54	SK-Jar 17-19'		~75-80	
20			ATD ▽	18	SK 18-21'			
					H_2O Samp		~75-80	
		Final depth 23.0 feet bgs						
25								
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 5/13/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09:RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-2

BORING B-2 LOCATION:
60' E, 56' N from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Firm, Brown, sandy SILT; moist, low plasticity					~75-80	
5							~75-80	
10		Dense, white-brown, silty SAND; moist, nonplastic, contains white caliche lenses		0.0	SK 8-11'		~75-80	
		Firm to Hard, brown, sandy SILT; moist, low plasticity		0.0	SK 11-14'		~75-80	
15				0.0	SK 14-17'		~75-80	
				0.5	SK 17-19'		~75-80	
20			ATD	5	SK 19-22'		~75-80	
25				0.0	SK-Jar 24-25'		~75-80	
		Final depth 28.0 feet bgs						
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 5/13/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09:RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-3

BORING B-3 LOCATION:
60' N, 107' W from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Hard, brown, sandy SILT; moist, low plasticity		0.0			~75-80	
5							~75-80	
10		Dense, brown-white, silty SAND; moist, nonplastic, calcite layers			SK 15-17'		~75-80	
15		Hard, gray-brown, sandy SILT; moist, low plasticity		0.0	SK 15-17'		~75-80	
			ATD	0.0	SK 17-19'		~75-80	
20		Final depth 19.0 feet bgs due to refusal						
25								
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 5/13/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09:RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-4

BORING B-4 LOCATION:
115' N, 87' E from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Hard, brown, sandy SILT; moist, low plasticity					~75-80	
5				1.9	SK/6-8'		~75-80	
10		Hard, gray, SILT; moist, low plasticity		20	SK/13-14'		~75-80	
15		grades to firm, brown; very moist	ATD	17	Jar/16-18' H_2O Samp		~75-80	
20		Final depth 20.0 feet bgs						
25								
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 6/08/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09.RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-5

BORING B-5 LOCATION:
160' W, 163' N from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Firm, brown, silty fine SAND; moist, nonplastic					~75-80	
5							~75-80	
10		Hard, brown-white, sandy GRAVEL with silt; moist, nonplastic, contains caliche		40	SK 9-11'		~75-80	
		Hard, gray, SILT with fine sand; moist, low plasticity		29	SK 12-14'		~75-80	
15		increasing moisture, fuel odor	± ATD					
				64	Jar 17-19'		~75-80	
20				706	Jar 20-23'		~75-80	
		Final depth 23.0 feet bgs						
25								
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 6/09/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09.RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-6

BORING B-6 LOCATION:
270' W, 166' N from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Firm, brown, silty fine SAND; moist, nonplastic					~75-80	
5							~75-80	
		Firm, brown, sandy SILT; moist, low plasticity					~75-80	
10		Dense, brown, fine to coarse SAND; moist, nonplastic		25	SK 12-13'			
		Hard, gray, SILT with fine sand; moist, low plasticity		2.9	SK 15-16'		~75-80	
15			± ATD					
20		Final depth 20.0 feet bgs		27	SK 17-20'		~75-80	
25								
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 6/09/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09.RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-7

BORING B-7 LOCATION:
192' N, 389' W from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Firm, brown, SILT with fine sand, very moist, low plasticity					~75-80	
5							~75-80	
10				17	Jar 10-11'		~75-80	
		Hard, brown-white, coarse SAND with silt; very moist, nonplastic, contains calcite	± ATD ▽		Jar 13-14'			
15		Hard, brown-gray SILT with fine sand; saturated, low plasticity					~75-80	
		Final depth 17.0 feet bgs		18				
20								
25								
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 6/09/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09:RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-8

BORING B-8 LOCATION:
5' E, 340' N from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Firm, brown, sandy SILT; moist, low plasticity					~75-80	
5		grades to hard, gray-white; contains caliche					~75-80	
		Hard, brown, SILT; moist, low plasticity						
10				11	SK 10-13'		~75-80	
		grades to gray					~75-80	
15		grades to brown		15	SK 15-17'			
				17	SK 18-19'		~75-80	
20			ATD	11	Jar 20-21'		~75-80	
		Final depth 22.0 feet bgs						
25								
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 6/09/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09:RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-9

BORING B-9 LOCATION:
113' E, 86' S from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Firm, brown, SILT with fine sand; moist, low plasticity					~75-80	No groundwater encountered
5							~75-80	
10		Hard, gray SILT; moist, low plasticity		15	Jar 8-11'		~75-80	
		Final depth 11.0 feet bgs due to refusal						
15								
20								
25								
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 6/09/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09:RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING B-10

BORING B-10 LOCATION:
136' W, 116' S from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0		Medium dense, brown, silty fine SAND; moist, nonplastic					~75-80	
5		grades to dense, brown-white, fine to coarse SAND;					~75-80	
10		Dense, gray, fine SAND with silt; moist, nonplastic, partly lithified					~75-80	
		Hard, gray, SILT; moist, low plasticity						
15				12	SK 16-17'		~75-80	
				12.3	SK 19-20'		~75-80	
20			± ATD					
				12	SK 22-23'		~75-80	
		Final depth 23.0 feet bgs						
25								
30								
35								
40								

BORING METHOD: Direct Push
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 2-inch

LOGGED BY: P. Danielson
COMPLETED: 6/09/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09:RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING MW-1

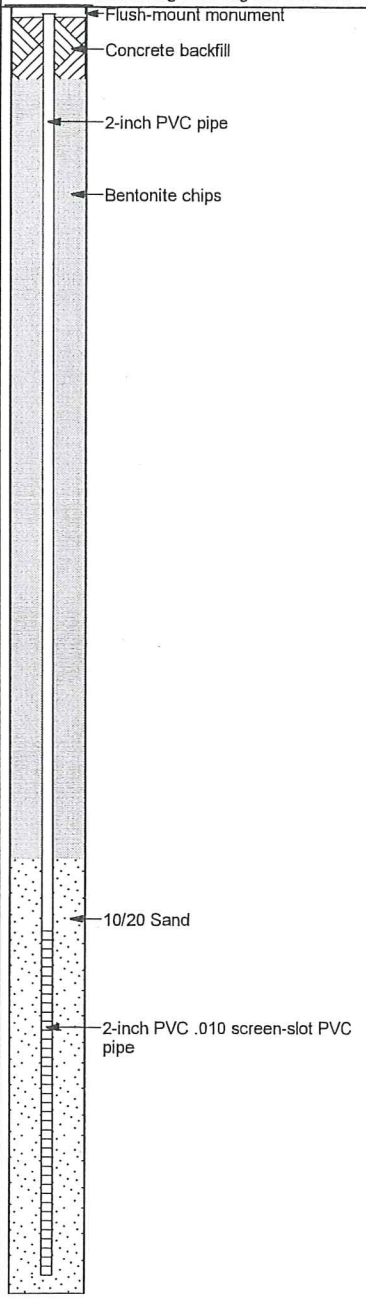
BORING MW-1 LOCATION:
91' N, 15' E from NE corner of shop

Temporary Benchmark Elevation: 995.26

DEPTH FEET	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)
0	Hard, light brown, fine sandy SILT; moist, low plasticity					~75-80
5			0.0	SK 4-5'		~75-80
	Very dense, white-tan, SAND; slightly moist, nonplastic, lithified, contains caliche/calcite		0.0	SK 8-9'		
10	Hard, brown, sandy SILT; moist, low plasticity, contains sandy zones		0.0	SK 12-14'		~75-80
15		ATD ▽				~75-80
20			12.5	SK 18-21'		~75-80
25	grades to harder at 24.0 feet (same formation)					~75-80
30			0.0	SK-Jar 28-31'		~75-80
35						~75-80
40	Final depth 36.0 feet bgs					

COMMENTS/ WELL INSTALLATION

Monitoring Well Tag No. BAF 395



BORING METHOD: Hollow-Stem Auger
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 8-inch

LOGGED BY: P. Danielson
COMPLETED: 5/13/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09:RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING MW-2

BORING MW-2 LOCATION:
15' S, 13' E from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
		Temporary Benchmark Elevation:: 999.29						
0		Firm, brown, sandy SILT; moist, low plasticity					~75-80	Flush-mount monument Concrete backfill
5				0.0	SK 5-6'		~75-80	2-inch PVC pipe Bentonite chips
10		Dense, brown-white, silty SAND; moist, nonplastic (caliche)		0.0	SK 11-12'		~75-80	
15		Hard, brown-gray, sandy SILT; moist, low plasticity		0.2	SK 17-18'		~75-80	10/20 Sand
20			ATD ▽	4.4	SK 21-22'		~75-80	2-inch PVC .010 screen-slot PVC pipe
25							~75-80	
30							~75-80	
35		Final depth 32.0 feet bgs						
40								

BORING METHOD: Hollow-Stem Auger
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 8-inch

LOGGED BY: P. Danielson
COMPLETED: 4/14/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09 RSD

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ROY FARMS
MOXEE, WASHINGTON

PBS PROJECT NUMBER:
62357.003

BORING MW-3

BORING MW-3 LOCATION:
121' W, 86' N from NE corner of shop

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
		Temporary Benchmark Elevation: 995.35						
0		Firm, brown, sandy SILT; moist, low plasticity					~75-80	Flush-mount monument Concrete backfill 2-inch PVC pipe
5							~75-80	Bentonite chips
10		Hard, brown-white, silty SAND with gravel; moist, nonplastic					~75-80	
		Hard, gray, sandy SILT; moist, nonplastic		0.5	SK 13-15'		~75-80	
15							~75-80	
				31	SK 17-19'			
20		grades to gray-brown	ATD				~75-80	10/20 Sand
25				59	Jar 26-28'		~75-80	2-inch PVC .010 screen-slot PVC pipe
30							~75-80	
		Final depth 31.0 feet bgs due to refusal						
35								
40								

BORING METHOD: Hollow-Stem Auger
DRILLED BY: ESN Northwest
BORING BIT DIAMETER: 8-inch

LOGGED BY: P. Danielson
COMPLETED: 6/08/09

NOTES: SK = Soil Sack Sample (for PID analysis)
Jar = Soil Jar Sample (for labratory analysis)

BORING LOG-ENV CORE 62357PH3 B1-10 MW1-3 071609.GPJ DATATMPL.GDT PRINT DATE: 7/16/09:RSD

APPENDIX C

Laboratory Results

ESN NORTHWEST
Environmental Services Network

June 17, 2009

Paul Danielson
PBS Environmental
320 North Johnson Street, Suite 700
Kennewick, WA 99336

Dear Mr. Danielson:

Please find enclosed the analytical data report for the Roy Farms Project located in Moxee, Washington. Probe services were conducted on May 13, 14, June 8 & 9, 2009. Soil and water samples were analyzed for Hydrocarbon Identification by NWTPH-HCID, Gasoline by NWTPH-Gx, and BTEX by Method 8260 on May 20 – June 15, 2009.

The results of these analyses are summarized in the attached table. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to PBS Environmental for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A. Korosec

Michael A. Korosec
President

1210 Eastside Street SE, Suite 200 ■ Olympia, Washington 98501 ■ 360.459.4670 ■ FAX 360.459.3432
Web Site: *www.esnnw.com* E-Mail: *info@esnnw.com*

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
Client Project #62357.00-002
Moxee, Washington

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lab@esnnw.com

Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260) in Soil

Sample Number	Date Analyzed	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Gasoline (mg/kg)	Surrogate Recovery (%)
Method Blank	5/20/2009	nd	nd	nd	nd	nd	123
LCS	5/20/2009	107%	82%	95%	79%	---	119
B-1 9-12	5/20/2009	nd	nd	nd	nd	nd	117
B-2 24-25	5/20/2009	nd	nd	nd	nd	nd	121
B1 17-19	5/20/2009	**0.30**	**1.8**	**0.76**	**3.8**	**230**	128
MW1 28-31	5/20/2009	nd	nd	nd	nd	nd	127
MW1 28-31 DUP	5/20/2009	nd	nd	nd	nd	nd	109
MS	5/20/2009	93%	115%	137%	107%	---	102
MSD	5/20/2009	94%	113%	133%	104%	---	104
Method Detection Limits		0.02	0.05	0.05	0.15	10	

"---" Indicates not tested for component.
"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Chlorobenzene) & LCS : 65% TO 135%

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Client Project #62357.00-002
Moxee, Washington

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Analyses of Gasoline & BTEX in Water by Method NWTPH-Gx/8260

Sample Number	Date Analyzed	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Gasoline (ug/L)	Surrogate Recovery (%)
Method Blank	5/19/2009	nd	nd	nd	nd	nd	122
LCS	5/19/2009	106%	118%	135%	103%	---	93
LCSD	5/19/2009	101%	105%	131%	100%	---	103
MW1	5/19/2009	**330**	**270**	**320**	**810**	**7700**	113
B-2	5/19/2009	**18000**	**260**	**500**	**2300**	**12000**	108
B-2 DUP	5/19/2009	**5400**	**73**	**140**	**650**	**28000**	114
Method Detection Limits		1.0	1.0	1.0	3.0	100	

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

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PBS Environmental
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Hydrocarbon Identification of Soil Method NWTPH-HCID

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)	Diesel (mg/kg)	Heavy Oil (mg/kg)
Method Blank	6/12/2009	103	nd	nd	nd
B-4 16-18	6/12/2009	110	nd	nd	nd
MW-3 26-28	6/12/2009	99	**D**	nd	nd
B-5 17-19	6/12/2009	112	nd	nd	nd
B-5 20-23	6/12/2009	107	**D**	nd	nd
B-5 20-23 DUP	6/15/2009	137	**D**	nd	nd
B-6 15-16	6/15/2009	92	nd	nd	nd
B-6 17-20	6/15/2009	98	nd	nd	nd
B-7 10-11	6/15/2009	97	nd	nd	nd
B-7 13-14	6/15/2009	105	nd	nd	nd
B-8 20-21	6/15/2009	85	nd	nd	nd
B-8 20-21 DUP	6/15/2009	106	nd	nd	nd
B-9 8-11	6/15/2009	103	nd	nd	nd
B-10 22-23	016/15/09	100	nd	nd	nd
Method Detection Limits			20	50	100

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE :50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
Client Project #62357.002
Moxee, Washington

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Hydrocarbon Identification by NWTPH-HCID for Waters

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (ug/L)	Diesel (ug/L)	Heavy Oil (ug/L)
Method Blank	6/12/2009	96	nd	nd	nd
B-4	6/12/2009	98	nd	nd	nd
MW-2	6/12/2009	94	**D**	nd	nd
MW-3	6/12/2009	93	**D**	nd	nd
Method Detection Limits			250	500	500

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
Client Project #62357.00-002
Moxee, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260) in Soil

Sample Number	Date Analyzed	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Gasoline (mg/kg)	Surrogate Recovery (%)
Method Blank	6/15/2009	nd	nd	nd	nd	nd	104
LCS	6/15/2009	93%	88%	86%	92%	---	92
MW-3 26-28	6/15/2009	nd	**0.17**	**0.12**	**0.81**	**77**	91
B5 20-23	6/15/2009	**1.8**	**34**	**28**	**110**	**1200**	89
B5 20-23 Duplicate	6/15/2009	**0.29**	**22**	**26**	**150**	**1300**	90
MS	6/15/2009	101%	94%	92%	98%	---	86
MSD	6/15/2009	103%	95%	94%	97%	---	88
Method Detection Limits		0.02	0.05	0.05	0.15	10	

"---" Indicates not tested for component.
"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Chlorobenzene) & LCS : 65% TO 135%

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Analyses of Gasoline & BTEX in Water by Method NWTPH-Gx/8260

Sample Number	Date Analyzed	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Gasoline (ug/L)	Surrogate Recovery (%)
Method Blank	6/12/2009	nd	nd	nd	nd	nd	96
LCS	6/12/2009	87%	80%	75%	76%	---	88
LCSD	6/12/2009	91%	84%	79%	78%	---	90
MW2	6/12/2009	**1200**	**98**	**13**	**280**	**1900**	92
MW3	6/12/2009	**13000**	**7600**	**790**	**3400**	**17000**	93
Method Detection Limits		1.0	1.0	1.0	3.0	100	

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

ESN NORTHWEST | Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: PBS Environmental

ADDRESS: 320 N. Johnson # 700, Kennewick WA 99336

PHONE: 507 735-2698 FAX: 735-1867

CLIENT PROJECT #: 62357.002 PROJECT MANAGER: Paul Danielson

DATE: 6-9-09 PAGE _____ OF _____

PROJECT NAME: Roy Farms

LOCATION: McKee WA

COLLECTOR: Daniel Son DATE OF COLLECTION _____

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	TPH - HCID	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (d & o)	PAH 8100	PAH 8270	PCBs 8082	Pesticides 8081	EPH	VPH	Methamphetamine	Pb	Hex Chrome	NOTES	Total Number of Containers	Laboratory Note Number
1. B-4	16-18	6-8	~~Jar~~ Soil	Jar				X																
2. MW #3	26-28	"	~~Jar~~ Soil	"				X																
3. B-5	17-19	"	Soil	"				X																
4. B-5	20-23	"	"	"				X																
5. B-6	15-16	6-9	"	"				X																
6. B-6	17-20	"	"	"				X																
7. B-7	10-11	"	"	"				X																
8. B-7	13-14	"	"	"				X																
9. B-8	20-21	"	"	"				X																
10. B-9	8-11	"	"	"				X																
11. B-10	22-23	"	"	"				X																
12.																								
13. B-4		6-8	H2O	VOAs				X																
14. MW-2		6-9	"	VOAs 1/2 Liter				X																
15. MW-3		6-9	"	"				X																
16. ~~B-5~~		6-8	"	VOAs				X														No sample		
17.																								
18.																								

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[signature]	6-9-09	[signature]	6-9-09 1700
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR (5 DAY)

ESN NORTHWEST | Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: PBS Environmental

ADDRESS: 320 N. Johnson # 700, Kennewick WA 99336

PHONE: 507 735-2698 FAX: 735-1867

CLIENT PROJECT #: 62357.002 PROJECT MANAGER: Paul Danielson

DATE: 6-9-09 PAGE ____ OF ____

PROJECT NAME: Roy Farms

LOCATION: Moxee WA

COLLECTOR: Danielson DATE OF COLLECTION ____

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	TPH - HCID	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (d & o)	PAH 8100	PAH 8270	PCBs 8082	Pesticides 8081	EPH	VPH	Methamphetamine	Pb	Hex Chrome	NOTES	Total Number of Containers	Laboratory Note Number
1. B-4	16-18	6-8	~~Jar~~ Soil	Jar				X																
2. MW #3	26-28	"	~~Jar~~ Soil	"				X																
3. B-5	17-19	"	Soil	"				X																
4. B-5	20-23	"	"	"				X																
5. B-6	15-16	6-9	"	"				X																
6. B-6	17-20	"	"	"				X																
7. B-7	10-11	"	"	"				X																
8. B-7	13-14	"	"	"				X																
9. B-8	20-21	"	"	"				X																
10. B-9	8-11	"	"	"				X																
11. B-10	22-23	"	"	"				X																
12.																								
13. B-4		6-8	H2O	VOAs				X																
14. MW-2		6-9	"	VOAs w/ 2 HCl				X																
15. MW-3		6-9	"	"				X																
16. ~~B-5~~		6-8	"	VOAs				X														No sample		
17.																								
18.																								

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[signature]	6-9-09	[signature]	6-9-09 1700
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR (5 DAY)

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
Client Project #62357.002
Moxee, Washington

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lab@esnnw.com

Hydrocarbon Identification of Soil Method NWTPH-HCID

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)	Diesel (mg/kg)	Heavy Oil (mg/kg)
Method Blank	6/12/2009	103	nd	nd	nd
B-4 16-18	6/12/2009	110	nd	nd	nd
MW-3 26-28	6/12/2009	99	**D**	nd	nd
B-5 17-19	6/12/2009	112	nd	nd	nd
B-5 20-23	6/12/2009	107	**D**	nd	nd
B-5 20-23 DUP	6/15/2009	137	**D**	nd	nd
B-6 15-16	6/15/2009	92	nd	nd	nd
B-6 17-20	6/15/2009	98	nd	nd	nd
B-7 10-11	6/15/2009	97	nd	nd	nd
B-7 13-14	6/15/2009	105	nd	nd	nd
B-8 20-21	6/15/2009	85	nd	nd	nd
B-8 20-21 DUP	6/15/2009	106	nd	nd	nd
B-9 8-11	6/15/2009	103	nd	nd	nd
B-10 22-23	016/15/09	100	nd	nd	nd
Method Detection Limits			20	50	100

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE :50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

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Hydrocarbon Identification by NWTPH-HCID for Waters

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (ug/L)	Diesel (ug/L)	Heavy Oil (ug/L)
Method Blank	6/12/2009	96	nd	nd	nd
B-4	6/12/2009	98	nd	nd	nd
MW-2	6/12/2009	94	**D**	nd	nd
MW-3	6/12/2009	93	**D**	nd	nd
Method Detection Limits			250	500	500

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ESN NORTHWEST | Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: PBS Environmental

ADDRESS: 320 N. Johnson # 700, Kennewick WA 99336

PHONE: 507 735-2698 FAX: 735-1867

CLIENT PROJECT #: 62357.002 PROJECT MANAGER: Paul Danielson

DATE: 6-9-09 PAGE ____ OF ____

PROJECT NAME: Roy Farms

LOCATION: McKee WA

COLLECTOR: Daniel Son DATE OF COLLECTION ____

Sample Number	Depth	Time	Sample Type	Container Type	SEMI VOL 8270	Total Number of Containers	Laboratory Note Number	NOTES
1. B-4	16-18	6-8	Soil	Jar	X			
2. MW#3	26-28	"	Soil	"	X			
3. B-5	17-19	"	Soil	"	X			
4. B-5	20-23	"	"	"	X			
5. B-6	15-16	6-9	"	"	X			
6. B-6	17-20	"	"	"	X			
7. B-7	10-11	"	"	"	X			
8. B-7	13-14	"	"	"	X			
9. B-8	20-21	"	"	"	X			
10. B-9	8-11	"	"	"	X			
11. B-10	22-23	"	"	"	X			
12.								
13. B-4		6-8	H2O	VOAs	X			
14. MW-2		6-9	"	VOAs 1/2 Liter	X			
15. MW-3		6-9	"	"	X			
16. ~~B-5~~		6-8	"	VOAs	X			No sample
17.								
18.								

ANALYSES: VOA 8021B; VOA 8021B BTEX Only; VOA 8260; TPH - HCID; TPH 8015 (gasoline); TPH 8015 (diesel); TPH 8015 (d & o); PAH 8100; PAH 8270; PCBs 8082; Pesticides 8081; EPH; VPH; Methamphetamine; Pb; Hex Chrome

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[signature]	6-9-09	[signature]	6-9-09 1700
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR (5 DAY)

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
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Moxee, Washington

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Hydrocarbon Identification of Soil Method NWTPH-HCID

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)	Diesel (mg/kg)	Heavy Oil (mg/kg)
Method Blank	6/12/2009	103	nd	nd	nd
B-4 16-18	6/12/2009	110	nd	nd	nd
MW-3 26-28	6/12/2009	99	**D**	nd	nd
B-5 17-19	6/12/2009	112	nd	nd	nd
B-5 20-23	6/12/2009	107	**D**	nd	nd
B-5 20-23 DUP	6/15/2009	137	**D**	nd	nd
B-6 15-16	6/15/2009	92	nd	nd	nd
B-6 17-20	6/15/2009	98	nd	nd	nd
B-7 10-11	6/15/2009	97	nd	nd	nd
B-7 13-14	6/15/2009	105	nd	nd	nd
B-8 20-21	6/15/2009	85	nd	nd	nd
B-8 20-21 DUP	6/15/2009	106	nd	nd	nd
B-9 8-11	6/15/2009	103	nd	nd	nd
B-10 22-23	016/15/09	100	nd	nd	nd
Method Detection Limits			20	50	100

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE :50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

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Hydrocarbon Identification by NWTPH-HCID for Waters

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (ug/L)	Diesel (ug/L)	Heavy Oil (ug/L)
Method Blank	6/12/2009	96	nd	nd	nd
B-4	6/12/2009	98	nd	nd	nd
MW-2	6/12/2009	94	**D**	nd	nd
MW-3	6/12/2009	93	**D**	nd	nd
Method Detection Limits			250	500	500

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ESN NORTHWEST
Environmental Services Network

April 9, 2009

Paul Danielson
PBS Environmental
320 North Johnson Street, Suite 700
Kennewick, WA 99336

Dear Mr. Danielson:

Please find enclosed the analytical data report for the Roy Farms Project located in Moxee, Washington. Soil and water samples were analyzed for Hydrocarbon Identification by NWTPH-HCID, Diesel by NWTPH-Dx, Gasoline by NWTPH-Gx, BTEX & MTBE by Method 8260, Pb by Method 6020, and EDB by Method 8011 on April 1 – 8, 2009.

The results of these analyses are summarized in the attached table. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to PBS Environmental for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A. Korosec

Michael A. Korosec
President

1210 Eastside Street SE, Suite 200 ■ Olympia, Washington 98501 ■ 360.459.4670 ■ FAX 360.459.3432
Web Site: *www.esnnw.com* E-Mail: *info@esnnw.com*

ESN NORTHWEST CHEMISTRY LABORATORY

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Hydrocarbon Identification by NWTPH-HCID for Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)	Diesel (mg/kg)	Heavy Oil (mg/kg)
Method Blank	4/7/2009	76	nd	nd	nd
62357.00-19	4/7/2009	72	nd	nd	nd
Method Detection Limits			20	50	100

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ESN NORTHWEST CHEMISTRY LABORATORY

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Analyses of Diesel (NWTPH-Dx) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)
Method Blank	4/1/2009	112	nd
62357.00-13	4/1/2009	104	**56**
Method Detection Limits			50

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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PBS Environmental
ROY FARMS PROJECT
Client Project #62357.00
Moxee, Washington

Analyses of Diesel (NWTPH-Dx) in Water

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (ug/L)
Method Blank	4/1/2009	84	nd
62357.00-25	4/1/2009	82	nd
Method Detection Limits			250

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
Client Project #62357.00
Moxee, Washington

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lab@esnnw.com

Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260) in Soil

Sample Number	Date Analyzed	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Gasoline (mg/kg)	Surrogate Recovery (%)
Method Blank	4/7/2009	nd	nd	nd	nd	nd	76
LCS	4/7/2009	77%	86%	75%	115%	---	77
62357.00-13	4/7/2009	**0.46**	**16**	**7.4**	**48**	**1400**	86
62357.00-14	4/7/2009	nd	**0.073**	nd	nd	nd	74
62357.00-15	4/7/2009	**1.0**	**37**	**16**	**97**	**1900**	86
62357.00-16	4/7/2009	**0.6**	**17**	**8.4**	**52**	**1900**	78
62357.00-17	4/7/2009	**22**	**200**	**56**	**310**	**6700**	85
62357.00-18	4/7/2009	**1.2**	**9.5**	**2.8**	**17**	**690**	75
62357.00-20	4/7/2009	nd	nd	nd	nd	nd	73
62357.00-21	4/7/2009	**5.3**	**250**	**110**	**660**	**13000**	87 Bd
62357.00-22	4/7/2009	**0.2**	**7.5**	**0.9**	**100**	**3500**	86
62357.00-23	4/7/2009	nd	nd	nd	nd	**26**	75
62357.00-24	4/7/2009	nd	nd	nd	nd	**10**	75
MS	4/6/2009	INT	INT	INT	INT	---	79
MSD	4/6/2009	INT	INT	INT	INT	---	78
Method Detection Limits		0.02	0.05	0.05	0.15	10	

"---" Indicates not tested for component.
"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Chlorobenzene) & LCS : 65% TO 135%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
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Analyses of Gasoline & BTEX in Water by Method NWTPH-Gx/8260

Sample Number	Date Analyzed	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Gasoline (ug/L)	Surrogate Recovery (%)
Method Blank	4/2/2009	nd	nd	nd	nd	nd	109
LCS	4/2/2009	101%	89%	111%	89%	---	112
LCSD	4/2/2009	101%	89%	111%	87%	---	112
62357.00-25	4/2/2009	**7800**	**19000**	**1900**	**12000**	**100000**	102
Method Detection Limits		1.0	1.0	1.0	3.0	100	

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

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Analytical Results

8260, µg/kg (Soil)	Reporting	**MTH BLK**	**LCS**	**62357.00-13**
Date analyzed	Limits			
MTBE	50	nd	94%	nd
Surrogate recoveries				
Dibromofluoromethane		98%	110%	84%
4-Bromofluorobenzene		117%	126%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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lab@esnnw.com

Analytical Results

8260, µg/L (Water)	Reporting	**MTH BLK**	**LCS**	**62357.00-25**
Date analyzed	Limits			
MTBE	1.0	nd	100%	**190**
Surrogate recoveries				
Dibromofluoromethane		0%	100%	97%
Toluene-d8		0%	107%	96%
4-Bromofluorobenzene		0%	112%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
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Moxee, Washington

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Analyses of 1,2-Dibromoethane in Soil by EPA Method 8011

Sample Number	Date Analyzed	1,2-Dibromoethane (ug/kg)
Method Blank	4/8/2009	nd
62357.00-13	4/8/2009	nd
Method Detection Limits		0.20

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
Client Project #62357.00
Moxee, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analyses of 1,2-Dibromoethane in Water by EPA Method 8011

Sample Number	Date Analyzed	1,2-Dibromoethane (ug/L)
Method Blank	4/8/2009	nd
62357.00-25	4/8/2009	nd
Method Detection Limits		0.01

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
Client Project #62357.00
Moxee, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)
Method Blank	4/6/2009	nd
62357.00-13	4/6/2009	nd
62357.00-21	4/6/2009	**7.8**
Method Detection Limits		5.0

"nd" Indicates not detected at listed detection limits.

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Moxee, Washington

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(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

QA/QC Data - Total Metals EPA-6020 Series Analyses

Sample Number:

	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	(%)
Lead	100	65	65	100	65	65	0.00

	Laboratory Control Sample		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
Lead	100	78	78

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
Client Project #62357.00
Moxee, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Total Metals in Water by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (ug/L)
Method Blank	4/6/2009	nd
62357.00-25	4/6/2009	nd
62357.00-25 Dup.	4/6/2009	nd
Method Detection Limits		2.0

"nd" Indicates not detected at listed detection limits.

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
ROY FARMS PROJECT
Client Project #62357.00
Moxee, Washington

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lab@esnnw.com

QA/QC Data - Total Metals EPA-6020 Series Analyses

Sample Number: 62357.00-25

	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (ug/L)	Measured Conc. (ug/L)	Spike Recovery (%)	Spiked Conc. (ug/L)	Measured Conc. (ug/L)	Spike Recovery (%)	(%)
Lead	100	77	77	100	82	82	6.29

	Laboratory Control Sample		
	Spiked Conc. (ug/L)	Measured Conc. (ug/L)	Spike Recovery (%)
Lead	100	104	104

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

APPENDIX D

Previous Project Reports

PBS

PORTLAND
SEATTLE
VANCOUVER
EUGENE
BEND
TRI-CITIES

March 12, 2009

Mr. Leslie Roy
Roy Farms
401 Walters Road
Moxee, WA 98936

Re: LIMITED ABOVE GROUND STORAGE TANK (AST) ASSESSMENT, ROY FARMS PARCEL #20120831001, MOXEE, WASHINGTON
PBS PROJECT NUMBER #621396.00

Dear Mr. Roy:

In March 2008, at your request PBS Engineering and Environmental (PBS) completed a Limited AST Assessment at the above referenced property. This report provides a summary of the assessment results.

BACKGROUND

We understand that the subject site has had rural residential, shop, office and hop support use for many years. Hop production occurs on most of the property. Fueling occurred immediately north of the shop facility, with two large ASTs at that location. The larger diesel AST is oriented vertically and is somewhat larger than the vertical unleaded gasoline AST (immediately to the east). Underground lines exit the lower north sides of the tanks and travel underground approximately 30 feet to a gasoline and diesel fueling pump (see Figure 2).

Roy Farms recently purchased the property, with the fueling infrastructure unchanged since their purchase. PBS recently completed a Phase I Environmental Site Assessment (Phase I) on the property, which includes a long list of parcels. The results of the Phase I recommended that further soil testing be completed near the fueling location, because of the possibility of fuel leakage from underground lines and pump structures.

FIELD METHODS

The fieldwork for this assessment was conducted on March 3, 2009; with a discussion of the location of fuel lines with long-term employees prior to beginning work. A Roy Farms backhoe and operator were used to excavate in several different locations to collect soil samples.

Six test pits were excavated at the locations shown on Figure 2. After the excavations were completed and the samples were collected, the holes were backfilled with excavated soil. Soil samples were collected into 4-ounce glass jars; no water was sampled. All samples were shipped in iced coolers to a certified environmental laboratory, within the required holding time of the chosen analytical method.

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Suite 700
Kennewick, WA 99336
509.735.2698 PHONE
509.735.1867 FAX

PBS classified the soils encountered in the excavations in general accordance with the Unified Soil Classification System. In general, material encountered in the test pits was standard across the site and included a surface layer of imported gravel. Fine sand and silt were present near the surface under the gravel fill, to a depth of approximately 6 feet below ground surface (BGS). Below six feet the soil became coarser grained, with considerably more sand present. A hard calcareous white caliche was found beginning approximately 7.5 feet below ground surface. Groundwater was not encountered to a depth of 8 feet BGS in any of the excavations.

LABORATORY RESULTS

All soil samples were submitted to ESN Laboratory in Olympia, Washington for analysis by total petroleum hydrocarbons – hydrocarbon identification method; (NWTPH-HCID) a qualitative procedure to identify the fraction and type of hydrocarbon in the sample. Other analysis was completed for total petroleum hydrocarbons – diesel extended method (NWTPH-Dx), total petroleum hydrocarbons as gasoline (NWTPH-Gx) and volatile organic constituents (VOCs). Table 1 provides a summary of analytical results for the AST assessment; fuel contamination was encountered in test pits 3, 4, 5 and 6, as indicated below. The laboratory report is attached following this report.

TABLE 1
ANALYTICAL RESULTS

Sample/Depth	NWTPH-HCID	BTEX	Gasoline	Diesel	Oil	PID
62357.00-01	ND	All ND	NA	ND	ND	6
62357.00-02	ND	All ND	NA	ND	ND	3601
62357.00-03	ND	All ND	NA	ND	ND	493
62357.00-04	NA	All ND	NA	16,000	20,000	841
62357.00-05	ND	All ND	NA	ND	ND	1792
62357.00-06	ND	All ND	NA	ND	ND	2100
62357.00-07	NA	All ND	NA	1,300	1,700	3700
62357.00-08	ND	NA	NA	ND	ND	4100
62357.00-09	ND	NA	NA	ND	ND	29
62357.00-10	ND	NA	NA	ND	ND	9
62357.00-11	ND	NA	NA	ND	ND	92
62357.00-12	ND	NA	NA	ND	ND	488
Cleanup Levels Soil	NA	NA -Variable	100/30*	2,000	2,000	

NOTES:
Unless indicated, all sample matrix materials are soil.
WDOE – MTCA Method A Cleanup levels for each constituent are indicated in the last line.
Bolded numbers indicate analysis exceeding cleanup levels
All analytical results are in milligrams/kilogram (mg/kg)
ND – Material not detected.
NA - indicates not applicable or not analyzed.
* = The Method A cleanup level for gasoline is 100/1.0 mg/kg or 30/0.8 mg/kg if benzene is present. Groundwater is second number.
See Figure I for boring/sample locations.

CONCLUSIONS

Analytical results indicate that petroleum hydrocarbon impact above Washington State Department of Ecology (WDOE) Model Toxic Control Act (MTCA) Method A cleanup levels were found in many of the soils sample completed for this project (see Table #1). A release of diesel fuel to the soil occurred from the base of the north fueling pump. A gasoline release apparently occurred from a fuel fitting just south of the south pump groundwater sampled at the Welchs site from Borings #4 and #7. Field indications of bunker fuel contamination were observed in both borings. The fuel was encountered only in groundwater, with no soil contamination above the water table elevation encountered. Boring #4 was located approximately one foot north of the existing bunker fuel lines and at the north end of the former 12,000-gallon USTs on the property. Boring #7 was approximately 25 feet south of the existing bunker fuel lines and 18 feet southeast of the south side of the former UST pump house. The larger amount of contamination was observed in Boring #4, which was judged to be downgradient of the confirmed leaks that occurred in the lines and pump house of the earlier 12,000 gallon USTs. No leakage was suspected from the current 50,000 gallon UST and piping system.

No contamination was detected in Boring #5, which was approximately 80 feet downgradient from the suspected leak locations. No contamination was detected in Borings #1, #2 and #3 which were adjacent and downgradient from the existing onsite 50,000 gallon UST. Boring #6 was completed further east on the site, immediately north of the Building #4 machine shop to check for leakage from that area. No contamination was detected in Boring #6, suggesting that no contaminants had escaped from that area.

RECOMMENDATIONS

In support of due diligence, PBS recommends that the onsite bunker fuel contaminated soil be removed to the degree possible to not jeprodize adjacent building, slab or utility foundations. Removing the contaminated soil will reduce potential future groundwater contamination by ending the gravity transfer of bunker fuel from soil into the groundwater beneath. The contaminated soil should be disposed at an offsite landfill. Clean fill soil can be brought in to replace the contaminated soil. Work to remove the contaminated soil is currently underway.

In accordance with WDOE – MTCA regulations in Chapter 173-340 WAC, PBS recommends that the release be reported to the WDOE (this action has already been completed). In conjunction with the contact with WDOE, PBS recommends that Welchs consider joining the WDOE Voluntary Cleanup Program (VCP). Joining the VCP will involve submitting this report (and a planned future excavation remedial action report) and receiving a decision from WDOE concerning whether cleanup action, risk assessment, installing monitoring wells/monitoring or further assessment is necessary at the Welchs site.

Further inspection of fluorescent light ballasts for PCBs and other potential hazardous building materials (lead and asbestos) should be completed prior to future onsite renovations.

LIMITATIONS

This work was performed in accordance with generally accepted practices of other consultants undertaking similar studies during the same time period and geographical area. PBS Environmental observed the same degree of care and skill generally exercised by other consultants under similar circumstances and conditions. The findings and conclusions of this report are not scientific certainties, but rather, are based on professional judgement concerning the significance of data gathered during the course of this assessment. The recommendations of this report, or lack thereof, are not considered a legal opinion as to the clients duty concerning due diligence relating to potential liabilities in leasing, owning, or purchasing real estate.

PBS in not able to represent that the site or adjoining land contains no hazardous waste, oil or other latent conditions beyond that detected or observed by PBS during this study. The possibility always exists for contaminants to migrate through surface water, air, or groundwater. The ability to accurately address the environmental risk associated with transport in these media is beyond the scope of this investigation.

PBS very much appreciates the opportunity to provide this report. If you have any questions, need further services or need other supporting information please contact us at (509) 735-2698.

Sincerely,

Paul Danielson, LHG
Project Manager

Attachments: Figure 1
Figure 2
Analytical Results

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
Client Project #62357.00

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1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Hydrocarbon Identification by NWTPH-HCID for Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)	Diesel (mg/kg)	Heavy Oil (mg/kg)
Method Blank	3/4/2009	111	nd	nd	nd
62357.00-1	3/4/2009	96	nd	nd	nd
62357.00-2	3/4/2009	int.	D	D	nd
62357.00-3	3/4/2009	int.	D	D	nd
62357.00-4	3/4/2009	int.	D	D	nd
62357.00-5	3/4/2009	int.	D	D	nd
62357.00-6	3/4/2009	int.	D	D	nd
62357.00-7	3/4/2009	90	D	nd	nd
62357.00-8	3/4/2009	111	D	D	nd
62357.00-9	3/4/2009	93	nd	nd	nd
62357.00-10	3/4/2009	100	nd	nd	nd
62357.00-10 Dup.	3/4/2009	94	nd	nd	nd
62357.00-11	3/4/2009	89	nd	nd	nd
62357.00-12	3/4/2009	112	D	nd	nd
Method Detection Limits			20	50	100

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
Client Project #62357.00

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Analyses of Gasoline (NWTPH-Gx) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)
Method Blank	3/11/2009	101	nd
62357.00-2	3/11/2009	102	**19000**
62357.00-3	3/11/2009	104	**5900**
62357.00-4	3/11/2009	105	**6100**
62357.00-5	3/11/2009	103	**3000**
62357.00-6	3/11/2009	103	**10000**
62357.00-7	3/11/2009	103	**6300**
62357.00-8	3/11/2009	103	**18000**
62357.00-12	3/11/2009	106	**21**
Method Detection Limits			10

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (4-BFB): 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
Client Project #62357.00
Washington

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lab@esnnw.com

Analyses of Diesel & Oil (NWTPH-Dx/Dx Extended) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Oil (mg/kg)
Method Blank	3/4/2009	111	nd	nd
62357.00-2	3/4/2009	116	**780**	nd
62357.00-3	3/4/2009	INT	**37000**	nd
62357.00-4	3/4/2009	INT	**42000**	nd
62357.00-5	3/4/2009	INT	**4300**	nd
62357.00-6	3/4/2009	INT	**45000**	nd
62357.00-8	3/5/2009	111	**110**	nd
Method Detection Limits			50	100

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

PBS | Engineering + Environmental

April 7, 2009

Leslie Roy
Roy Farms, Inc.
401 Walters Road
Moxee, Washington 98936

Re: Roy Farms Limited Phase II ESA and Interim Remedial Action Report
PBS Project #62357.00

Dear Mr. Roy:

PBS Engineering + Environmental (PBS) is pleased to provide an update of site assessment and remedial activities at the Roy Farms fuel release cleanup site on Yakima County Parcel #201208-31001. Our first visit to the site was in February 2009, when we completed the Phase I Environmental Site Assessment (ESA) for the site; the Phase I ESA indicated the need for a Phase II ESA. The information in this report also provides limited results of the initial Phase II Environmental Site Assessment (see attached analytical results and table). This preliminary report has been completed, in part, in response to a request from US Bank for information on the site.

The site visit for the Phase II occurred on March 3, 2009. Twelve samples were collected from six test pits. Analytical results indicated the presence of gasoline and diesel fuel contamination related to releases at the pumps and fittings in the underground lines. Test Pit #1 (Sample #1) was collected immediately northwest of the diesel fuel AST and was clean. Test Pit #2 (Sample #2) was completed 15 feet south of the pump island at an angle point in the fuel lines; analytical results indicated a gasoline release at above than Washington State Department of Ecology (WDOE) Method A cleanup levels with a minor diesel release. Test Pit #3 (Samples #3 #4 and #9) was completed six feet northwest of the north pump on the pump island and indicated a significant gasoline and diesel release, ending before the location of sample #9 in the same test pit. Test Pit #4 (Samples #5, #6 and #10) was completed 7 feet northeast of the north pump on the pump island and indicated a gasoline and diesel release that ended before the location of Sample #10 in the same test pit. Test Pit #5 (Samples #7, #8 and #12) was located 6 feet east of the south pump on the pump island and indicated a gasoline and low grade diesel release. Test Pit #6 was completed 12 feet north of the unleaded gasoline tank (Sample #11) and indicated no fuel release. See Table #1 for more information of analytical results and sample locations.

After the Phase II ESA and discovery of a fuel release, Roy Farms began excavating and stockpiling contaminated soil from the site. Excavation work began soon after March 3, 2009, with the fuel pumps and lines removed to support the remedial action. Not long after excavation began, contamination was found far enough west to indicate the need to remove the two large above ground fuel storage tanks (which was done). Further work also trended south toward the adjacent shop. It was determined that contamination remained close enough to the building that excavation in that direction should end to protect the foundation of the shop.

Roy Farms and PBS determined that the leakage appeared to originate from a pipe joint at a 90 degree turn, immediately south of the pump island. In addition, it appeared the fuel leaked from the base of the gasoline fuel pump on the pump island (the south pump). A smaller amount of diesel fuel leaked from the base of the north pump on the fuel island; the amount of diesel fuel leakage was very minor compared to the gasoline released.

PBS completed several site visits to observe and support the progress of the excavation. In addition to the visit on March 3, 2009, PBS site visits were completed on March 18, 2009, March 25, 2009 and March 30, 2009. PBS

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used a photoionization detector (PID) to make field judgments concerning whether fuel remained in the soil in the area of excavation. On the 25th, groundwater was observed in the base of the excavation at 30 feet below ground surface. Evidence showed that gasoline contamination had migrated down to groundwater. In order to remove the source of contamination in groundwater PBS suggested that excavation continue.

On March 30, 2009, PBS came back to the site and completed further PID analysis and collected thirteen confirmatory soil samples around the interior of the excavation to determine if all of the readily accessible contamination was removed. PBS also sampled the anticipated source of clean backfill soil and the contaminated soil stockpile. Although analytical results have not yet been received, the excavation appeared to be clean except for the south wall and the smear zone, described below. PBS estimated that approximately 6000 cubic yards of soil was removed from the excavation. A lesser amount of the volume was clean soil peeled back from the top outer edges of the excavation. Most of the excavated soil was contaminated with gasoline and hauled approximately ¼ mile north to a large temporary stockpile.

On March 30th, a shallow pond about 25 feet in diameter was exposed in the base of the excavation, where the contaminated smear zone of soil adjacent to the water was removed in that area. The water in the base of the excavation appeared to be mildly contaminated and was sampled (sample results not yet received). Very little sheen was present on top of the groundwater.

In order to protect the building foundation, a relatively small portion of contaminated soil will be left in place along the south wall of the excavation. Other soil expected to be left in place is the contaminant smear zone (within the area where changes in groundwater elevation had smeared fuel through that zone) affecting a larger area than the remedial action excavation. It was determined not to be practical to remove 29 feet of clean soil to excavate and clean up a one-foot thick zone of smear zone soil. PBS expects to recommend excavation backfilling with compaction, using clean soil to promote worker and shop building safety and allow farming support operations on the site. The remaining contamination will be evaluated for risk in a later report, with the aid of groundwater monitoring.

PBS understands that Roy Farms is in the process of negotiating with the Yakima County Health Department to landfarm or bio-remediate the contaminated soil on-site. With those negotiations still in progress, the final disposition of the soil is as yet unknown. In previous discussions with the County, they indicated that the soil could be landfarmed on the parcel, with some, as yet not finalized, restrictions. In the mean time contaminated stockpiled soil remains on the site, with plans to finalize remedial action expected soon.

PBS also recommends the construction of, probably three, monitoring wells at the location of the release, with two of the wells immediately downgradient and an upgradient well. The wells should be installed soon after the pit has been backfilled. Four quarters (one-year) of groundwater sampling is proposed from the wells. Short reports that provide results on each sampling event, and cleanup progress in the landfarm, will be provided after each sampling event.

The pathway currently being followed for this project is independent remedial action. The option remains for Roy Farms to join the Washington State Department of Ecology (WDOE), Voluntary Cleanup Program (VCP), where they will offer guidance for site remedial action. Through the VCP, WDOE is paid for their time to review and make recommendations concerning the cleanup. PBS supports our recommendations concerning the site, but Roy Farms should give consideration to joining the VCP and taking WDOE recommendations, (which may be different than ours). Roy Farms can join the VCP at any time during the cleanup process. The VCP is especially important if Roy Farms plans to sell the property; a No Further Action (NFA) letter from WDOE helps assure

potential buyers that the site is clean. PBS recommendations, like WDOEs, would both expect to move toward cleanup at the site.

Initial PBS costs for the Phase II ESA to evaluate the site of the ASTs were $2,490. Based on the presence of contamination, the scope of work we are providing the Roy Farms is exceeding that amount. To date we have spent a total of approximately $4,032 on the three extra trips to the site, extra sampling and interim report completion.

We also anticipate further costs at the site including monitoring well installation ($2,194 – PBS costs, plus +/- $7,500 for the drilling). The first quarter of groundwater monitoring will be included in the well installation costs.

Three more quarters of groundwater monitoring costs are anticipated in 2009 and 2010. We expect that time and sampling costs for checking the landfarm will be included during the groundwater sampling mobilization, with three checks of the landfarm anticipated during the year. Our costs for that combined effort will be $1,549 per visit, with a $4,647 cost for three mobilizations, sampling sessions and site visits.

In 2010, four quarters of groundwater monitoring and assessment of the landfarm will have been completed. A report that evaluates groundwater, the landfarm and risk concerning the soil contamination remaining on the site, will need to be completed. PBS expects that this report will cost approximately $1,700.

These costs do not include the extensive costs that Roy Farms has obviously spent to complete the excavation and stockpiling of soil, or the future costs they will spend to landfarm soil. The costs do not include costs that Roy Farms may have to pay to the County Health Department, which are not expected to be great.

PBS is pleased to provide this preliminary information concerning the cleanup site. If you have questions about this or see how we may pursue a more efficient cleanup please get in touch with me. I may be reached at (509) 727-0538.

Sincerely,

Paul Danielson
PBS Project Manager

cc: Mr. Lane Brown, US Bank

Table #1 – Analytical Results Roy Farms - Phase II ESA

Sample Number	Sample Location	Test Pit	Sample Depth	Gasoline	Diesel	Oil	NWTPH-HCID	PID Results
62357.00-1	10' NW Diesel Tank	#1	-5'	ND	ND	ND	ND	6
62357.00-2	5' NW Piping Angle Point	#2	-4'	**19000**	**780**	ND	D=Gx, Dx	3601
62357.00-3	6' NW of N Fuel Pump	#3	-4'	**5900**	**37000**	ND	D=Gx, Dx	493
62357.00-4	6' NW of N Fuel Pump	#3	-7'	**6100**	**42000**	ND	D=Gx, Dx	841
62357.00-5	7' NE of N Fuel Pump	#4	-4'	**3000**	**4300**	ND	D=Gx, Dx	1792
62357.00-6	7' NE of N Fuel Pump	#4	-7'	**10000**	**45000**	ND	D=Gx, Dx	2100
62357.00-7	6' E of S Fuel Pump	#5	-4'	**6300**	ND	ND	D=Gx	3700
62357.00-8	6' E of S Fuel Pump	#5	-8'	**18000**	110	ND	D=Gx, Dx	4100
62357.00-9	11' NW of N Fuel Pump	#3	-4'	ND	ND	ND	ND	29
62357.00-10	11' NE of N Fuel Pump	#4	-4'	ND	ND	ND	ND	9
62357.00-11	12 ' N of Unleaded Tank	#6	-7'	ND	ND	ND	ND	92
62357.00-12	10' SE of S Fuel Pump	#5	-5'	21	ND	ND	D=Gx	488
	MTCA Method A Cleanup Level Soil			100/30	2000	2000		

Note: ND = Constituent not detected
Gx = Gasoline Detected
Dx = Diesel Detected
All results are listed in milligrams per kilogram by weight
PID = Photoionization Detector results in parts per million, qualitative
NWTPH-HCID = Qualitative results for Northwest Total Petroleum Hydrocarbons, Hydrocarbon Identification Method
Bolded results exceed MTCA Method A Soil Cleanup Levels

ESN NORTHWEST
Environmental Services Network

March 13, 2009

Paul Danielson
PBS Environmental
320 North Johnson Street, Suite 700
Kennewick, WA 99336

Dear Mr. Danielson:

Please find enclosed the analytical data report for the 62357.00 Project located in Washington. Soil samples were analyzed for Hydrocarbon Identification by NWTPH-HCID, Diesel and Oil by NWTPH-Dx/Dx Extended, and Gasoline by NWTPH-Gx on March 4 – 10, 2009.

The results of these analyses are summarized in the attached table. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to PBS Environmental for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A. Korosec

Michael A. Korosec
President

1210 Eastside Street SE, Suite 200 ■ Olympia, Washington 98501 ■ 360.459.4670 ■ FAX 360.459.3432
Web Site: *www.esnnw.com* E-Mail: *info@esnnw.com*

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
Client Project #62357.00

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lab@esnnw.com

Hydrocarbon Identification by NWTPH-HCID for Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)	Diesel (mg/kg)	Heavy Oil (mg/kg)
Method Blank	3/4/2009	111	nd	nd	nd
62357.00-1	3/4/2009	96	nd	nd	nd
62357.00-2	3/4/2009	int.	**D**	**D**	nd
62357.00-3	3/4/2009	int.	**D**	**D**	nd
62357.00-4	3/4/2009	int.	**D**	**D**	nd
62357.00-5	3/4/2009	int.	**D**	**D**	nd
62357.00-6	3/4/2009	int.	**D**	**D**	nd
62357.00-7	3/4/2009	90	**D**	nd	nd
62357.00-8	3/4/2009	111	**D**	**D**	nd
62357.00-9	3/4/2009	93	nd	nd	nd
62357.00-10	3/4/2009	100	nd	nd	nd
62357.00-10 Dup.	3/4/2009	94	nd	nd	nd
62357.00-11	3/4/2009	89	nd	nd	nd
62357.00-12	3/4/2009	112	**D**	nd	nd
Method Detection Limits			20	50	100

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
Client Project #62357.00

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analyses of Gasoline (NWTPH-Gx) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)
Method Blank	3/11/2009	101	nd
62357.00-2	3/11/2009	102	**19000**
62357.00-3	3/11/2009	104	**5900**
62357.00-4	3/11/2009	105	**6100**
62357.00-5	3/11/2009	103	**3000**
62357.00-6	3/11/2009	103	**10000**
62357.00-7	3/11/2009	103	**6300**
62357.00-8	3/11/2009	103	**18000**
62357.00-12	3/11/2009	106	**21**
Method Detection Limits			10

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (4-BFB): 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental
Client Project #62357.00
Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analyses of Diesel & Oil (NWTPH-Dx/Dx Extended) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Oil (mg/kg)
Method Blank	3/4/2009	111	nd	nd
62357.00-2	3/4/2009	116	**780**	nd
62357.00-3	3/4/2009	INT	**37000**	nd
62357.00-4	3/4/2009	INT	**42000**	nd
62357.00-5	3/4/2009	INT	**4300**	nd
62357.00-6	3/4/2009	INT	**45000**	nd
62357.00-8	3/5/2009	111	**110**	nd
Method Detection Limits			50	100

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

=> NO we
12101 Tside Street #200
Olympia WA 98501

(360) 459-4670
~~856-489-4995~~

~~P&K~~ Project # 62357.00

~~P & K Microbiology Services, Inc.~~ Tel: ~~609-427-4044~~ Fax: ~~609-427-0232~~ ~~856-489-4085~~
The Environmental Microbiology Specialists ~~1950 Old Cuthbert Road Unit #L, Cherry Hill, New Jersey 08034~~ ~~08003~~
7 Allison Drive

Chain-of-Custody and Analysis Request Form

~~P&K~~ Client: PBS Environmental
Address: 320 N. Johnson #700
Kennewick WA 99336

Telephone #: 509 735-2698
Fax #: 735-1867
Date sampled: 3-3-09

Project ID: 62357.00
P.O.#: 62357.00
Date submitted: 3-3-09

Sample #	Sample Type[1]: air, wipe, bulk, dust, water	Air vol. (L)	Area (in^2)	Water Source[2]	Sample location	Analysis Requested (see back of sheet)	Special Instructions[3] & Comments
62357.00 - 1	Soil					NWTPH-HCID	Run for Positive
-2	↓					↓	↓
-3							
-4							
-5							
-6							
-7							
-8							
-9							
-10							
-11							
-12	↓					↓	↓

1. Please make sure to provide essential information (air vol. and surface area in $inch^2$) so that a complete report can be generated.
2. Please indicate whether a water sample is potable or non-potable.
3. Please indicate specific requirements: incubation temperature and media selection.

Submitted by: (sign) _____ (print) Paul Danielson Contact Person: Paul Danielson

Received by: (sign) _____ (print) STEPHAN LOAGUE Date & time Received: 0810 3/4/09

2.1°C

(For lab use only) Samples processed by: _____ Date: _____ Time: From _____ am/pm to _____ am/pm

912161

SAMPLE CHAIN OF CUSTODY

ME 12/18/09 V2/ D03

Page # 1 of 1

Send Report To: Dana Ertel

Company: PBS Engineering and Environmental, Inc

Address: 320 N. Johnson St. Suite [redacted]700

City, State, ZIP: Kennewick, WA 99336

Phone #: (509) 735-2698 Fax #: (509) 735-1867

SAMPLERS (signature): Dana B. Ertel

PROJECT NAME/NO.: 62357.003

PO #:

REMARKS: Pls Return Cooler. Need a box of 500ml amber. To DSE

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	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Notes
MW-1	01 A-D	12/16/09		Groundwater	4	✓	✓	✓				
MW-2	02 A-D	↓		↓	4	✓	✓	✓				
MW-3	03 A-D	↓		↓	4	✓	✓	✓				

Samples received at 2 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Dana B. Ertel	Dana B. Ertel	PBS	12/17/09	1030
Received by: [illegible]	Nhan Phan	FedEx	12/18/09	09'30
Relinquished by:				
Received by:				

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

PBS | Engineering + Environmental

January 15, 2010

Leslie Roy
Roy Farms, Inc.
401 Walters Road
Moxee, Washington 98936

Re: Quarterly Groundwater Monitoring on Parcel #201208-31001

Dear Mr. Roy:

PBS Engineering + Environmental (PBS) is pleased to provide the results of quarterly groundwater monitoring at the above referenced location. The monitoring was completed at 3 monitoring wells located to the north of the shop building at the former location of a large above ground storage tank where fuel leakage had occurred. Further background work at the site involved a large excavation based remedial action, after which the wells were installed. In addition, a previous round of groundwater monitoring was completed in June and September 2009.

PBS employee Dana Ertel completed a third quarter of groundwater monitoring in the wells on December 16, 2009. The second quarter of monitoring was completed on September 28, 2009, by Paul Danielson, with results from both site visits provided with this letter. During the September site visit soil samples were also collected from the land farmed area, from the earlier remedial action, with analytical results attached and in Table #2, below.

Samples collected were submitted to ESN Laboratory in Olympia, Washington or Friedman and Bruya Laboratory in Seattle, Washington. Analysis was completed for gasoline (NWTPH-Gx), benzene, toluene, ethylbenzene and xylenes (BTEX) and diesel (NWTPH-Dx). Lead was not sampled, because no significant lead was found during the remedial action soil samples. Monitoring well analytical results are provided in Table #1 below, with laboratory reports attached to this report.

Table #1 - Monitoring Well Sample Results

Sample #	Sampling Date	Depth to Ground Water	pH	Conductivity micromhos/cm	Temperature °C	Gasoline	BTEX	Diesel/Oil	GW Flow Direction
MW #1	9/28/09	16.99'	7.34	1032	16.2	ND	3.4/1/ND/5	ND	N 72°W
MW #1	12/16/09	18.64'	7.41	1040	15.5	130	39/2/ND/130	50	N 82°W
MW #2	9/28/09	20.37'	7.11	1138	16.7	1300	1000/25/ND/130	ND	N 72°W
MW #2	12/16/09	22.50'	7.07	1440	16.2	9500	3.1K/93/ND/9.5K	840	N 82°W
MW #3	9/28/09	16.96'	6.94	1526	16.7	24000	14K/7.9K/860/5.9K	ND	N 72°W
MW #3	12/16/09	19.86'	6.98	1724	15.8	90000	20K/12K/1.3K/90K	3800	N 82°W

Note: See Notes below Table #2

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

320 N Johnson Street, Suite 700, Kennewick, WA 99336
509.735.2698 Main
509.735.1867 Fax
www.pbsenv.com

Groundwater sample results indicate significant groundwater contamination. Earlier assessment indicated, however, that contamination is not migrating off of the parcel. Groundwater contamination was higher in December than September, probably because groundwater is less diluted with infiltrating irrigation water during the winter. With all fuel leakage into the aquifer stopped by the removal of the tanks and soil remedial action, slow long term improvement in groundwater quality will occur. Sample results indicated in bold in Table #1 provide an indication of which locations exceed cleanup levels.

In both September and December the groundwater flow direction was northwest. The depth to groundwater has dropped significantly during December (by approximately 2 feet); this change of groundwater elevation is attributed to the lack of influx of irrigation water into the aquifer during the winter season.

In September soil samples were collected in various places within the boundaries of the land farmed soil from the remedial excavation (see Table #2). A simple sportsman's GPS unit was used to determine sample locations, and, if desired by Roy Farms, a similar unit can be used to find the location where PBS collected the samples. Although it is cleaning up quite well, some contamination appeared to remain in the northeast portion of the land farmed zone in September. The numerous rounds of tilling that Roy Farms completed on the land farmed area has helped to bring the contaminant levels down significantly.

Table #2 - September Land Farm Analytical Results

Sample #	Latitude	Longitude	Depth	Gasoline	BTEX	Diesel
#1	46.54178°N	-120.35107°W	1'	ND	All ND	ND
#2	46.54210°N	-120.35085°W	1'	ND	All ND	ND
#3	46.54229°N	-120.35079°W	1'	ND	All ND	ND
#4	46.54236°N	-120.35057°W	1'	60	.02/.1/ND/.15	570
#5	46.54221°N	-120.35039°W	1'	**670**	ND/.08/ND/**14**	470
#6	46.54213°N	-120.35061°W	1'	ND	**.05**/ND/ND/ND	ND

Note: Soil analytical results are provided in milligrams/kilogram (mg/kg)
Bolded Results exceed WDOE Method A cleanup levels
Water analytical results are provided in micrograms per liter (mg/L)
ND = Constituent not detected at minimum detection limit

RECOMMENDATIONS

Further quarterly groundwater monitoring is recommended for the three wells, which would be planned to continue in March 2010. Periodic tilling of the northeast portion of the land farmed area is recommended as soon as weather allows in the spring.

PBS continues to recommend that Roy Farms visit with the Washington State Department of Ecology concerning the site. At that time they would probably want to discuss Roy Farms joining the Voluntary Cleanup Program (VCP) concerning this site. Frosty Smith would be your initial site contact at the WDOE; a copy of the earlier report has already been submitted to them.

This work was performed in accordance with the generally accepted practices of consultants undertaking similar studies at the same time and in the same geographical area. PBS observed a degree of care and skill generally exercised by other consultants under similar circumstances and conditions. Findings and conclusions must be considered not as scientific certainties, but as opinions based on professional judgment concerning the

significance of the data gathered during the course of monitoring. Other than this, no warranty is implied or intended.

We appreciated the opportunity to provide this report. If you have any questions or need further services please contact us at (509) 735-2698.

Prepared and submitted by:

Paul Danielson, LHG.
Project Manager

ESN NORTHWEST
Environmental Services Network

October 8, 2009

Paul Danielson
PBS Environmental
320 North Johnson Street, Suite 700
Kennewick, WA 99336

Dear Mr. Danielson:

Please find enclosed the analytical data report for the Roy Farms Project located in Moxee, Washington. Soil and water samples were analyzed for Diesel and Oil by NWTPH-Dx/Dx Extended, Gasoline by NWTPH-Gx, and BTEX by Method 8260 on October 5 – 7, 2009.

The results of these analyses are summarized in the attached table. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to PBS Environmental for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A. Korosec

Michael A. Korosec
President

1210 Eastside Street SE, Suite 200 ■ Olympia, Washington 98501 ■ 360.459.4670 ■ FAX 360.459.3432
Web Site: *www.esnnw.com* E-Mail: *info@esnnw.com*

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental, Inc.
ROY FARMS PROJECT
Client Project #62357.003
Moxee, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Diesel Range Organics & Lube Oil Range Organics in Water by Method NWTPH-Dx

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (ug/L)	Lube Oil Range Organics (ug/L)
Method Blank	10/5/2009	10/5/2009	90	nd	nd
MW-1	10/5/2009	10/5/2009	108	nd	nd
MW-2	10/5/2009	10/5/2009	98	nd	nd
MW-3	10/5/2009	10/5/2009	99	nd	nd
MW-3 DUP	10/5/2009	10/5/2009	102	nd	nd
Reporting Limits				250	500

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental, Inc.
ROY FARMS PROJECT
Client Project #62357.003
Moxee, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx/Dx Extended

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	10/5/2009	10/5/2009	119	nd	nd
62357.003-1	10/5/2009	10/5/2009	89	nd	nd
62357.003-2	10/5/2009	10/5/2009	107	nd	nd
62357.003-3	10/5/2009	10/5/2009	91	nd	nd
62357.003-4	10/5/2009	10/5/2009	103	**570**	nd
62357.003-5	10/5/2009	10/5/2009	104	**470**	nd
62357.003-6	10/5/2009	10/5/2009	113	nd	nd
62357.003-6 DUP	10/5/2009	10/5/2009	83	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental, Inc.
ROY FARMS PROJECT
Client Project #62357.003
Moxee, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Gasoline Range Organics & BTEX in Water by Method NWTPH-Gx/8260

Sample Number	Date Analyzed	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Gasoline Range Organics (ug/L)	Surrogate Recovery (%)
Method Blank	10/6/2009	nd	nd	nd	nd	nd	117
LCS	10/6/2009	96%	104%	98%	96%	137%	103
MW#1	10/6/2009	3.4	1.0	nd	5.0	nd	115
MW#1 DUP	10/6/2009	4.3	1.1	nd	6.3	nd	117
MW#2	10/6/2009	1000	25	nd	130	1300	117
MW#3	10/6/2009	14000	7900	860	5900	24000	114
MS	10/6/2009	99%	116%	104%	105%	---	108
MSD	10/6/2009	106%	115%	107%	110%	---	104
Reporting Limits		1.0	1.0	1.0	3.0	100	

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

ESN NORTHWEST CHEMISTRY LABORATORY

PBS Environmental, Inc.
ROY FARMS PROJECT
Client Project #62357.003
Moxee, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Gasoline Range Organics & BTEX in Soil by Method NWTPH-Gx/8260

Sample Number	Date Prepared	Date Analyzed	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Gasoline Range Organics (mg/kg)	Surrogate Recovery (%)
Method Blank	9/30/2009	10/7/2009	nd	nd	nd	nd	nd	116
LCS	9/30/2009	10/7/2009	107%	117%	112%	112%	94%	103
62357.003-1	9/30/2009	10/7/2009	nd	nd	nd	nd	nd	114
62357.003-1 DUP	9/30/2009	10/7/2009	nd	nd	nd	nd	nd	112
62357.003-2	9/30/2009	10/7/2009	nd	nd	nd	nd	nd	116
62357.003-3	9/30/2009	10/7/2009	nd	nd	nd	nd	nd	116
62357.003-4	9/30/2009	10/7/2009	**0.02**	**0.10**	nd	**0.15**	**60**	117
62357.003-5	9/30/2009	10/7/2009	nd	**0.08**	nd	**14**	**670**	111
62357.003-6	9/30/2009	10/7/2009	**0.05**	nd	nd	nd	nd	114
62357.003-6 MS	9/30/2009	10/7/2009	91%	104%	92%	97%	---	108
62357.003-6 MSD	9/30/2009	10/7/2009	89%	101%	96%	97%	---	107
Reporting Limits			0.02	0.05	0.05	0.15	10	

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

E N NORTHWEST | Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: PBS Environmental

ADDRESS: 320 N. Johnson #100, Kennewick, WA 99336

PHONE: 509 735-2698 FAX: 735-1867 Attn: Paul Davidson

CLIENT PROJECT #: 62357.003 PROJECT MANAGER: Paul Davidson

DATE: 9-29-09 PAGE 1 OF 1

PROJECT NAME: Roy Farms

LOCATION: Mesa

COLLECTOR: Paul Davidson DATE OF COLLECTION

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	TPH - HCID	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (d & o)	PAH 8100	PAH 8270	PCBs 8082	Pesticides 8081	EPH	VPH	Methamphetamine	Pb	Hex Chrome	gas BTEX	NOTES	Total Number of Containers	Laboratory Note Number
1. 62357.003-1	1'	2PM	Soil	Jar						X											X			1	
2. -2										X											X			1	
3. -3										X											X			1	
4. -4										X											X			1	
5. -5										X											X			1	
6. -6										X											X			1	
7.																									
8. MW# 1	/	1PM	water	VOAs/Jar						X											X			4	
9. MW #2	/		"	"						X											X			4	
10. MW #3	/		"	"						X											X			4	
11.																									
12.																									
13.																									
14.																									
15.																									
16.																									
17.																									
18.																									

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
	9/29/09		9/30/09
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR (5 DAY)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
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
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

December 23, 2009

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

Dear Mr. Ertel:

Included are the results from the testing of material submitted on December 18, 2009 from the 62357.003, F&BI 912161 project. There are 6 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
PBS1223R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 18, 2009 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental 62357.003, F&BI 912161 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	PBS Engineering and Environmental
912161-01	MW-1
912161-02	MW-2
912161-03	MW-3

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/09
Date Received: 12/18/09
Project: 62357.003, F&BI 912161
Date Extracted: 12/18/09 and 12/21/09
Date Analyzed: 12/18/09, 12/19/09, and 12/21/09

RESULTS FROM THE ANALYSIS OF THE 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 52-124)
MW-1 912161-01	39	2	<1	7	130	93
MW-2 912161-02 1/50	3,100	93	<50	500	9,500	108
MW-3 912161-03 1/50 r	20,000	12,000	1,300	7,600	90,000	93
Method Blank	<1	<1	<1	<3	<100	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/09
Date Received: 12/18/09
Project: 62357.003, F&BI 912161
Date Extracted: 12/18/09
Date Analyzed: 12/18/09

RESULTS FROM THE ANALYSIS OF THE 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 51-137)
MW-1 912161-01	50 x	<250	91
MW-2 912161-02	840 x	<250	108
MW-3 912161-03	3,800 x	<250	106
Method Blank	<50	<250	93

Date of Report: 12/23/09
Date Received: 12/18/09
Project: 62357.003, F&BI 912161

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: 912158-01 (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	106	65-118
Toluene	ug/L (ppb)	50	106	72-122
Ethylbenzene	ug/L (ppb)	50	110	73-126
Xylenes	ug/L (ppb)	150	106	74-118
Gasoline	ug/L (ppb)	1,000	97	69-134

Date of Report: 12/23/09
Date Received: 12/18/09
Project: 62357.003, F&BI 912161

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	109	94	71-131	15

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 - The analyte indicated was found in the method blank. The result should be considered an estimate.

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 - The sample was extracted outside of holding time. Results should be considered estimates.

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 - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

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

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.