



Engineering +
Environmental

Underground Storage Tank Removal Report

Waste Oil Tank

12690 Renton Ave S
Seattle, WA 98178

Prepared for:
Jeff Keller
IO Environmental and Infrastructure
2200 118th Avenue SE
Bellevue, WA 98006

September 24, 2014
Project No.: 41299

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Bend | Boise | Coos Bay | Eugene | Portland | Seattle | Tri-Cities | Vancouver

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1.0 INTRODUCTION

PBS Engineering and Environmental Inc. (PBS) provided consulting services to IO Environmental and Infrastructure Inc. (IO), in relation to the removal of an underground storage tank (UST) from the property located at 12690 Renton Avenue South in Seattle, Washington (Site). The removal of the UST was part of the larger demolition and new construction project underway at the time this report was issued.

2.0 SITE DESCRIPTION AND UST INFORMATION

The Site is located at 12690 Renton Avenue South in Seattle, Washington (refer to Figure 1 - Site Vicinity Map), and is currently undergoing a renovation project which includes the new construction of a library. The site is located along Renton Avenue's commercial zone.

The UST was of cylindrical, steel construction, measuring 5'-0" long by 2'-6" diameter and having a capacity of approximately 200 gallons. The tank held approximately 50 gallons of oil which was noted to have a relatively high viscosity and a petroleum hydrocarbon odor. The UST was reportedly used to store waste oil.

3.0 UST DECOMMISSIONING BY REMOVAL

Prior to UST removal, notice was given to the Washington State Department of Ecology (WDOE) and a permit was obtained from King County. UST removal notice and permit documentation is included in Appendix I.

Rhine Demolition of Tacoma, Washington removed the UST from the site on September 15, 2014. Approximately 50 gallons of waste oil and sludge was pumped from the tank prior to removal. The tank appeared in fair/poor condition upon removal with moderate corrosion and a small leak at the base. The UST contents disposal documentation is included in Appendix II.

Ken Nogeire of PBS, a Washington State Certified Site Assessor, was on site and observed the removal of the tank. A tank pit excavation was approximately six feet in length in a northeast-southwest direction, three feet wide in a southeast-northwest direction and approximately three feet deep. Odorous and stained soil was observed at the base of the excavation. The UST excavation was part of a larger soil removal excavation, primarily to the north and west of the UST.

At the time this report was issued the UST disposal documentation was not available to PBS. That documentation should be added to Appendix II when it is available.

4.0 SOIL SAMPLING

Soil at the UST location was observed to be medium dense, brown silty sand (SM) with minor sub-rounded gravel.

Groundwater was not encountered during this assessment.

A total of three soil samples were collected from the excavation, one from the base and one from each the northeast and southwest sidewalls. Soil samples were collected directly from the excavation. Samples were screened for volatiles using a hand held photoionization detector (PID). Detected volatiles ranged from 10.5 parts per million (ppm) at the southwest sidewall sample location (TP1-WSW) to 47 ppm at the base sample (TP1-B).

Soil samples were collected using protocols specified in WDOE's *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. Samples were placed into laboratory provided glass jars and/or vials and stored on ice, under chain of custody documentation, until delivery to Fremont Analytical laboratory in Seattle, Washington.

Based on the use of the UST to store waste oil, analysis conducted to identify if a release occurred included the following:

- Total petroleum hydrocarbons (TPH) as gasoline by Method NWTPH-Gx
- Total petroleum hydrocarbons (TPH) as diesel by Method NWTPH-Dx
- Volatile Organic Compounds (VOCs) by EPA Method 8260C
- Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270D SIM
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Select metals by EPA Method 200.8

5.0 RESULTS

Model Toxics Control Act (MTCA) Method A Cleanup Levels for Unrestricted Land Use were the adopted Cleanup Levels for the site.

Concentrations of gasoline and heavy oil range TPHs, cadmium and lead exceeded the adopted Cleanup Levels.

Analytical results are presented in Tables 1. A copy of the laboratory report and chain-of-custody form is presented in Appendix III. The UST Site Assessment Checklist is presented in Appendix IV.

6.0 CONCLUSIONS

One waste oil UST, of approximately 200 gallon capacity, was decommissioned by removal at the subject property on September 15, 2014. Analytical results indicate that a release has occurred in relation to the UST.

PBS was informed on September 19th that the owner reported the release to the WDOE in accordance with WAC 173-360-360.

7.0 LIMITATIONS

PBS has prepared this report for use by IO, and is not intended for use by others without the written consent of PBS. This study was limited to the tests, locations and depths as indicated to determine the absence or presence of certain contaminants. The site as a whole may have other contamination that was not characterized by this study. The findings and conclusions of this report are not scientific certainties, but rather probabilities based on professional judgment concerning the significance of the data gathered during the course of this investigation. PBS is not able to represent that the site or adjoining land contain no hazardous waste, oil or other latent conditions beyond that detected or observed by PBS.

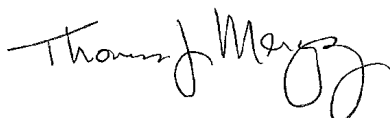
PBS ENGINEERING AND ENVIRONMENTAL



September 24, 2014

Ken Nogeire, LHG
Senior Geologist

Date



September 24, 2014

Thomas Mergy, L.G.
Environmental Services Manager

Date

FIGURES

L:\Projects\41000\41299 IO Environmental & Infrastructure\CAD\41299.000_Fig-1-3.dwg Sep 19, 2014 11:36am justind



SOURCE: © 2011 GOOGLE EARTH PRO, © 2012 GOOGLE



SCALE: 1" = 2,000'

PREPARED FOR: IO ENVIRONMENTAL



PROJECT #
41299.000

DATE
SEP 2014

SITE PLAN
12690 RENTON AVENUE SOUTH
SEATTLE, WASHINGTON

FIGURE

1



SOURCE: © 2011 GOOGLE EARTH PRO, © 2012 GOOGLE

LEGEND

● TP1 SOIL SAMPLE NUMBER AND LOCATION



SCALE: 1" = 20'

PREPARED FOR: IO ENVIRONMENTAL



PROJECT #
41299.000

DATE
SEP 2014

SOIL SAMPLE LOCATION MAP

12690 RENTON AVENUE SOUTH
SEATTLE, WASHINGTON

FIGURE

2

TABLE

TABLE 1 SOIL ANALYTICAL RESULTS

Site: 12690 Renton Avenue South, Seattle, WA

Project No: 41299

Result mg/kg (miligrams per kilogram)																		
Sample Identification	Description	Gx	Dx	Heavy Oil	Benzene	Toluene	Ethyl Benzene	Xylene	Remaining VOCs	PCBs	arsenic	cadmium	chromium	lead	mercury	B(a)P	Naph	Carcinogenic PAHs
Confirmation soil sampling: July 21, 2014																		
TP1-ESW	Silty sand	-	273	7,480	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1-WSW	Silty sand	-	162	9,530	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1-B	Silty sand	153	<23	14,800	<0.027	<0.027	0.099	0.489	3 compounds*	ND	4.29	2.58	26.2	864	<0.297	<0.061	4.21	0.006
Adopted Criteria	MTCA Method A Soil Cleanup for Unrestricted Land Use	100	2,000	2,000	0.03	7	6	9	various	1	20	2	2,000	250	2	0.1	5	0.1**

BOLD indicates above MTCA Method A Cleanup Levels for Soil

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

< 0.1 - not detected above laboratory method reporting limit

(-) - not analyzed

ND - not detected above laboratory method reporting limit

PCBs - polychlorinated biphenols

VOCs - volatile organic compounds

TPH - total petroleum hydrocarbons

APPENDIX I

WDOE Notice and King County Permit Documentation



DEPARTMENT OF
ECOLOGY
State of Washington

Request to Waive 30 Day Waiting Period

****To be completed by Person Submitting Request****

UST ID # (if known):

Full Site Address: 12640 Renton Ave S, Seattle, WA 98178

Owner/ Operator: current property owner-King County Library System, attn. Mr. Greg Smith

Contact Phone #: 425-369-3237

Waiver Requested for 30 Day Notice to:

(Circle one or both)

DECOMMISSION

INSTALL

Person and Company Submitting Request: Charles Lie-Terra Associates Inc

Contact phone #: 425.821.7777

Reason for Submitting Request: ENVIRONMENTAL HAZARD

HEALTH HAZARD

(Circle all that apply)

OTHER

Explain Reason: UST encountered in active construction site-- project is on hold pending UST removal

Date Request Submitted: 8/28/2014

Date and Time of Construction: 8/29/14 requested date

For all that apply	Name	Contact Phone Number	ICC Certification Number
INSTALLER	n/a		
DECOMMISSIONER	Northwest Environment Solutions	253-241-6213	5012674
SITE ASSESSOR	Nicolas Hoffman	425.821.7777	8252265

Completed 30 Day Notice Attached to Waiver Request Form?

(Circle one)

YES

NO

Department of Ecology Response to Request (to be completed by UST Inspector):

WAVIER GRANTED

WAIVER DENIED

Inspector:

Andrew A. Truke

Signature and Date:

Richard P. Kula 09/02/2014

****DECOMMISSIONER(S) SHALL HAVE A COPY OF 30 DAY NOTICE AND A COPY OF THE WAIVER REQUEST FORM ON SITE DURING ALL DECOMMISSIONING RELATED ACTIONS *****

Instructions

Please Read Carefully

AFTER COMPLETING THIS FORM, RETURN TO:

DEPARTMENT OF ECOLOGY
TOXICS CLEANUP PROGRAM
P.O. BOX 47655
OLYMPIA, WA 98504-7655

GENERAL

Under WAC 173-360-200 and 173-360-385, owners and operators are required to notify Ecology 30 days prior to beginning underground storage tank (UST) installation or decommissioning projects. Please use a separate form for each activity. Once this form is received and processed by Ecology, it is date stamped and returned to the owner listed on the form. Installation and decommissioning projects may begin 30 days after the date stamped on the form. If a project cannot meet the deadlines described below, you must submit an additional 30-Day Notice. The 30-day wait period may be waived on these additional 30-Day Notices by contacting the inspector in your region.

SITE AND OWNER INFORMATION

Fill in the site and owner information and be sure to provide telephone numbers and email addresses so that any problems can be resolved quickly. Include the facility compliance tag or UBI number for tank closures.

TANK INFORMATION

List tanks to be installed or closed, substance stored (e.g. gas, diesel, etc), tank size and date the project is expected to begin. **The contact person listed on this form must confirm the exact date an installation and/or decommissioning project will begin at least three business days before proceeding.** Please report tank ID number(s) for tanks to be closed and assign new Tank ID number(s) to tanks being installed. If you are installing new tanks, do not assign a Tank ID number that has previously been used at the facility. Use the Comments box to include additional information, such as when product was removed so that no more than one inch of residue remains in the system.

TANK INSTALLATIONS

List the installation company. The date stamped on the form indicates the beginning of a 90-day period in which an installation project must begin. Once, processed, this form also allows you to receive a one-time drop of product, for UST system testing purposes only. The fuel drop is not required to occur within this 90-day period.

To dispense product and receive additional deliveries, you must complete the Business License registration and obtain your facility compliance tag from Ecology. The registration information must be submitted to the Department of Revenue within 30 days of installation to receive a Business License with the appropriate tank endorsement(s). **If, at any time, your tank(s) store greater than one inch of product, you must begin using an acceptable release detection method to monitor for leaks every month.**

PERMANENT TANK CLOSURES

List the closure and site assessor companies. Upon receiving a completed 30-day closure form, Ecology will stamp the date received on the form and return a copy to the owner. Decommissioning projects must be completed 90 days after the stamped date. **No work may begin within the first 30 days unless a waiver has been obtained from Ecology.**

Contact your local fire marshal and planning department prior to tank closure to find out if any additional permits are required by county or other local jurisdictions. Compliance with the State Environmental Policy Act (SEPA) Rules, Chapter 197-11 WAC, may be required.

A site assessment is required at the time of closure. Contamination found or suspected at the site must be reported to the appropriate Ecology regional office within 24 hours. If the contamination is confirmed, a site characterization report must be submitted to the regional office within 90 days; if contamination is not confirmed, a site assessment report must be submitted to the above address within 30 days.

The following are examples of tanks that are exempt from notification requirements.

- ❖ Farm or residential tanks, 1,100 gallons or less, used to store motor fuel for personal or farm use only.
The fuel must be used for farm purposes and cannot be for resale.
- ❖ Tanks used for storing heating oil that is used solely for the purpose of heating the premises.
- ❖ Tanks with a capacity of 110 gallons or less.
- ❖ Equipment or machinery tanks such as hydraulic lifts or electrical equipment tanks.
- ❖ Emergency overflow tanks, catch basins, or sumps.

If you need this document in a format for the visually impaired, call Toxics Cleanup Program at (360) 407-7170. Persons with hearing loss can call 711 for Washington Relay Service. Persons with speech disability, call (877) 833-6341.

ECY 020-95 (Rev. Feb. 2012)



UNDERGROUND STORAGE TANK (UST) 30-DAY NOTICE

(See back of form for instructions)

FOR OFFICE USE ONLY

Site ID # _____

FS ID # _____

Please ✓ the appropriate box: ☐ Intent to Install ☒ Intent to Close

HQ (360)407-7170 / Central (509)575-2490 / Eastern (509)329-3400 / Northwest (425)649-7000 / Southwest (360)407-6300

SITE INFORMATION

OWNER INFORMATION

(this form will be returned to this address)

Tag or UBI number

Former Arco, Former Eat Em Up Hut, current library construction site

Site Name

12640 Renton Ave South

Site Physical Address

Seattle, Washington 98178

City

Zip Code

Site Phone Number

Arco last known owner, current property owner King County Library System

UST Owner/Operator

KCLS, attn Greg Smith, 960 Newport Way S

Mailing Address/PO Box

Issaquah, WA 98027

City

425-369-3237

Zip Code

Owner/Operator Phone Number

ggsmith@kcls.org

Owner/Operator Email Address

TANK INFORMATION

Tank ID	Substance Stored	Capacity	Date Project is Expected to Begin	Comments:
3	Hydraulic Oil? Waste Oil	300 g +/-	8-29-14	UST was uncovered during removal of residual petroleum contaminated soils encountered during foundation preparation

1) SERVICE PROVIDER INFORMATION - check the appropriate boxes

PLEASE NOTE: INDIVIDUALS PERFORMING UST SERVICES MUST BE ICC CERTIFIED OR HAVE PASSED ANOTHER QUALIFYING EXAM APPROVED BY THE DEPARTMENT OF ECOLOGY.

☐ Installer ☐ Decommissioner ☒ Site Assessor

Terra Associates Inc

Service Provider Company Name

Nicolas Hoffman

Certified Service Provider Name

8252265

ICC Certification #

Charles Lie

Contact Person

425.821.7777

Contact Phone Number

clie@terra-associates.com

Contact Email Address

2) SERVICE PROVIDER INFORMATION (REQUIRED IF USING MORE THAN ONE PROVIDER) - check the appropriate boxes

☐ Installer ☒ Decommissioner ☐ Site Assessor

Northwest Environmental Sol.

Service Provider Company Name

Certified Service Provider Name

5012674

ICC Certification #

Contact Person

253-241-6213

Contact Phone Number

Contact Email Address



Department of Permitting
and Environmental Review
35030 SE Douglas St., Ste. 210
Snoqualmie, WA 98065-9266
206-296-6600 TTY Relay 711

FIRE PERMIT - SYSTEMS & EVENTS

Permit type, Subtype: Fire Permit Systems, Tank

Title: KC LIBRARY TANK 12690 RENTON AVE S

Description: REMOVE (1) 350 GAL NON DISPENSING OIL
UNDERGROUND TANK

List of Parcels: 0231000040

Site Address: 12601 76TH AVE S 98178

Valuation: \$0.00

Applicant Name: IO ENVIRONMENTAL & INFRASTRUCTURE

Applicant Address: 2200 118TH AVE SE BELLEVUE, WA
98006

Permit Number: FIRP14-0290

Date Issued:

Expiration Date:

Permit Status: Application Complete

Comments and Conditions

1. **Work Subject to Approved Plans and Conditions.** Work Authorized by this permit is subject to the approved plans and corrections shown thereon and the attached conditions of permit approval. Failure to comply with all conditions once construction is begun may necessitate an immediate work stoppage until such time as compliance with the stipulated conditions is attained.

2. **Posting on the job site.** This permit must be posted on the job site at all times in a visible and readily accessible location.

3. **Permit Status & Inspections; Scheduling, Est. Arrival Times* & Results.** (*Building only)

Online: aca.accela.com/kingcounty

Inspection cutoff: 3:00 pm for next day inspections. Fire Inspection and land use requests will be confirmed and scheduled by a return phone call. Additional inspection information including IVR/Web info:
<http://www.kingcounty.gov/property/permits/info/inspections.aspx>. Written inspection results left at the job site will be phased out.

IVR: 1-888-546-7728 - Inspection Help: 206-296-6630

4. **Expiration.** Please note the expiration date on this permit located in the upper right corner. Permits are valid for one year from date of issuance or date of extension. Work must be substantially commenced within two years of permit issuance. Extensions beyond the third year shall only be granted to allow completion of the structure.

5. **Compliance with State and Federal laws and the Endangered Species Act.** The applicant is responsible for making a diligent inquiry regarding the need for concurrent state or federal permits to engage in the Work requested under this permit, and to obtain the required permits prior to issuance of this permit. It is understood that the granting of this permit shall not be construed as satisfying the requirements of other applicable Federal, State or Local laws or regulations. In addition this permit does not authorize the violation of regulations. In addition, the granting of this permit does not authorize the violation such "take" restrictions would be violated by work pursuant to this permit, and is precluded by Federal law from undertaking work authorized by this permit if that work would violate the "take" restrictions set forth at 16 U.S.C. 8, 50 C.F.R. §17.21, 50 C.F.R. §223 and 50 C.F.R. §224.

**King County**

Department of Permitting
and Environmental Review

35030 SE Douglas St., Ste. 210
Snoqualmie, WA 98065-9266

206-296-6600 TTY Relay 711

Permit: **FIRP14-0290**

Date Issued:

Expiration Dat

Permit Status: Application Complete

FIRE INSPECTION REPORT CARD

New Construction Fire Inspection 24-Hour Request Line

New Construction Fire Inspection General Information

1-888-546-7728

206-296-6630

APPROVALS: (Followed by 3-digit inspection codes for use with the inspection Request Line)

1. Placement - Tank (291)

By: _____

2. Device Placement (259)

By: _____

3. Nozzle/Head Placement
(283)

By: _____

4. Flow/Trip Test (273)

By: _____

5. Device/Panel Test (261)

By: _____

6. Flush Test (274)

By: _____

7. Run Test (191)

By: _____

8. Pressure Test (168)

By: _____

9. Insulation Cover (280)

By: _____

10. Rack/Pipe Inspection
(298)

By: _____

11. Emergency Shut Off (067)

By: _____

12. Underground (235)

By: _____

13. Hydrant/Watermain
(245)

By: _____

14. Other (134)

By: _____

15. Final Acceptance (077)

By: 9-13-14
[Signature]

Notes:

ALL PERMITS:

- Responsibility for the building's compliance with the provisions of the applicable King County Codes and for maintenance of the building rests exclusively with the permit applicants and their agents and the property owners.
- King County inspection of the building and real property are spot checks designed to foster and encourage compliance with the applicable codes. Neither the approvals above nor the issuance of a Certificate of Occupancy guarantees or assures compliance with all applicable codes.
- The Owner/Applicant's copy of any applicable manufacturer's installation instructions, the approved set of plans, and the permit shall be available at the time of inspection.

APPENDIX II

UST and UST Contents Disposal Documentation



ENVIRONMENTAL
& INFRASTRUCTURE INC.

TRIPLE RINSE CERTIFICATE

This document certifies that IO Environmental & Infrastructure Inc. performed a Triple Rinse of the Underground Storage Tank (UST) per Chapter 173-360 of the Revised Code of Washington (RCW) and International Code Council (ICC) and uniform Fire Code guidelines:

UST Name/Number: 007

Address: 12690 Renton AVE S

Skyway WA

UST Size: 140 GALLONS

UST Contents: Loaded Gasoline / sludge

Date of Triple Rinse: 9/15/14

I hereby certify the triple rinse described above:

Signature

Printed Name

ICC Lic. #



IO Environmental & Infrastructure Inc.
2200 118th Ave. S.E.
Bellevue, WA 98005
(425)-454-1086

APPENDIX III

Laboratory Report and Chain-of-Custody



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

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

RE: Skyway
Lab ID: 1409149

September 16, 2014

Attention Ken Nogeire:

Fremont Analytical, Inc. received 3 sample(s) on 9/15/2014 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Gasoline by NWTPH-Gx
Mercury by EPA Method 7471
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Polychlorinated Biphenyls (PCB) by EPA 8082
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager



Date: 09/16/2014

CLIENT: PBS Engineering & Environmental
Project: Skyway
Lab Order: 1409149

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1409149-001	TP1-ESW	09/15/2014 1:05 PM	09/15/2014 3:25 PM
1409149-002	TP1-WSW	09/15/2014 1:10 PM	09/15/2014 3:25 PM
1409149-003	TP1-B	09/15/2014 1:20 PM	09/15/2014 3:25 PM

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

CLIENT: PBS Engineering & Environmental**Project:** Skyway

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

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

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

III. ANALYSES AND EXCEPTIONS:

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



Analytical Report

WO#: 1409149

Date Reported: 9/16/2014

CLIENT: PBS Engineering & Environmental

Project: Skyway

Lab ID: 1409149-001

Client Sample ID: TP1-ESW

Collection Date: 9/15/2014 1:05:00 PM

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 8711

Analyst: EC

Diesel (Fuel Oil)	ND	21.2		mg/Kg-dry	1	9/15/2014 7:38:00 PM
Diesel Range Organics (C12-C24)	273	21.2		mg/Kg-dry	1	9/15/2014 7:38:00 PM
Heavy Oil	7,480	53.0		mg/Kg-dry	1	9/15/2014 7:38:00 PM
Surr: 2-Fluorobiphenyl	111	50-150		%REC	1	9/15/2014 7:38:00 PM
Surr: o-Terphenyl	101	50-150		%REC	1	9/15/2014 7:38:00 PM

NOTES:

DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (C12-C24).

Sample Moisture (Percent Moisture)

Batch ID: R16762

Analyst: TK

Percent Moisture	13.0			wt%	1	9/15/2014 1:22:52 PM
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Lab ID: 1409149-002

Client Sample ID: TP1-WSW

Collection Date: 9/15/2014 1:10:00 PM

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 8711

Analyst: EC

Diesel (Fuel Oil)	ND	21.2		mg/Kg-dry	1	9/15/2014 8:41:00 PM
Diesel Range Organics (C12-C24)	162	21.2		mg/Kg-dry	1	9/15/2014 8:41:00 PM
Heavy Oil	9,530	53.1		mg/Kg-dry	1	9/15/2014 8:41:00 PM
Surr: 2-Fluorobiphenyl	108	50-150		%REC	1	9/15/2014 8:41:00 PM
Surr: o-Terphenyl	111	50-150		%REC	1	9/15/2014 8:41:00 PM

NOTES:

DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (C12-C24).

Sample Moisture (Percent Moisture)

Batch ID: R16762

Analyst: TK

Percent Moisture	9.98			wt%	1	9/15/2014 1:22:52 PM
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Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
RL	Reporting Limit

D	Dilution was required
H	Holding times for preparation or analysis exceeded
ND	Not detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits



CLIENT: PBS Engineering & Environmental

Project: Skyway

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
RL	Reporting Limit

D	Dilution was required
H	Holding times for preparation or analysis exceeded
ND	Not detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1409149

Date Reported: 9/16/2014

CLIENT: PBS Engineering & Environmental

Project: Skyway

Lab ID: 1409149-003

Collection Date: 9/15/2014 1:20:00 PM

Client Sample ID: TP1-B

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Polychlorinated Biphenyls (PCB) by EPA 8082

Batch ID: 8714

Analyst: NG

Aroclor 1016	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Aroclor 1221	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Aroclor 1232	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Aroclor 1242	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Aroclor 1248	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Aroclor 1254	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Aroclor 1260	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Aroclor 1262	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Aroclor 1268	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Total PCBs	ND	0.114		mg/Kg-dry	1	9/15/2014 6:26:00 PM
Surr: Decachlorobiphenyl	84.5	50.2-159		%REC	1	9/15/2014 6:26:00 PM
Surr: Tetrachloro-m-xylene	86.1	60.3-134		%REC	1	9/15/2014 6:26:00 PM

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 8711

Analyst: EC

Diesel (Fuel Oil)	ND	23.0		mg/Kg-dry	1	9/15/2014 9:12:00 PM
Heavy Oil	14,800	57.6		mg/Kg-dry	1	9/15/2014 9:12:00 PM
Surr: 2-Fluorobiphenyl	108	50-150		%REC	1	9/15/2014 9:12:00 PM
Surr: o-Terphenyl	139	50-150		%REC	1	9/15/2014 9:12:00 PM

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Batch ID: 8721

Analyst: NG

Naphthalene	ND	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
2-Methylnaphthalene	2,390	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
1-Methylnaphthalene	1,820	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
Acenaphthylene	ND	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
Acenaphthene	ND	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
Fluorene	246	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
Phenanthrene	696	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
Anthracene	193	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
Fluoranthene	486	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
Pyrene	1,780	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
Benz(a)anthracene	ND	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM
Chrysene	613	61.2		µg/Kg-dry	1	9/16/2014 2:01:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1409149

Date Reported: 9/16/2014

CLIENT: PBS Engineering & Environmental

Project: Skyway

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Batch ID: 8721

Analyst: NG

Benzo(b)fluoranthene	ND	61.2	µg/Kg-dry	1	9/16/2014 2:01:00 PM
Benzo(k)fluoranthene	ND	61.2	µg/Kg-dry	1	9/16/2014 2:01:00 PM
Benzo(a)pyrene	ND	61.2	µg/Kg-dry	1	9/16/2014 2:01:00 PM
Indeno(1,2,3-cd)pyrene	ND	61.2	µg/Kg-dry	1	9/16/2014 2:01:00 PM
Dibenz(a,h)anthracene	ND	61.2	µg/Kg-dry	1	9/16/2014 2:01:00 PM
Benzo(g,h,i)perylene	ND	61.2	µg/Kg-dry	1	9/16/2014 2:01:00 PM
Surr: 2-Fluorobiphenyl	95.7	42.7-132	%REC	1	9/16/2014 2:01:00 PM
Surr: Terphenyl-d14 (surr)	111	48.8-157	%REC	1	9/16/2014 2:01:00 PM

Gasoline by NWTPH-Gx

Batch ID: R16796

Analyst: EM

Gasoline	153	6.68	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Surr: Toluene-d8	102	65-135	%REC	1	9/16/2014 3:07:00 PM
Surr: 4-Bromofluorobenzene	109	65-135	%REC	1	9/16/2014 3:07:00 PM

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8735

Analyst: EM

Dichlorodifluoromethane (CFC-12)	ND	0.0801	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Chloromethane	ND	0.0801	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Vinyl chloride	ND	0.00267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Bromomethane	ND	0.120	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0668	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Chloroethane	ND	0.0801	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,1-Dichloroethene	ND	0.0668	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Methylene chloride	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
trans-1,2-Dichloroethene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0668	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,1-Dichloroethane	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
2,2-Dichloropropane	ND	0.0668	mg/Kg-dry	1	9/16/2014 3:07:00 PM
cis-1,2-Dichloroethene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Chloroform	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,1-Dichloropropene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Carbon tetrachloride	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,2-Dichloroethane (EDC)	ND	0.0401	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Benzene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Trichloroethene (TCE)	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,2-Dichloropropane	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Bromodichloromethane	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1409149

Date Reported: 9/16/2014

CLIENT: PBS Engineering & Environmental

Project: Skyway

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8735

Analyst: EM

Dibromomethane	ND	0.0534	mg/Kg-dry	1	9/16/2014 3:07:00 PM
cis-1,3-Dichloropropene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Toluene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
trans-1,3-Dichloropropylene	ND	0.0401	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,1,2-Trichloroethane	ND	0.0401	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,3-Dichloropropane	ND	0.0668	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Tetrachloroethene (PCE)	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Dibromochloromethane	ND	0.0401	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,2-Dibromoethane (EDB)	ND	0.00668	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Chlorobenzene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0401	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Ethylbenzene	0.0988	0.0401	mg/Kg-dry	1	9/16/2014 3:07:00 PM
m,p-Xylene	0.331	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
o-Xylene	0.158	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Styrene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Isopropylbenzene	ND	0.107	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Bromoform	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
n-Propylbenzene	0.0701	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Bromobenzene	ND	0.0401	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,3,5-Trimethylbenzene	0.458	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
2-Chlorotoluene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
4-Chlorotoluene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
tert-Butylbenzene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,2,3-Trichloropropane	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,2,4-Trichlorobenzene	ND	0.0668	mg/Kg-dry	1	9/16/2014 3:07:00 PM
sec-Butylbenzene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
4-Isopropyltoluene	0.0675	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,3-Dichlorobenzene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,4-Dichlorobenzene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
n-Butylbenzene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,2-Dichlorobenzene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,2-Dibromo-3-chloropropane	ND	0.0401	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,2,4-Trimethylbenzene	1.65	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Hexachlorobutadiene	ND	0.134	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Naphthalene	2.38	0.0401	mg/Kg-dry	1	9/16/2014 3:07:00 PM
1,2,3-Trichlorobenzene	ND	0.0267	mg/Kg-dry	1	9/16/2014 3:07:00 PM
Surr: Dibromofluoromethane	104	63.7-129	%REC	1	9/16/2014 3:07:00 PM
Surr: Toluene-d8	102	61.4-128	%REC	1	9/16/2014 3:07:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

D Dilution was required
H Holding times for preparation or analysis exceeded
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1409149

Date Reported: 9/16/2014

CLIENT: PBS Engineering & Environmental

Project: Skyway

Volatile Organic Compounds by EPA Method 8260

Batch ID: 8735

Analyst: EM

Surr: 1-Bromo-4-fluorobenzene	107	63.1-141	%REC	1	9/16/2014 3:07:00 PM
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Mercury by EPA Method 7471

Batch ID: 8726

Analyst: MW

Mercury	ND	0.297	mg/Kg-dry	1	9/16/2014 11:28:28 AM
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Total Metals by EPA Method 6020

Batch ID: 8727

Analyst: TN

Arsenic	4.29	0.104	mg/Kg-dry	1	9/16/2014 11:33:33 AM
Cadmium	2.58	0.208	mg/Kg-dry	1	9/16/2014 11:33:33 AM
Chromium	26.2	0.104	mg/Kg-dry	1	9/16/2014 11:33:33 AM
Lead	864	0.208	mg/Kg-dry	1	9/16/2014 11:33:33 AM

Sample Moisture (Percent Moisture)

Batch ID: R16762

Analyst: TK

Percent Moisture	19.0	wt%	1	9/15/2014 1:22:52 PM
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Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
RL	Reporting Limit

D	Dilution was required
H	Holding times for preparation or analysis exceeded
ND	Not detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT
Total Metals by EPA Method 6020

Sample ID: MB-8727	SampType: MBLK	Units: mg/Kg			Prep Date: 9/16/2014			RunNo: 16779			
Client ID: MBLKS	Batch ID: 8727				Analysis Date: 9/16/2014			SeqNo: 337215			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	0.100
Cadmium	ND	0.200
Chromium	ND	0.100
Lead	ND	0.200

Sample ID: LCS-8727		SampType: LCS		Units: mg/Kg		Prep Date: 9/16/2014			RunNo: 16779		
Client ID: LCSS		Batch ID: 8727					Analysis Date: 9/16/2014			SeqNo: 337216	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	110	0.100	104.0	0	105	69.5	130.8
Cadmium	111	0.200	92.80	0	120	73.3	127.2
Chromium	73.7	0.100	62.90	0	117	67.9	132
Lead	324	0.200	319.0	0	101	75.9	124.1

Sample ID: 1409140-001ADUP	SampType: DUP	Units: mg/Kg-dry				Prep Date: 9/16/2014				RunNo: 16779		
Client ID: BATCH	Batch ID: 8727					Analysis Date: 9/16/2014				SeqNo: 337218		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Arsenic	4.04	0.115						3.948	2.23	30
Cadmium	0.271	0.230						0.2947	8.48	30
Chromium	29.4	0.115						32.87	11.1	30
Lead	138	0.230						130.9	5.59	30

Qualifiers:

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

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: 1409140-001AMS	SampType: MS	Units: mg/Kg-dry			Prep Date: 9/16/2014			RunNo: 16779			
Client ID: BATCH	Batch ID: 8727	Analysis Date: 9/16/2014						SeqNo: 337220			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	54.6	0.116	58.09	3.948	87.2	75	125				
Cadmium	3.86	0.232	2.905	0.2947	123	75	125				
Chromium	91.9	0.116	58.09	32.87	102	75	125				
Lead	154	0.232	29.05	130.9	79.2	75	125				

Sample ID: 1409140-001AMSD	SampType: MSD	Units: mg/Kg-dry			Prep Date: 9/16/2014			RunNo: 16779			
Client ID: BATCH	Batch ID: 8727	Analysis Date: 9/16/2014						SeqNo: 337221			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	50.1	0.115	57.62	3.948	80.1	75	125	54.62	8.65	30	
Cadmium	3.13	0.230	2.881	0.2947	98.4	75	125	3.856	20.8	30	
Chromium	83.8	0.115	57.62	32.87	88.3	75	125	91.89	9.25	30	
Lead	159	0.230	28.81	130.9	96.8	75	125	153.9	3.12	30	

Qualifiers:
B Analyte detected in the associated Method Blank
D Dilution was required
E Value above quantitation range

H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not detected at the Reporting Limit

R RPD outside accepted recovery limits
RL Reporting Limit
S Spike recovery outside accepted recovery limits



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID: MB-8726	SampType: MBLK	Units: mg/Kg		Prep Date: 9/16/2014	RunNo: 16780
Client ID: MBLKS	Batch ID: 8726	Analysis Date: 9/16/2014		SeqNo: 337237	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury ND 0.250

Sample ID: LCS-8726	SampType: LCS	Units: mg/Kg		Prep Date: 9/16/2014	RunNo: 16780
Client ID: LCSS	Batch ID: 8726	Analysis Date: 9/16/2014		SeqNo: 337238	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 5.06 0.250 5.000 0 101 80 120

Sample ID: 1409140-002ADUP	SampType: DUP	Units: mg/Kg-dry		Prep Date: 9/16/2014	RunNo: 16780
Client ID: BATCH	Batch ID: 8726	Analysis Date: 9/16/2014		SeqNo: 337240	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury ND 0.257 0 20

Sample ID: 1409140-002AMS	SampType: MS	Units: mg/Kg-dry		Prep Date: 9/16/2014	RunNo: 16780
Client ID: BATCH	Batch ID: 8726	Analysis Date: 9/16/2014		SeqNo: 337241	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.510 0.252 0.5036 0.002053 101 70 130

Sample ID: 1409140-002AMSD	SampType: MSD	Units: mg/Kg-dry		Prep Date: 9/16/2014	RunNo: 16780
Client ID: BATCH	Batch ID: 8726	Analysis Date: 9/16/2014		SeqNo: 337242	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.539 0.262 0.5233 0.002053 103 70 130 0.5096 5.61 20

Qualifiers:

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

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: LCS-8711	SampType: LCS	Units: mg/Kg				Prep Date: 9/15/2014				RunNo: 16772		
Client ID: LCSS	Batch ID: 8711					Analysis Date: 9/15/2014				SeqNo: 336926		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Diesel (Fuel Oil)	448	20.0	500.0	0	89.5	65	135				
Surr: 2-Fluorobiphenyl	17.9		20.00		89.4	50	150				
Surr: o-Terphenyl	21.5		20.00		107	50	150				

Sample ID: MB-8711	SampType: MBLK	Units: mg/Kg			Prep Date: 9/15/2014			RunNo: 16772			
Client ID: MBLKS	Batch ID: 8711				Analysis Date: 9/15/2014			SeqNo: 336927			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	17.1		20.00		85.5	50	150				
Surr: o-Terphenyl	18.2		20.00		91.1	50	150				

Sample ID: 1409149-001ADUP	SampType: DUP	Units: mg/Kg-dry				Prep Date: 9/15/2014				RunNo: 16772		
Client ID: TP1-ESW	Batch ID: 8711					Analysis Date: 9/15/2014				SeqNo: 337398		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Diesel (Fuel Oil)	ND	20.9						0		30	
Diesel Range Organics (C12-C24)	256	20.9						273.5	6.70	30	
Heavy Oil	6,920	52.2						7,485	7.79	30	
Surr: 2-Fluorobiphenyl	23.2		20.89		111	50	150		0		
Surr: o-Terphenyl	22.2		20.89		106	50	150		0		

NOTES:

DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (C12-C24).

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

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: MB-8721	SampType: MBLK	Units: µg/Kg				Prep Date: 9/15/2014			RunNo: 16793		
Client ID: MBLKS	Batch ID: 8721					Analysis Date: 9/16/2014			SeqNo: 337559		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	50.0									
2-Methylnaphthalene	ND	50.0									
1-Methylnaphthalene	ND	50.0									
Acenaphthylene	ND	50.0									
Acenaphthene	ND	50.0									
Fluorene	ND	50.0									
Phenanthrene	ND	50.0									
Anthracene	ND	50.0									
Fluoranthene	ND	50.0									
Pyrene	ND	50.0									
Benz(a)anthracene	ND	50.0									
Chrysene	ND	50.0									
Benzo(b)fluoranthene	ND	50.0									
Benzo(k)fluoranthene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
Indeno(1,2,3-cd)pyrene	ND	50.0									
Dibenz(a,h)anthracene	ND	50.0									
Benzo(g,h,i)perylene	ND	50.0									
Surr: 2-Fluorobiphenyl	844		1,000		84.4	42.7	132				
Surr: Terphenyl-d14 (surr)	1,180		1,000		118	48.8	157				

Sample ID: LCS-8721	SampType: LCS	Units: µg/Kg				Prep Date: 9/15/2014			RunNo: 16793		
Client ID: LCSS	Batch ID: 8721					Analysis Date: 9/16/2014			SeqNo: 337560		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,030	50.0	1,000	0	103	61.6	125				
2-Methylnaphthalene	1,020	50.0	1,000	0	102	58.2	129				
1-Methylnaphthalene	1,020	50.0	1,000	0	102	56.4	132				

Qualifiers:
B Analyte detected in the associated Method Blank
D Dilution was required
E Value above quantitation range

H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not detected at the Reporting Limit

R RPD outside accepted recovery limits
RL Reporting Limit
S Spike recovery outside accepted recovery limits



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT**Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)**

Sample ID: LCS-8721	SampType: LCS	Units: µg/Kg				Prep Date: 9/15/2014			RunNo: 16793		
Client ID: LCSS	Batch ID: 8721					Analysis Date: 9/16/2014			SeqNo: 337560		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	1,060	50.0	1,000	0	106	52.2	133				
Acenaphthene	1,050	50.0	1,000	0	105	54	131				
Fluorene	1,050	50.0	1,000	0	105	53.4	131				
Phenanthrene	1,040	50.0	1,000	0	104	55.6	128				
Anthracene	1,040	50.0	1,000	0	104	51	132				
Fluoranthene	1,070	50.0	1,000	0	107	48.4	134				
Pyrene	1,090	50.0	1,000	0	109	48.6	135				
Benz(a)anthracene	1,180	50.0	1,000	0	118	41.9	136				
Chrysene	1,020	50.0	1,000	0	102	51.4	135				
Benzo(b)fluoranthene	985	50.0	1,000	0	98.5	39.7	137				
Benzo(k)fluoranthene	1,120	50.0	1,000	0	112	45.7	138				
Benzo(a)pyrene	1,150	50.0	1,000	0	115	45.3	135				
Indeno(1,2,3-cd)pyrene	939	50.0	1,000	0	93.9	45.4	137				
Dibenz(a,h)anthracene	955	50.0	1,000	0	95.5	45.8	134				
Benzo(g,h,i)perylene	778	50.0	1,000	0	77.8	45	134				
Surr: 2-Fluorobiphenyl	1,020		1,000		102	42.7	132				
Surr: Terphenyl-d14 (surr)	1,140		1,000		114	48.8	157				

Sample ID: 1409122-009BDUP	SampType: DUP	Units: µg/Kg				Prep Date: 9/15/2014			RunNo: 16793		
Client ID: BATCH	Batch ID: 8721					Analysis Date: 9/16/2014			SeqNo: 337571		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,570	48.8						1,308	18.1	30	
2-Methylnaphthalene	2,270	48.8						1,892	18.0	30	
1-Methylnaphthalene	1,500	48.8						1,241	18.9	30	
Acenaphthylene	ND	48.8						0		30	
Acenaphthene	ND	48.8						0		30	
Fluorene	ND	48.8						0		30	

Qualifiers:

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT**Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)**

Sample ID: 1409122-009BDUP	SampType: DUP	Units: µg/Kg				Prep Date: 9/15/2014			RunNo: 16793		
Client ID: BATCH	Batch ID: 8721					Analysis Date: 9/16/2014			SeqNo: 337571		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	ND	48.8						0		30	
Anthracene	ND	48.8						0		30	
Fluoranthene	ND	48.8						0		30	
Pyrene	ND	48.8						0		30	
Benz(a)anthracene	ND	48.8						0		30	
Chrysene	ND	48.8						0		30	
Benzo(b)fluoranthene	ND	48.8						0		30	
Benzo(k)fluoranthene	ND	48.8						0		30	
Benzo(a)pyrene	ND	48.8						0		30	
Indeno(1,2,3-cd)pyrene	ND	48.8						0		30	
Dibenz(a,h)anthracene	ND	48.8						0		30	
Benzo(g,h,i)perylene	ND	48.8						0		30	
Surr: 2-Fluorobiphenyl	930		975.6		95.3	42.7	132		0		
Surr: Terphenyl-d14 (surr)	1,080		975.6		110	48.8	157		0		

Sample ID: 1409149-003AMS	SampType: MS	Units: µg/Kg-dry				Prep Date: 9/15/2014			RunNo: 16793		
Client ID: TP1-B	Batch ID: 8721	Analysis Date: 9/16/2014							SeqNo: 337572		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	2,510	61.2	1,224	0	205	42.9	138				S
2-Methylnaphthalene	4,140	61.2	1,224	2,391	143	42.8	151				
1-Methylnaphthalene	3,380	61.2	1,224	1,823	127	41.6	148				
Acenaphthylene	1,560	61.2	1,224	0	127	32.6	160				
Acenaphthene	1,510	61.2	1,224	0	123	46.3	142				
Fluorene	1,670	61.2	1,224	245.5	116	43.4	153				
Phenanthrene	2,170	61.2	1,224	695.7	121	45.5	140				
Anthracene	1,590	61.2	1,224	193.5	114	32.6	160				
Fluoranthene	1,720	61.2	1,224	486.4	101	44.6	161				

Qualifiers:

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

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: 1409149-003AMS	SampType: MS	Units: µg/Kg-dry				Prep Date: 9/15/2014			RunNo: 16793		
Client ID: TP1-B	Batch ID: 8721	Analysis Date: 9/16/2014							SeqNo: 337572		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	3,020	61.2	1,224	1,784	101	48.3	158				
Benz(a)anthracene	1,180	61.2	1,224	0	96.7	57.5	169				
Chrysene	1,850	61.2	1,224	613.1	101	45.2	146				
Benzo(b)fluoranthene	1,130	61.2	1,224	0	92.3	42.2	168				
Benzo(k)fluoranthene	1,310	61.2	1,224	0	107	48	161				
Benzo(a)pyrene	1,430	61.2	1,224	0	117	34.4	179				
Indeno(1,2,3-cd)pyrene	787	61.2	1,224	0	64.3	41.1	165				
Dibenz(a,h)anthracene	778	61.2	1,224	0	63.5	38.1	166				
Benzo(g,h,i)perylene	725	61.2	1,224	0	59.2	45.6	157				
Surr: 2-Fluorobiphenyl	944		1,224		77.1	42.7	132				
Surr: Terphenyl-d14 (surr)	1,330		1,224		109	48.8	157				

NOTES:

S - Outlying QC recoveries were associated with this sample. The method is in control as indicated by the LCS.

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: MB-8714	SampType: MBLK	Units: mg/Kg			Prep Date: 9/15/2014			RunNo: 16768			
Client ID: MBLKS	Batch ID: 8714				Analysis Date: 9/15/2014			SeqNo: 336860			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.100									
Aroclor 1221	ND	0.100									
Aroclor 1232	ND	0.100									
Aroclor 1242	ND	0.100									
Aroclor 1248	ND	0.100									
Aroclor 1254	ND	0.100									
Aroclor 1260	ND	0.100									
Aroclor 1262	ND	0.100									
Aroclor 1268	ND	0.100									
Total PCBs	ND	0.100									
Surr: Decachlorobiphenyl	42.0		50.00		84.1	50.2	159				
Surr: Tetrachloro-m-xylene	38.7		50.00		77.3	60.3	134				

Sample ID: LCS-8714	SampType: LCS	Units: mg/Kg				Prep Date: 9/15/2014			RunNo: 16768		
Client ID: LCSS	Batch ID: 8714					Analysis Date: 9/15/2014			SeqNo: 336861		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.09	0.100	1.000	0	109	45.8	133				
Aroclor 1260	1.11	0.100	1.000	0	111	57	134				
Surr: Decachlorobiphenyl	43.8		50.00		87.6	50.2	159				
Surr: Tetrachloro-m-xylene	40.5		50.00		81.0	60.3	134				

Sample ID: 1409034-003ADUP	SampType: DUP	Units: mg/Kg				Prep Date: 9/15/2014			RunNo: 16768		
Client ID: BATCH	Batch ID: 8714	Analysis Date: 9/15/2014						SeqNo: 336863			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0978						0		30	
Aroclor 1221	ND	0.0978						0		30	

Qualifiers:

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: 1409034-003ADUP	SampType: DUP	Units: mg/Kg				Prep Date: 9/15/2014			RunNo: 16768		
Client ID: BATCH	Batch ID: 8714	Analysis Date: 9/15/2014						SeqNo: 336863			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1232	ND	0.0978						0		30	
Aroclor 1242	ND	0.0978						0		30	
Aroclor 1248	ND	0.0978						0		30	
Aroclor 1254	ND	0.0978						0		30	
Aroclor 1260	ND	0.0978						0		30	
Aroclor 1262	ND	0.0978						0		30	
Aroclor 1268	ND	0.0978						0		30	
Total PCBs	ND	0.0978						0		30	
Surr: Decachlorobiphenyl	40.1		48.88		82.1	50.2	159		0		
Surr: Tetrachloro-m-xylene	37.3		48.88		76.4	60.3	134		0		

Sample ID: 1409140-001AMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 9/15/2014			RunNo: 16768		
Client ID: BATCH	Batch ID: 8714					Analysis Date: 9/15/2014			SeqNo: 336865		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.25	0.138	1.378	0	91.0	61.7	139				
Aroclor 1260	1.25	0.138	1.378	0	90.6	63.1	138				
Surr: Decachlorobiphenyl	51.6		68.92		74.9	50.2	159				
Surr: Tetrachloro-m-xylene	48.9		68.92		71.0	60.3	134				

Qualifiers:

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT**Gasoline by NWTPH-Gx**

Sample ID: 1409149-003BDUP	SampType: DUP	Units: mg/Kg-dry				Prep Date: 9/16/2014			RunNo: 16796		
Client ID: TP1-B	Batch ID: R16796	Analysis Date: 9/16/2014							SeqNo: 337493		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	139	6.68						152.9	9.90	30	
Surr: Toluene-d8	3.37		3.339		101	65	135		0		
Surr: 4-Bromofluorobenzene	3.58		3.339		107	65	135		0		

Sample ID: LCS-R16796		SampType: LCS		Units: mg/Kg		Prep Date: 9/16/2014			RunNo: 16796		
Client ID: LCSS		Batch ID: R16796					Analysis Date: 9/16/2014			SeqNo: 337495	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	28.4	5.00	25.00	0	114	65	135				
Surr: Toluene-d8	2.56		2.500		103	65	135				
Surr: 4-Bromofluorobenzene	2.69		2.500		107	65	135				

Sample ID: MB-R16796	SampType: MBLK	Units: mg/Kg			Prep Date: 9/16/2014			RunNo: 16796			
Client ID: MBLKS	Batch ID: R16796	Analysis Date: 9/16/2014						SeqNo: 337496			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	5.00									
Surr: Toluene-d8	2.45		2.500		98.0	65	135				
Surr: 4-Bromofluorobenzene	2.57		2.500		103	65	135				

Qualifiers:

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: 1409149-003BDUP		SampType: DUP		Units: mg/Kg-dry		Prep Date: 9/16/2014			RunNo: 16795		
Client ID: TP1-B		Batch ID: 8735					Analysis Date: 9/16/2014			SeqNo: 337486	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0801						0		30	
Chloromethane	ND	0.0801						0		30	
Vinyl chloride	ND	0.00267						0		30	
Bromomethane	ND	0.120						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0668						0		30	
Chloroethane	ND	0.0801						0		30	
1,1-Dichloroethene	ND	0.0668						0		30	
Methylene chloride	ND	0.0267						0		30	
trans-1,2-Dichloroethene	ND	0.0267						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0668						0		30	
1,1-Dichloroethane	ND	0.0267						0		30	
2,2-Dichloropropane	ND	0.0668						0		30	
cis-1,2-Dichloroethene	ND	0.0267						0		30	
Chloroform	ND	0.0267						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0267						0		30	
1,1-Dichloropropene	ND	0.0267						0		30	
Carbon tetrachloride	ND	0.0267						0		30	
1,2-Dichloroethane (EDC)	ND	0.0401						0		30	
Benzene	ND	0.0267						0		30	
Trichloroethene (TCE)	ND	0.0267						0		30	
1,2-Dichloropropane	ND	0.0267						0		30	
Bromodichloromethane	ND	0.0267						0		30	
Dibromomethane	ND	0.0534						0		30	
cis-1,3-Dichloropropene	ND	0.0267						0		30	
Toluene	ND	0.0267						0		30	
trans-1,3-Dichloropropylene	ND	0.0401						0		30	
1,1,2-Trichloroethane	ND	0.0401						0		30	
1,3-Dichloropropane	ND	0.0668						0		30	
Tetrachloroethene (PCE)	ND	0.0267						0		30	

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: 1409149-003BDUP		SampType: DUP		Units: mg/Kg-dry		Prep Date: 9/16/2014			RunNo: 16795		
Client ID: TP1-B		Batch ID: 8735		Analysis Date: 9/16/2014						SeqNo: 337486	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.0401						0		30	
1,2-Dibromoethane (EDB)	ND	0.00668						0		30	
Chlorobenzene	ND	0.0267						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0401						0		30	
Ethylbenzene	0.0895	0.0401						0.09885	9.93	30	
m,p-Xylene	0.289	0.0267						0.3313	13.8	30	
o-Xylene	0.149	0.0267						0.1583	6.09	30	
Styrene	ND	0.0267						0		30	
Isopropylbenzene	ND	0.107						0		30	
Bromoform	ND	0.0267						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0267						0		30	
n-Propylbenzene	0.0601	0.0267						0.07013	15.4	30	
Bromobenzene	ND	0.0401						0		30	
1,3,5-Trimethylbenzene	0.416	0.0267						0.4575	9.48	30	
2-Chlorotoluene	ND	0.0267						0		30	
4-Chlorotoluene	ND	0.0267						0		30	
tert-Butylbenzene	ND	0.0267						0		30	
1,2,3-Trichloropropane	ND	0.0267						0		30	
1,2,4-Trichlorobenzene	ND	0.0668						0		30	
sec-Butylbenzene	ND	0.0267						0		30	
4-Isopropyltoluene	0.0862	0.0267						0.06746	24.3	30	
1,3-Dichlorobenzene	ND	0.0267						0		30	
1,4-Dichlorobenzene	ND	0.0267						0		30	
n-Butylbenzene	ND	0.0267						0		30	
1,2-Dichlorobenzene	ND	0.0267						0		30	
1,2-Dibromo-3-chloropropane	ND	0.0401						0		30	
1,2,4-Trimethylbenzene	1.47	0.0267						1.646	11.4	30	
Hexachlorobutadiene	ND	0.134						0		30	
Naphthalene	3.17	0.0401						2.382	28.4	30	

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: 1409149-003BDUP	SampType: DUP	Units: mg/Kg-dry				Prep Date: 9/16/2014			RunNo: 16795		
Client ID: TP1-B	Batch ID: 8735					Analysis Date: 9/16/2014			SeqNo: 337486		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	0.0267						0		30	
Surr: Dibromofluoromethane	3.51		3.339		105	63.7	129		0		
Surr: Toluene-d8	3.54		3.339		106	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	3.46		3.339		104	63.1	141		0		

Sample ID: 1409149-003BMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 9/16/2014			RunNo: 16795		
Client ID: TP1-B	Batch ID: 8735	Analysis Date: 9/16/2014							SeqNo: 337487		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.66	0.0759	1.265	0	131	43.5	121				S
Chloromethane	1.48	0.0759	1.265	0	117	45	130				
Vinyl chloride	1.48	0.00253	1.265	0	117	51.2	146				
Bromomethane	0.262	0.114	1.265	0	20.7	21.3	120				S
Trichlorofluoromethane (CFC-11)	1.20	0.0632	1.265	0	95.2	35	131				
Chloroethane	0.351	0.0759	1.265	0	27.8	43.8	117				S
1,1-Dichloroethene	0.974	0.0632	1.265	0	77.0	61.9	141				
Methylene chloride	0.689	0.0253	1.265	0	54.5	54.7	142				S
trans-1,2-Dichloroethene	1.38	0.0253	1.265	0	109	52	136				
Methyl tert-butyl ether (MTBE)	1.33	0.0632	1.265	0	105	54.4	132				
1,1-Dichloroethane	1.42	0.0253	1.265	0	113	51.8	141				
2,2-Dichloropropane	1.93	0.0632	1.265	0	153	36	123				S
cis-1,2-Dichloroethene	1.32	0.0253	1.265	0	105	58.6	136				
Chloroform	1.40	0.0253	1.265	0	111	53.2	129				
1,1,1-Trichloroethane (TCA)	1.51	0.0253	1.265	0	119	58.3	145				
1,1-Dichloropropene	1.57	0.0253	1.265	0	124	55.1	138				
Carbon tetrachloride	1.51	0.0253	1.265	0	119	53.3	144				
1,2-Dichloroethane (EDC)	1.30	0.0379	1.265	0	103	51.3	139				
Benzene	1.44	0.0253	1.265	0	114	63.5	133				

Qualifiers:

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: 1409149-003BMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 9/16/2014			RunNo: 16795		
Client ID: TP1-B	Batch ID: 8735	Analysis Date: 9/16/2014							SeqNo: 337487		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	1.40	0.0253	1.265	0	110	68.6	132				
1,2-Dichloropropane	1.32	0.0253	1.265	0	105	59	136				
Bromodichloromethane	1.46	0.0253	1.265	0	115	50.7	141				
Dibromomethane	1.28	0.0506	1.265	0	101	50.6	137				
cis-1,3-Dichloropropene	1.53	0.0253	1.265	0	121	50.4	138				
Toluene	1.31	0.0253	1.265	0.02204	102	63.4	132				
trans-1,3-Dichloropropylene	1.78	0.0379	1.265	0	141	44.1	147				
1,1,2-Trichloroethane	1.34	0.0379	1.265	0	106	51.6	137				
1,3-Dichloropropane	1.31	0.0632	1.265	0	104	53.1	134				
Tetrachloroethene (PCE)	1.35	0.0253	1.265	0	107	35.6	158				
Dibromochloromethane	1.31	0.0379	1.265	0	104	55.3	140				
1,2-Dibromoethane (EDB)	1.24	0.00632	1.265	0	98.3	50.4	136				
Chlorobenzene	1.29	0.0253	1.265	0	102	60	133				
1,1,1,2-Tetrachloroethane	1.30	0.0379	1.265	0	103	53.1	142				
Ethylbenzene	1.39	0.0379	1.265	0.09885	102	54.5	134				
m,p-Xylene	2.96	0.0253	2.530	0.3313	104	53.1	132				
o-Xylene	1.45	0.0253	1.265	0.1583	102	53.3	139				
Styrene	1.32	0.0253	1.265	0	105	51.1	132				
Isopropylbenzene	1.31	0.101	1.265	0	103	58.9	138				
Bromoform	1.21	0.0253	1.265	0	96.0	57.9	130				
1,1,2,2-Tetrachloroethane	2.41	0.0253	1.265	0	191	51.9	131				S
n-Propylbenzene	1.43	0.0253	1.265	0.07013	107	53.6	140				
Bromobenzene	1.24	0.0379	1.265	0	98.2	54.2	140				
1,3,5-Trimethylbenzene	1.86	0.0253	1.265	0.4575	111	51.8	136				
2-Chlorotoluene	1.33	0.0253	1.265	0	105	51.6	136				
4-Chlorotoluene	1.28	0.0253	1.265	0	101	50.1	139				
tert-Butylbenzene	1.14	0.0253	1.265	0	90.1	50.5	135				
1,2,3-Trichloropropane	1.44	0.0253	1.265	0	114	50.5	131				
1,2,4-Trichlorobenzene	1.39	0.0632	1.265	0	110	50.8	130				

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: 1409149-003BMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 9/16/2014			RunNo: 16795		
Client ID: TP1-B	Batch ID: 8735	Analysis Date: 9/16/2014							SeqNo: 337487		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	1.29	0.0253	1.265	0	102	52.6	141				
4-Isopropyltoluene	0.167	0.0253	1.265	0.06746	7.87	52.9	134				S
1,3-Dichlorobenzene	1.27	0.0253	1.265	0	100	52.6	131				
1,4-Dichlorobenzene	1.12	0.0253	1.265	0	88.9	52.9	129				
n-Butylbenzene	1.71	0.0253	1.265	0	135	52.6	130				S
1,2-Dichlorobenzene	1.24	0.0253	1.265	0	97.7	55.8	129				
1,2-Dibromo-3-chloropropane	2.26	0.0379	1.265	0	178	40.5	131				S
1,2,4-Trimethylbenzene	3.64	0.0253	1.265	1.646	158	50.6	137				S
Hexachlorobutadiene	1.13	0.126	1.265	0	89.4	40.6	158				
Naphthalene	6.44	0.0379	1.265	2.382	321	52.3	124				S
1,2,3-Trichlorobenzene	1.24	0.0253	1.265	0	98.3	54.4	124				
Surr: Dibromofluoromethane	3.20		3.162		101	63.7	129				
Surr: Toluene-d8	3.18		3.162		101	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	3.22		3.162		102	63.1	141				

NOTES:

S - Outlying QC recoveries were observed. The method is in control as indicated by the LCS.

Sample ID: CCV-8735	SampType: CCV	Units: µg/L			Prep Date: 9/16/2014			RunNo: 16795			
Client ID: CCV	Batch ID: 8735				Analysis Date: 9/16/2014			SeqNo: 337489			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	22.0	0.0900	20.00	0	110	80	120				
Chloroethane	19.2	0.0600	20.00	0	96.0	80	120				
Surr: Dibromofluoromethane	51.3		50.00		103	63.7	129				
Surr: Toluene-d8	47.8		50.00		95.7	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	51.0		50.00		102	63.1	141				

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

D Dilution was required
J Analyte detected below quantitation limits
RL Reporting Limit

E Value above quantitation range
ND Not detected at the Reporting Limit
S Spike recovery outside accepted recovery limits



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: LCS-8735	SampType: LCS	Units: mg/Kg				Prep Date: 9/16/2014			RunNo: 16795		
Client ID: LCSS	Batch ID: 8735	Analysis Date: 9/16/2014							SeqNo: 337490		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.32	0.0600	1.000	0	132	37.7	136				
Chloromethane	1.09	0.0600	1.000	0	109	38.8	132				
Vinyl chloride	1.15	0.00200	1.000	0	115	56.1	130				
Bromomethane	0.283	0.0900	1.000	0	28.3	41.3	148				S
Trichlorofluoromethane (CFC-11)	0.998	0.0500	1.000	0	99.8	42.9	147				
Chloroethane	0.218	0.0600	1.000	0	21.8	37.1	144				S
1,1-Dichloroethene	0.778	0.0500	1.000	0	77.8	49.7	142				
Methylene chloride	0.831	0.0200	1.000	0	83.1	54.5	131				
trans-1,2-Dichloroethene	1.08	0.0200	1.000	0	108	68	130				
Methyl tert-butyl ether (MTBE)	0.945	0.0500	1.000	0	94.5	59.1	138				
1,1-Dichloroethane	1.10	0.0200	1.000	0	110	65.5	132				
2,2-Dichloropropane	1.56	0.0500	1.000	0	156	28.1	149				S
cis-1,2-Dichloroethene	1.05	0.0200	1.000	0	105	71.6	123				
Chloroform	1.10	0.0200	1.000	0	110	67.5	129				
1,1,1-Trichloroethane (TCA)	1.14	0.0200	1.000	0	114	69	132				
1,1-Dichloropropene	1.17	0.0200	1.000	0	117	72.7	131				
Carbon tetrachloride	1.16	0.0200	1.000	0	116	63.4	137				
1,2-Dichloroethane (EDC)	1.02	0.0300	1.000	0	102	61.9	136				
Benzene	1.07	0.0200	1.000	0	107	74.6	124				
Trichloroethene (TCE)	1.03	0.0200	1.000	0	103	65.5	137				
1,2-Dichloropropane	0.989	0.0200	1.000	0	98.9	63.2	142				
Bromodichloromethane	1.10	0.0200	1.000	0	110	76.1	136				
Dibromomethane	0.998	0.0400	1.000	0	99.8	70	130				
cis-1,3-Dichloropropene	1.16	0.0200	1.000	0	116	59.1	143				
Toluene	1.02	0.0200	1.000	0	102	67.3	138				
trans-1,3-Dichloropropylene	1.30	0.0300	1.000	0	130	49.2	149				
1,1,2-Trichloroethane	0.933	0.0300	1.000	0	93.3	74.5	129				
1,3-Dichloropropane	0.976	0.0500	1.000	0	97.6	70	130				
Tetrachloroethene (PCE)	1.03	0.0200	1.000	0	103	52.7	150				

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

Work Order: 1409149

CLIENT: PBS Engineering & Environmental

Project: Skyway

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: LCS-8735	SampType: LCS	Units: mg/Kg				Prep Date: 9/16/2014			RunNo: 16795		
Client ID: LCSS	Batch ID: 8735	Analysis Date: 9/16/2014							SeqNo: 337490		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	0.974	0.0300	1.000	0	97.4	70.6	144				
1,2-Dibromoethane (EDB)	0.986	0.00500	1.000	0	98.6	70	130				
Chlorobenzene	0.992	0.0200	1.000	0	99.2	76.1	123				
1,1,1,2-Tetrachloroethane	0.985	0.0300	1.000	0	98.5	74.8	131				
Ethylbenzene	1.04	0.0300	1.000	0	104	74	129				
m,p-Xylene	2.10	0.0200	2.000	0	105	79.8	128				
o-Xylene	1.00	0.0200	1.000	0	100	72.7	124				
Styrene	1.04	0.0200	1.000	0	104	76.8	130				
Isopropylbenzene	1.11	0.0800	1.000	0	111	70	130				
Bromoform	0.926	0.0200	1.000	0	92.6	67	154				
1,1,2,2-Tetrachloroethane	0.963	0.0200	1.000	0	96.3	60	130				
n-Propylbenzene	1.12	0.0200	1.000	0	112	74.8	125				
Bromobenzene	0.966	0.0300	1.000	0	96.6	49.2	144				
1,3,5-Trimethylbenzene	0.990	0.0200	1.000	0	99.0	74.6	123				
2-Chlorotoluene	1.06	0.0200	1.000	0	106	76.7	129				
4-Chlorotoluene	1.03	0.0200	1.000	0	103	77.5	125				
tert-Butylbenzene	1.08	0.0200	1.000	0	108	66.2	130				
1,2,3-Trichloropropane	1.01	0.0200	1.000	0	101	67.9	136				
1,2,4-Trichlorobenzene	1.15	0.0500	1.000	0	115	65.6	137				
sec-Butylbenzene	1.16	0.0200	1.000	0	116	75.6	133				
4-Isopropyltoluene	1.14	0.0200	1.000	0	114	76.8	131				
1,3-Dichlorobenzene	1.03	0.0200	1.000	0	103	72.8	128				
1,4-Dichlorobenzene	0.928	0.0200	1.000	0	92.8	72.6	126				
n-Butylbenzene	1.22	0.0200	1.000	0	122	65.3	136				
1,2-Dichlorobenzene	0.961	0.0200	1.000	0	96.1	72.8	126				
1,2-Dibromo-3-chloropropane	0.892	0.0300	1.000	0	89.2	61.2	139				
1,2,4-Trimethylbenzene	1.08	0.0200	1.000	0	108	77.5	129				
Hexachlorobutadiene	1.16	0.100	1.000	0	116	42	151				
Naphthalene	1.01	0.0300	1.000	0	101	62.3	134				

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

D Dilution was required
 J Analyte detected below quantitation limits
 RL Reporting Limit

E Value above quantitation range
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT**Volatile Organic Compounds by EPA Method 8260**

Sample ID: LCS-8735	SampType: LCS	Units: mg/Kg			Prep Date: 9/16/2014			RunNo: 16795			
Client ID: LCSS	Batch ID: 8735				Analysis Date: 9/16/2014			SeqNo: 337490			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	1.03	0.0200	1.000	0	103	62.1	140				
Surr: Dibromofluoromethane	2.66		2.500		106	63.7	129				
Surr: Toluene-d8	2.47		2.500		98.9	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.57		2.500		103	63.1	141				

NOTES:

S - Outlying QC recoveries were observed. Adequate sensitivity for Bromomethane and Chloroethane is demonstrated by the CCV. There were no detections of 2,2-Dichloropropane (high bias); therefore, no further action required.

Sample ID: MB-8735	SampType: MBLK	Units: mg/Kg				Prep Date: 9/16/2014			RunNo: 16795		
Client ID: MBLKS	Batch ID: 8735					Analysis Date: 9/16/2014			SeqNo: 337491		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: MB-8735	SampType: MBLK	Units: mg/Kg				Prep Date: 9/16/2014			RunNo: 16795		
Client ID: MBLKS	Batch ID: 8735	Analysis Date: 9/16/2014							SeqNo: 337491		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane (EDC)	ND	0.0300									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									

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



Date: 9/16/2014

Work Order: 1409149
CLIENT: PBS Engineering & Environmental
Project: Skyway

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: MB-8735	SampType: MBLK	Units: mg/Kg			Prep Date: 9/16/2014			RunNo: 16795			
Client ID: MBLKS	Batch ID: 8735	Analysis Date: 9/16/2014						SeqNo: 337491			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.0300									
1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	2.53		2.500		101	63.7	129				
Surr: Toluene-d8	2.54		2.500		102	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.52		2.500		101	63.1	141				

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

Client Name: **PBS**
 Logged by: **Erica Silva**

Work Order Number: **1409149**
 Date Received: **9/15/2014 3:25:00 PM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

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

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Sample	10.0	Good



Fremont

ANALYTICAL

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Date: 9/15/14

Laboratory Project No (Internal): 1409149
Page: 1 of 1

Client: PBS

Project Name:

Address:

Location:

City, State, Zip

Collected By:

SKY
RATON
C. Nogueira

Reports To (PM): Ken.nogueira@pbssau.com

Email:

Project No: 42300

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

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GC/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.5)	Total (T) / Dissolved (D)	Anions (IC)**	EDB (8011)	Comments/Depth
1 TPI-ESW	9/15/14	1305	Soil													
2 TPI-WSW		1310														
3 TPI-B		1320														
4																
5																
6																
7																
8																
9																
10																

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

***Anions (Circle): None Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

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

Relinquished Date/Time: 9/15/14 15:25 Received Date/Time: 9/15/14 15:25

Relinquished Ken Nogueira Received SKY RATON C. Nogueira

TAT -> SameDay/NextDay/2 Day/3 Day STD

*Please coordinate with the lab in advance

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

www.fremontanalytical.com

APPENDIX IV

UST Site Assessment Checklist



UNDERGROUND STORAGE TANK Site Check/Site Assessment Checklist

FOR OFFICE USE ONLY

Site #: _____

Facility Site ID #: _____

INSTRUCTIONS

When a release has not been confirmed and reported, this Site Check/Site Assessment Checklist must be completed and signed by a person certified by ICC or a Washington registered professional engineer who is competent, by means of examination, experience, or education, to perform site assessments. **The results of the site check or site assessment must be included with this checklist.** This form must be submitted to Ecology at the address shown below within 30 days after completion of the site check/site assessment.

SITE INFORMATION: Include the Ecology site ID number if the tanks are registered with Ecology. This number may be found on the tank owner's invoice or tank permit.

TANK INFORMATION: Please list all tanks for which the site check or site assessment is being conducted. Use the owner's tank ID numbers if available, and indicate tank capacity and substance stored.

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT: Please check the appropriate item.

CHECKLIST: Please initial each item in the appropriate box.

SITE ASSESSOR INFORMATION: This information must be signed by the registered site assessor who is responsible for conducting the site check/site assessment.

Underground Storage Tank Section
Department of Ecology
PO Box 47655
Olympia WA 98504-7655

SITE INFORMATION

Site ID Number (Available from Ecology if the tanks are registered): NA

Site/Business Name: NA

Site Address: 12690 Renton Avenue South Telephone: (509) 512-8163
Seattle Street WA 98178
City State Zip Code

TANK INFORMATION

Tank ID No.	Tank Capacity	Substance Stored
<u>TPI (PBS named)</u>	<u>200 gallons</u>	<u>Waste Oil</u>
_____	_____	_____
_____	_____	_____

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT

Check one:

- ☐ Investigate suspected release due to on-site environmental contamination.
- ☐ Investigate suspected release due to off-site environmental contamination.
- ☐ Extend temporary closure of UST system for more than 12 months.
- ☐ UST system undergoing change-in-service.
- ☒ UST system permanently closed with tank removed.
- ☐ Abandoned tank containing product.
- ☐ Required by Ecology or delegated agency for UST system closed before 12/22/88.
- ☐ Other (describe): _____

CHECKLIST

Each item of the following checklist shall be initialed by the person registered with the Department of Ecology whose signature appears below.

	YES	NO
1. The location of the UST site is shown on a vicinity map.	✓	
2. A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in site assessment guidance)	✓	
3. A summary of UST system data is provided. (see Section 3.1.)	✓	
4. The soils characteristics at the UST site are described. (see Section 5.2)	✓	
5. Is there any apparent groundwater in the tank excavation?		✓
6. A brief description of the surrounding land use is provided. (see Section 3.1)	✓	
7. Information has been provided indicating the number and types of samples collected, methods used to collect and analyze the samples, and the name and address of the laboratory used to perform the analyses.	✓	
8. A sketch or sketches showing the following items is provided:		
- location and ID number for all field samples collected	✓	
- groundwater samples distinguished from soil samples (if applicable)		
- samples collected from stockpiled excavated soil		
- tank and piping locations and limits of excavation pit	✓	
- adjacent structures and streets	✓	
- approximate locations of any on-site and nearby utilities		
9. If sampling procedures different from those specified in the guidance were used, has justification for using these alternative sampling procedures been provided? (see Section 3.4)		
10. A table is provided showing laboratory results for each sample collected including; sample ID number, constituents analyzed for and corresponding concentration, analytical method and detection limit for that method.	✓	
11. Any factors that may have compromised the quality of the data or validity of the results are described.		
12. The results of this site check/site assessment indicate that a confirmed release of a regulated substance has occurred.	✓	

NA
NA
NA
NA
NA

SITE ASSESSOR INFORMATION

Ken Nogere PBS Engineering and Environmental
 Person registered with Ecology Firm Affiliated with

Business Address: 2517 Enstate Ave. E. Telephone: (509) 512-8163
 Street

Seattle WA 98102
 City State Zip Code

I hereby certify that I have been in responsible charge of performing the site check/site assessment described above. Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

9.19.14 [Signature]
 Date Signature of Person Registered with Ecology

If you need this publication in an alternate format, please contact Toxics Cleanup Program at (360) 407-7170. For persons with a speech or hearing impairment call 711 for relay service or 800-833-6388 for TTY.