GROUNDWATER MONITORING REPORT: AUGUST 2014

PNEC Corp Former Bulk Petroleum Facility
Shepard Way NE and Bromley Place NE
Bainbridge Island, Kitsap County, Washington

September 30, 2014
Project No. 81147093

Prepared for:
PNEC Corp/SC Fuels
Orange, California

Prepared by:
Terracon Consultants, Inc.
21905 64th Avenue, Suite 100
Mountlake Terrace, WA 98042

Terracon

September 30, 2014

SC Fuels/PNEC Corp
1800 West Katella Avenue, Suite 400
Orange, California 92867

Attn: Mr. De Holbrook

Re: Groundwater Monitoring Report – August 2014
PNEC Corp Former Bainbridge Island Bulk Petroleum Facility
Shepard Way NW & Bromley Place NW
Bainbridge Island, Kitsap County, Washington
Terracon Project No. 81147093

Dear Mr. Holbrook:

Terracon Consultants, Inc. (Terracon) is pleased to submit this Groundwater Monitoring Report for the above referenced site. This investigation was performed in general accordance with Terracon Proposal No. P81140186 dated July 30, 2014 and the terms, conditions and limitations in the Environmental Consulting Agreement between Terracon Consultants, Inc. and Pacific Northwest Energy Corporation (PNEC Corp), dated August 20, 2014.

We appreciate the opportunity to perform these services for SC Fuels/PNEC Corp. Please contact either of the undersigned at 425-771-3304 if you have questions regarding the information provided in the report.

Sincerely,
Terracon

Michael D. Noll, L.G., L.H.G.
Senior Project Manager

Matt Wheaton, E.I.T., L.G.
Department Manager

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GROUNDWATER MONITORING REPORT – August 2014

PNEC Corp Former Bainbridge Island Bulk Petroleum Facility
Shepard Way NW & Bromley Place NW
Bainbridge Island, Kitsap County, Washington

Terracon Project No. 81147093
September 30, 2014

1.0 INTRODUCTION

This groundwater monitoring report documents groundwater sampling activities that were conducted at the PNEC Corp Former Bainbridge Island Bulk Petroleum Facility site (Site), located on the southwest corner of Shepard Way NW & Bromley Place NW in Bainbridge Island, Kitsap County, Washington in August 2014. The property (Kitsap County Parcel No. 272502-4-005-2011) covers approximately 0.9 acres. A Topographic Map is included as Figure 1 that shows the site in relation to the surrounding area. Figure 2 presents the locations of the monitoring wells and former features at the site. Figure 3 depicts the August 2014 groundwater migration direction.

1.1 Scope of Work

Terracon Consultants, Inc. (Terracon) re-developed the site groundwater monitoring and remediation wells and conducted a groundwater monitoring event in general accordance with Terracon Proposal No. P81140186 dated July 30, 2014, and the terms, conditions and limitations in the Environmental Consulting Agreement between Terracon Consultants, Inc. and PNEC Corp., dated August 20, 2014. The sampling event was conducted to further evaluate concentrations of total petroleum hydrocarbons (TPH) in the gasoline, diesel and oil ranges; benzene, toluene, ethylbenzene, and xylenes (BTEX); and total lead in groundwater at the site. This report includes a description of the groundwater monitoring/remediation well re-development and groundwater sample collection activities, tables showing current and historical depth to groundwater measurements and analytical results, and a copy of analytical laboratory report with chain-of-custody documentation.

1.2 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These groundwater monitoring services were performed in

accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-11.

1.3 Additional Scope Limitations

This report was intended to reduce, but not eliminate, uncertainty regarding the existence of recognized environmental conditions in connection with the subject site. Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this groundwater sampling event. Subsurface conditions may vary from those encountered at the time of construction or at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services. If, during future site development, different subsurface conditions from those encountered during our explorations are observed or appear to be present, we must be advised promptly so that we can review these conditions and reconsider or modify our conclusions and recommendations where necessary.

1.4 Reliance

This report has been prepared for the exclusive use and reliance of PNEC Corp/SC Fuels. Use or reliance by any other party is prohibited without the written authorization of PNEC Corp/SC Fuels and Terracon.

Reliance on this report by the client and all authorized parties will be subject to the terms, conditions and limitations stated in this report and Terracon's agreement for services. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon’s liability to the client and all relying parties unless otherwise agreed in writing.

2.0 SITE HISTORY AND PREVIOUS SAMPLING EVENTS

The former bulk petroleum storage facility was constructed about 1970, and was used primarily for heating oil storage. Unocal owned the facility until March 1997, when it was sold to Tosco. PNEC Corp purchased the site from Tosco in June 1997. Former site

features consisted of two 10,000-gallon and two 4,000-gallon horizontal above-ground storage tanks (ASTs), a pumping station, an overhead loading rack, a drainage ditch on the west side of the property, and a retention pond in the southern portion of the property. The ASTs, pumping station, and overhead loading rack were removed in 1997. The attached Figure 2 Site Diagram shows the approximate locations of former site features.

Five groundwater monitoring wells (MW-1 through MW-5) were installed at the site by others in June 2001 (Figure 2). Well MW-2 was excavated and removed during soil excavation work in March 2003, and replacement well MW-2A and remediation well RW-1 were installed. Measured depth to groundwater in the wells has ranged from approximately 4 to 11 feet below the top of the well casing (TOC), with an inferred groundwater flow direction that varies, but flows mainly toward the south and southwest. Groundwater samples were collected from the wells on a quarterly or annual basis between 2001 and 2007. Samples were analyzed for gasoline-, diesel-, and oil-range TPH; BTEX; volatile organic hydrocarbons (VOCs); polycyclic aromatic hydrocarbons (PAHs); and/or total and dissolved lead. No groundwater samples had been collected from the site since June 2007. Diesel-range TPH (1,100 micrograms per liter [µg/L]) was detected in well MW-5 in June 2007, at a concentration exceeding the MTCA Method A cleanup level (500 µg/L). All other laboratory analytical results for the groundwater samples collected from the site wells in June 2007 were below the MTCA Method A or Method B cleanup levels. Historical groundwater data collected from the site in 2006 and 2007 are included in Tables 1 and 2.

3.0 WELL RE-DEVELOPMENT AND GROUNDWATER SAMPLING

Site groundwater monitoring/recovery wells MW-1, MW-2A, MW-3 through MW-5, and RW-1 were re-developed on August 19, 2014 using clean disposable polyvinyl chloride (PVC) bailers and a clean down-well pump equipped with clean polyvinyl tubing. The down-well pump and polyvinyl tubing were cleaned using an Alconox® wash and potable water rinse prior to use at each well.

The flush monuments at wells MW-3 and MW-5 were partially flooded with water, and the monuments were bailed prior to the well caps being opened. Depth to groundwater and depth to bottom were measured in each well prior to performing the well re-development work. The water level probe was cleaned using an Alconox® wash and distilled water rinse before use in each well. Measured depth to water ranged from 7.19 feet below TOC at well MW-3 to 10.48 feet below TOC at well MW-5 (Table 1). Measured depth to bottom ranged from 14.88 feet below TOC at well MW-2A to 15.70 feet below TOC at well RW-1.

The wells were surged and pumped until the discharge water was clear and free of fines and organic matter, or until the well pumped dry. Purge volumes ranged from 3 gallons from well MW-5 to 10 gallons from well RW-1. All wells except RW-1 purged dry quickly and recharged very slowly. The purge water from all wells except MW-3 was gray to dark gray or brown and silty to very silty. The MW-3 purge water was light brown. A slight hydrocarbon-like odor was observed on the purge water from MW-2A. The purge water was stored onsite in a steel, Department of Transportation (DOT) approved, 55-gallon drum. The drum was properly labeled and left onsite near well MW-1 pending receipt of laboratory analytical results.

Following the well re-development activities, the wells were allowed to recharge for at least 24-hours prior to sampling. Groundwater samples were collected from the wells on August 21, 2014 using a peristaltic pump equipped with clean silicon and polyethylene tubing. Groundwater parameters (pH, temperature, specific conductance, oxygen-reduction potential, and dissolved oxygen) were measured during well purging. Samples were collected when all parameters were within 10% for two consecutive readings. Low-flow groundwater discharge rates were maintained during sampling in order to minimize the drawdown of the water level in the wells. Following the stabilization of groundwater parameters measured via a flow-through cell, samples were collected utilizing the peristaltic pump. Discharge from the peristaltic pump was directed into laboratory provided glassware. Each sample container was labeled with the site name, date, time, and well/sample number.

Depth to groundwater in each well was measured prior to sample collection. The water level probe was cleaned using an Alconox® wash and distilled water rinse before use in each well. Measured depth to water ranged from 7.30 feet below TOC at well MW-3 to 10.71 feet below TOC at well MW-5 (Table 1). Measured depth to groundwater and TOC elevation data relative to a site datum were used to determine the relative groundwater elevation at each well. Relative groundwater elevations ranged from 87.53 feet at well MW-1 to 83.93 feet at well MW-5. Based on groundwater level measurements collected during Terracon's groundwater sampling event, groundwater flow direction at the site is generally to the south and southwest (Figure 3).

3.1 Analytical Laboratory Testing

Groundwater samples were delivered to ESC Lab Sciences, a Washington accredited analytical laboratory in Mt. Juliet, Tennessee, for laboratory analysis for the following:

- Diesel-range and heavier than diesel-range total petroleum hydrocarbons (TPH) via Northwest Method NWTPH-Dx

- Gasoline-range TPH via Northwest Method NWTPH-Gx
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) via EPA Method 8021B
- Total lead via EPA Method 6010C.

The executed chain-of-custody form and laboratory analytical certificate are provided in Appendix A. All analyses were completed using standard turnaround times.

3.2 Quality Assurance/Quality Control Results

The analytical results for the current investigation were checked for completeness immediately upon receipt from the laboratory to ensure that data and QA/QC information requested were present. Data quality was assessed by considering hold times, surrogate recovery, method blanks, matrix spike and matrix spike duplicate (MS/MSD) recovery, and detection limits. QA/QC review was completed using guidance described in *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (Draft Final, USEPA, 2005). Our evaluation assumes that the QA/QC is correct as reported by the laboratory, and merely provides an interpretation of the QA/QC results.

- Hold Times: All analyses were completed within specified hold times.
- Surrogate Recoveries: All surrogate recoveries were within laboratory limits.
- Method Blanks: Analytes were not detected in any of the laboratory method blanks.
- MS/MSD Results: MS and MSD recoveries were all within laboratory limits, and Relative Percent Differences (RPDs) between MS and MSD recoveries were all within laboratory limits.
- Laboratory Reporting Limits: Reporting limits were below relevant MTCA cleanup levels.

Based upon our interpretation of quality control information provided by the laboratory, it is our opinion that the overall dataset is useable as qualified for the purposes of this groundwater sampling event.

4.0 Laboratory Analytical Results

A summary of analytical results for groundwater quality from the August 2014 sampling event is presented in Table 2, along with analytical results for groundwater sampling events conducted by others in 2006 and 2007. The results are tabulated, with the state cleanup levels included for comparison. The complete laboratory report and chain-of-custody form for analytical results from this sampling event are included in Appendix A.

Diesel- and Heavy Oil-Range Organics

Diesel-range TPH was identified above the laboratory reporting limit in two samples. The sample from MW-2A contained diesel-range TPH at a concentration of 920 µg/L and the sample from MW-5 contained diesel-range TPH at a concentration of 800 µg/L, both exceeding the Model Toxics Control Act (MTCA) Method A cleanup level of 500 µg/L.

Gasoline-Range Organics

Gasoline-range TPH was not identified above laboratory reporting limits in any of the groundwater samples collected during our August 2014 sampling event.

BTEX

BTEX compounds were not identified above laboratory reporting limits in any of the groundwater samples collected during our August 2014 sampling event.

Total Lead

Total lead was not identified above laboratory reporting limits in any of the groundwater samples collected during our August 2014 sampling event.

5.0 FINDINGS AND CONCLUSIONS

Based on results of the groundwater monitoring event completed in August 2014, the findings and conclusions of this report are as follows:

- Diesel-range TPH was identified in the samples collected from MW-2A and MW-5 at concentration of 920 µg/L and 800 µg/L, respectively, exceeding the MTCA Method A cleanup level of 500 µg/L.
- Gasoline-range TPH, BTEX compounds, and total lead were not identified above the laboratory reporting limits in any of the samples collected.
- The groundwater flow direction is generally toward the south and southwest.
- It appears that the groundwater in the vicinity of MW-2A and MW-5 remains impacted with diesel-range petroleum hydrocarbons.

6.0 RECOMMENDATIONS

Based on the results of the groundwater monitoring conducted at the site, Terracon recommends that groundwater sampling be continued at the Site.

FIGURES

Figure 1 - Topographic Map
Figure 2 - Site Diagram
Figure 3 – Groundwater Contour Map – August 21, 2014

USGS Suquamish, WA, 7.5-minute Quadrangles, 1981.

LEGEND:

APPROXIMATE SITE BOUNDARY

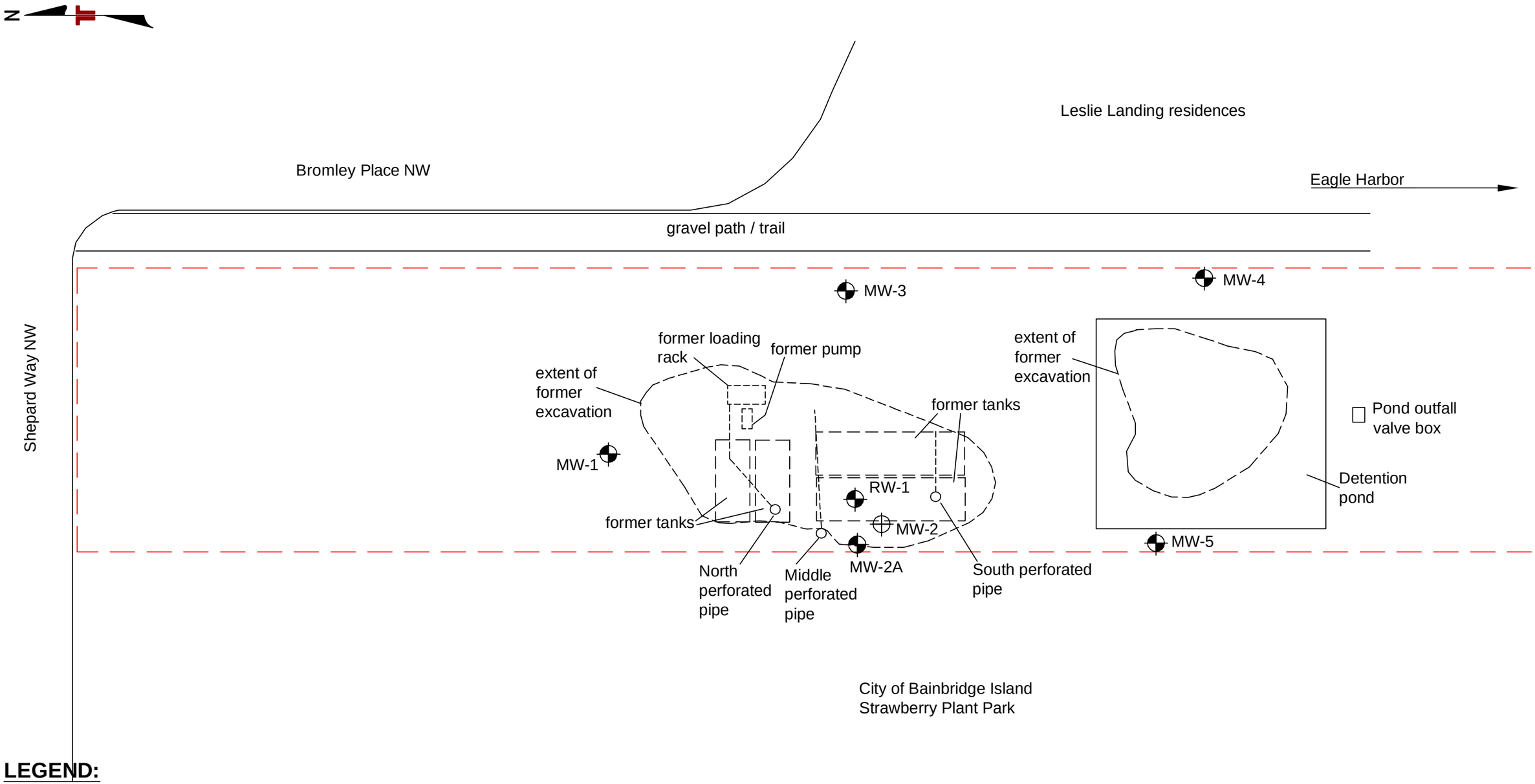
Project Mngr: MDN	Project No. 81147093
Drawn By: SAB	Scale: Not to Scale
Checked By: MDN	File No.
Approved By: MYW	Date: September 2014

Terracon
Consulting Engineers and Scientists
21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043
PH. (425) 771-3304 FAX. (425) 771-3549

TOPOGRAPHIC MAP

Former PNEC Bulk Petroleum Facility
Shepard Way NW & Bromley Place NW
Brainbridge Island, Kitsap County, Washington

FIG. No. 1



LEGEND:

APPROXIMATE SITE BOUNDARY

MW-1 — MONITORING WELL NUMBER AND APPROXIMATE LOCATION

MW-2 — FORMER MONITORING WELL LOCATION

Project Mngr:	MDN
Drawn By:	SAB
Checked By:	MDN
Approved By:	MYW
Project No.	81147093
Scale:	Not to Scale
File No.	
Date:	September 2014

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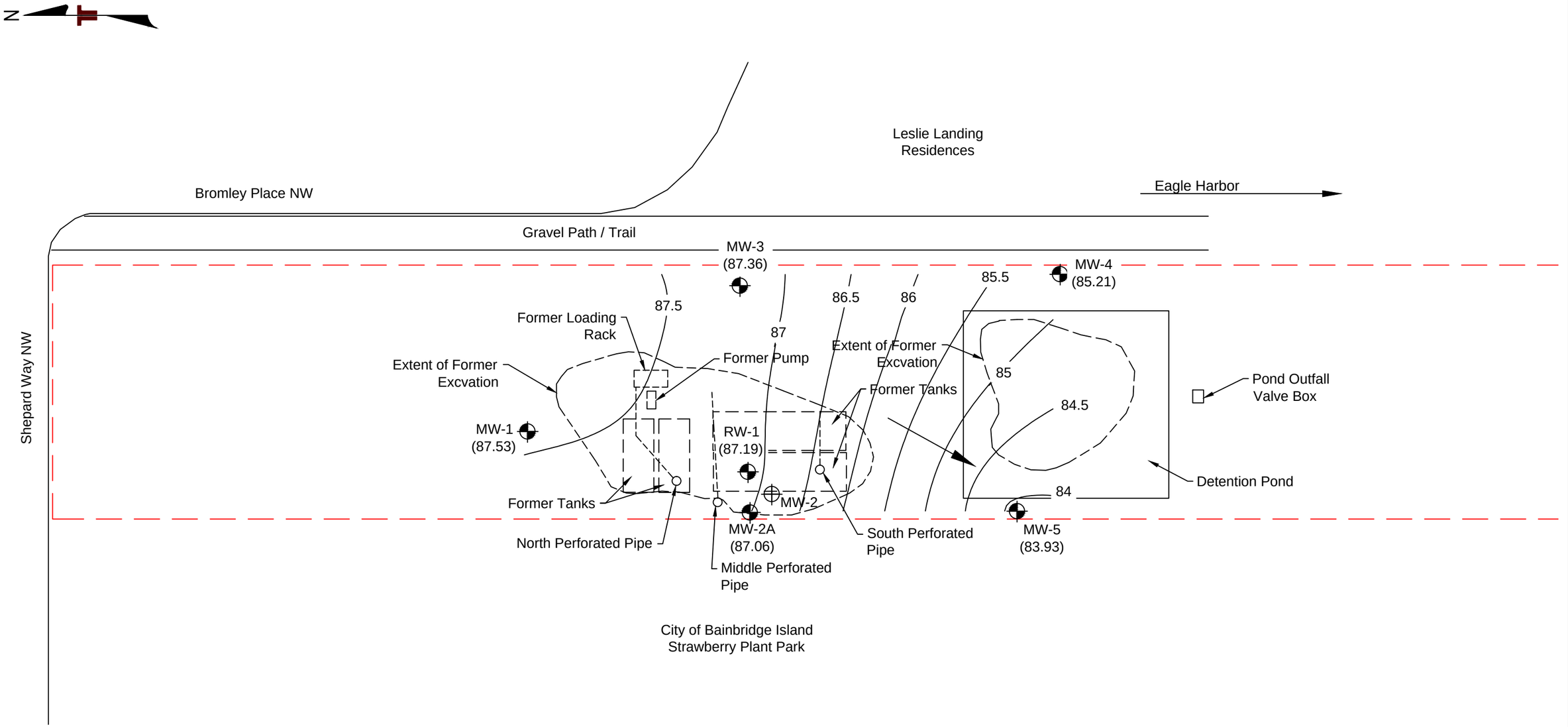
SITE DIAGRAM

Former PNEC Bulk Petroleum Facility
Shepard Way NW & Bromley Place NW
Bainbridge Island, Kitsap County, Washington

FIG. No. 2



LEGEND:

APPROXIMATE SITE BOUNDARY

INFERRED GROUNDWATER FLOW DIRECTION

85 GROUNDWATER CONTOUR (feet)

MW-1 (87.53) MONITORING WELL NUMBER AND APPROXIMATE LOCATION (Groundwater elevation, August 21, 2014)

MW-2 FORMER MONITORING WELL LOCATION

20 0 5 10 20
SCALE IN FEET

Project Mngr: MDN	Project No. 81147093
Drawn By: SAB/RMS	Scale: AS SHOWN
Checked By: MDN	File No. figure2.dwg
Approved By: MYW	Date: September 2014

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GROUNDWATER CONTOUR MAP - AUGUST 21, 2014

Former PNEC Bulk Petroleum Facility
Shepard Way NW & Bromley Place NW
Bainbridge Island, Kitsap County, Washington

FIG. No. 3

TABLES

Table 1 – Summary of Depth to Groundwater Measurements
Table 2 – Summary of Groundwater Analytical Results

TABLE 1

SUMMARY OF DEPTH TO GROUNDWATER MEASUREMENTS
PNEC Former Bulk Petroleum Facility
Shepard Way NW and Bromley Place NW
Bainbridge Island, Kitsap County, Washington

Well Number	Sample Date	TOC Elevation (Feet)	Depth to Water (Feet)	Relative Groundwater Elevation (Feet)
MW-1	9/13/2006	96.62	9.40	87.22
	12/20/2006		3.85	92.77
screened 4.8-14.8 feet	3/26/2007		4.49	92.13
	6/18/2007		7.08	89.54
	8/19/2014		9.00	87.62
	8/21/2014		9.09	87.53
MW-2A	9/13/2006	95.37	8.88	86.49
	12/20/2006		4.46	90.91
screened 4.8-14.8 feet	3/26/2007		4.79	90.58
	6/18/2007		6.78	88.59
	8/19/2014		8.24	87.13
	8/21/2014		8.31	87.06
MW-3	9/13/2006	94.66	7.40	87.26
	12/20/2006		3.95	90.71
screened 5-15 feet	3/26/2007		3.41	91.25
	6/18/2007		5.77	88.89
	8/19/2014		7.19	87.47
	8/21/2014		7.30	87.36
MW-4	9/13/2006	94.15	9.65	84.50
	12/20/2006		3.34	90.81
screened 4.9-14.9 feet	3/26/2007		3.91	90.24
	6/18/2007		6.90	87.25
	8/19/2014		8.76	85.39
	8/21/2014		8.94	85.21
MW-5	9/13/2006	94.64	11.60	83.04
	12/20/2006		3.97	90.67
screened 5.2-15.2 feet	3/26/2007		4.28	90.36
	6/18/2007		6.10	88.54
	8/19/2014		10.48	84.16
	8/21/2014		10.71	83.93
RW-1	9/13/2006	95.64	8.80	86.84
	12/20/2006		4.70	90.94
screened 4.7-14.7 feet	3/26/2007		5.03	90.61
	6/18/2007		7.02	88.62
	8/19/2014		8.40	87.24
	8/21/2014		8.45	87.19

TOC: top of casing
NM : not measured
Goldsmith surveyed TOC on all groundwater monitoring wells for the April sampling event
All the monitoring wells are 2-inch diameter

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PNEC Former Bulk Petroleum Facility
Shepard Way NW and Bromley Place NW
Bainbridge Island, Kitsap County, Washington

all concentrations are in µg/l (micrograms per liter)

Sample Name	Sample Date	TPH			BTEX				MTBE
		Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethylbeneze	Xylenes	
MW-1	9/13/2006	ND (<48)	**160**	**150**	ND (<0.5)	ND (<0.7)	ND (<0.7)	ND (<0.8)	ND (<0.5)
	12/20/2006	ND (<48)	ND (<76)	ND (<95)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	3/26/2007	ND (<240)	ND (<75)	ND (<94)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
	6/18/2007	ND (<50)	ND (<76)	ND (<95)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	8/21/2014	ND (<100)	ND (<100)	ND (<250)	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	NS
MW-2A	9/13/2006	**300**	**2,700**	**530**	ND (<0.5)	ND (<0.7)	**2**	ND (<0.8)	ND (<0.5)
	12/20/2006	ND (<48)	**280**	ND (<95)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	3/26/2007	ND (<48)	**300**	**120**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
	6/18/2007	ND (<50)	**330**	ND (<95)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	8/21/2014	ND (<100)	**920**	**360**	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	NS
MW-3	9/13/2006	ND (<48)	**88**	**97**	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	12/20/2006	ND (<48)	**88**	ND (<95)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	3/26/2007	ND (<48)	ND (<75)	ND (<94)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
	6/18/2007	ND (<50)	ND (<76)	ND (<95)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	8/21/2014	ND (<100)	ND (<100)	ND (<250)	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	NS
MW-4	9/13/2006	ND (<48)	**390**	**200**	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	12/20/2006	ND (<48)	**230**	**110**	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	3/26/2007	ND (<48)	**150**	ND (<95)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
	6/18/2007	ND (<50)	**430**	ND (<95)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	8/21/2014	ND (<100)	**410**	**270**	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	NS

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PNEC Former Bulk Petroleum Facility
Shepard Way NW and Bromley Place NW
Bainbridge Island, Kitsap County, Washington

all concentrations are in µg/l (micrograms per liter)

Sample Name	Sample Date	TPH			BTEX				MTBE
		Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethylbeneze	Xylenes	
MW-5	9/13/2006	**61**	**840**	**230**	ND (<0.5)	**12**	ND (<0.8)	ND (<0.8)	ND (<0.5)
	12/20/2006	**200**	**2,000**	**390**	ND (<0.5)	**8**	ND (<0.8)	ND (<0.8)	ND (<0.5)
	3/26/2007	**250**	**1,300**	**300**	ND (<0.5)	**0.7**	ND (<0.5)	ND (<0.5)	ND (<0.5)
	6/18/2007	**130**	**1,100**	**120**	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	8/21/2014	ND (<100)	**800**	ND (<500)	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	NS
RW-1	9/13/2006	ND (<48)	ND (<77)	ND (<96)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	12/20/2006	ND (<48)	**180**	ND (<96)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	3/26/2007	ND (<48)	**210**	ND (<95)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
	6/18/2007	ND (<50)	**280**	ND (<96)	ND (<0.5)	ND (<0.7)	ND (<0.8)	ND (<0.8)	ND (<0.5)
	8/21/2014	ND (<100)	**210**	ND (<250)	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	NS
MTCA Method A Cleanup Level		**1,000** [1]	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**

Note: Concentrations detected are in BOLD type.
Shaded and bold concentrations are above MTCA cleanup levels.

TPH - Total petroleum hydrocarbons
MTBE - Methyl tert butyl ether
MTCA - Model Toxics Control Act
1 - No detectable benzene in ground water
NS - Not sampled
ND - Not detected above laboratory reporting limit

Appendix A

Analytical Report and Chain-of-Custody Documentation

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mike Noll
Terracon- Mountlake Terrace, WA
21905 64th Ave W Ste 100
Mountlake Terrace, WA 98043

Report Summary

Friday August 29, 2014

Report Number: L717828
Samples Received: 08/23/14
Client Project: 81147093

Description: Former PNEC Bulk Petroleum Storage Facility

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jarred Willis

Jarred Willis , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

ESC LAB SCIENCES
YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mike Noll
Terracon- Mountlake Terrace, WA
21905 64th Ave W Ste 100
Mountlake Terrace, WA 98043

August 29,2014

ESC Sample # : L717828-01

Site ID :

Project # : 81147093

Date Received : August 23, 2014
Description : Former PNEC Bulk Petroleum Storage Facility

Sample ID : MW-1

Collected By : Kyle Long
Collection Date : 08/21/14 16:11

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	BDL	5.0	ug/l	6010C	08/27/14	1
Gasoline Range Organics-NWTPH	BDL	100	ug/l	NWTPHGX	08/26/14	1
Surrogate Recovery						
a,a,a-Trifluorotoluene(FID)	99.4		% Rec.	NWTPHGX	08/26/14	1
Benzene	BDL	0.50	ug/l	8021B	08/24/14	1
Toluene	BDL	5.0	ug/l	8021B	08/24/14	1
Ethylbenzene	BDL	0.50	ug/l	8021B	08/24/14	1
Total Xylene	BDL	1.5	ug/l	8021B	08/24/14	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	104.		% Rec.	8021B	08/24/14	1
Diesel Range Organics (DRO)	BDL	100	ug/l	NWTPHDX	08/28/14	1
Residual Range Organics (RRO)	BDL	250	ug/l	NWTPHDX	08/28/14	1
Surrogate Recovery						
o-Terphenyl	106.		% Rec.	NWTPHDX	08/28/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 08/29/14 10:24 Printed: 08/29/14 10:24

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Est. 1970

REPORT OF ANALYSIS

Mike Noll
Terracon- Mountlake Terrace, WA
21905 64th Ave W Ste 100
Mountlake Terrace, WA 98043

August 29,2014

ESC Sample # : L717828-02

Site ID :

Project # : 81147093

Date Received : August 23, 2014
Description : Former PNEC Bulk Petroleum Storage Facility

Sample ID : MW-2A

Collected By : Kyle Long
Collection Date : 08/21/14 14:06

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	BDL	5.0	ug/l	6010C	08/27/14	1
Gasoline Range Organics-NWTPH	BDL	100	ug/l	NWTPHGX	08/26/14	1
Surrogate Recovery						
a,a,a-Trifluorotoluene(FID)	99.7		% Rec.	NWTPHGX	08/26/14	1
Benzene	BDL	0.50	ug/l	8021B	08/24/14	1
Toluene	BDL	5.0	ug/l	8021B	08/24/14	1
Ethylbenzene	BDL	0.50	ug/l	8021B	08/24/14	1
Total Xylene	BDL	1.5	ug/l	8021B	08/24/14	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	104.		% Rec.	8021B	08/24/14	1
Diesel Range Organics (DRO)	920	100	ug/l	NWTPHDX	08/28/14	1
Residual Range Organics (RRO)	360	250	ug/l	NWTPHDX	08/28/14	1
Surrogate Recovery						
o-Terphenyl	107.		% Rec.	NWTPHDX	08/28/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mike Noll
Terracon- Mountlake Terrace, WA
21905 64th Ave W Ste 100
Mountlake Terrace, WA 98043

August 29,2014

ESC Sample # : L717828-03

Site ID :

Project # : 81147093

Date Received : August 23, 2014
Description : Former PNEC Bulk Petroleum Storage Facility

Sample ID : MW-3

Collected By : Kyle Long
Collection Date : 08/21/14 15:31

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	BDL	5.0	ug/l	6010C	08/27/14	1
Gasoline Range Organics-NWTPH	BDL	100	ug/l	NWTPHGX	08/26/14	1
Surrogate Recovery						
a,a,a-Trifluorotoluene(FID)	100.		% Rec.	NWTPHGX	08/26/14	1
Benzene	BDL	0.50	ug/l	8021B	08/24/14	1
Toluene	BDL	5.0	ug/l	8021B	08/24/14	1
Ethylbenzene	BDL	0.50	ug/l	8021B	08/24/14	1
Total Xylene	BDL	1.5	ug/l	8021B	08/24/14	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	104.		% Rec.	8021B	08/24/14	1
Diesel Range Organics (DRO)	BDL	100	ug/l	NWTPHDX	08/28/14	1
Residual Range Organics (RRO)	BDL	250	ug/l	NWTPHDX	08/28/14	1
Surrogate Recovery						
o-Terphenyl	108.		% Rec.	NWTPHDX	08/28/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mike Noll
Terracon- Mountlake Terrace, WA
21905 64th Ave W Ste 100
Mountlake Terrace, WA 98043

August 29,2014

ESC Sample # : L717828-04

Site ID :

Project # : 81147093

Date Received : August 23, 2014
Description : Former PNEC Bulk Petroleum Storage Facility

Sample ID : MW-4

Collected By : Kyle Long
Collection Date : 08/21/14 12:24

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	BDL	5.0	ug/l	6010C	08/27/14	1
Gasoline Range Organics-NWTPH	BDL	100	ug/l	NWTPHGX	08/26/14	1
Surrogate Recovery						
a,a,a-Trifluorotoluene(FID)	100.		% Rec.	NWTPHGX	08/26/14	1
Benzene	BDL	0.50	ug/l	8021B	08/26/14	1
Toluene	BDL	5.0	ug/l	8021B	08/26/14	1
Ethylbenzene	BDL	0.50	ug/l	8021B	08/26/14	1
Total Xylene	BDL	1.5	ug/l	8021B	08/26/14	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	102.		% Rec.	8021B	08/26/14	1
Diesel Range Organics (DRO)	410	100	ug/l	NWTPHDX	08/28/14	1
Residual Range Organics (RRO)	270	250	ug/l	NWTPHDX	08/28/14	1
Surrogate Recovery						
o-Terphenyl	107.		% Rec.	NWTPHDX	08/28/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mike Noll
Terracon- Mountlake Terrace, WA
21905 64th Ave W Ste 100
Mountlake Terrace, WA 98043

August 29,2014

ESC Sample # : L717828-05

Site ID :

Project # : 81147093

Date Received : August 23, 2014
Description : Former PNEC Bulk Petroleum Storage Facility

Sample ID : MW-5

Collected By : Kyle Long
Collection Date : 08/21/14 13:17

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	BDL	5.0	ug/l	6010C	08/27/14	1
Gasoline Range Organics-NWTPH	BDL	100	ug/l	NWTPHGX	08/26/14	1
Surrogate Recovery						
a,a,a-Trifluorotoluene(FID)	100.		% Rec.	NWTPHGX	08/26/14	1
Benzene	BDL	0.50	ug/l	8021B	08/24/14	1
Toluene	BDL	5.0	ug/l	8021B	08/24/14	1
Ethylbenzene	BDL	0.50	ug/l	8021B	08/24/14	1
Total Xylene	BDL	1.5	ug/l	8021B	08/24/14	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	103.		% Rec.	8021B	08/24/14	1
Diesel Range Organics (DRO)	800	200	ug/l	NWTPHDX	08/28/14	2
Residual Range Organics (RRO)	BDL	500	ug/l	NWTPHDX	08/28/14	2
Surrogate Recovery						
o-Terphenyl	99.3		% Rec.	NWTPHDX	08/28/14	2

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mike Noll
Terracon- Mountlake Terrace, WA
21905 64th Ave W Ste 100
Mountlake Terrace, WA 98043

August 29,2014

ESC Sample # : L717828-06

Site ID :

Project # : 81147093

Date Received : August 23, 2014
Description : Former PNEC Bulk Petroleum Storage Facility

Sample ID : RW-1

Collected By : Kyle Long
Collection Date : 08/21/14 14:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	BDL	5.0	ug/l	6010C	08/27/14	1
Gasoline Range Organics-NWTPH	BDL	100	ug/l	NWTPHGX	08/26/14	1
Surrogate Recovery						
a,a,a-Trifluorotoluene(FID)	100.		% Rec.	NWTPHGX	08/26/14	1
Benzene	BDL	0.50	ug/l	8021B	08/24/14	1
Toluene	BDL	5.0	ug/l	8021B	08/24/14	1
Ethylbenzene	BDL	0.50	ug/l	8021B	08/24/14	1
Total Xylene	BDL	1.5	ug/l	8021B	08/24/14	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	104.		% Rec.	8021B	08/24/14	1
Diesel Range Organics (DRO)	210	100	ug/l	NWTPHDX	08/28/14	1
Residual Range Organics (RRO)	BDL	250	ug/l	NWTPHDX	08/28/14	1
Surrogate Recovery						
o-Terphenyl	104.		% Rec.	NWTPHDX	08/28/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 08/29/14 10:24 Printed: 08/29/14 10:24

Summary of Remarks For Samples Printed
08/29/14 at 10:24:51

TSR Signing Reports: 358
R5 - Desired TAT

Log ALL arsenic water samples by 6020. Take ASICP out of RCRA8 & add ASG at $0.

Sample: L717828-01 Account: TERRLWA Received: 08/23/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/29/14 10:24

Sample: L717828-02 Account: TERRLWA Received: 08/23/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/29/14 10:24

Sample: L717828-03 Account: TERRLWA Received: 08/23/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/29/14 10:24

Sample: L717828-04 Account: TERRLWA Received: 08/23/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/29/14 10:24

Sample: L717828-05 Account: TERRLWA Received: 08/23/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/29/14 10:24

Sample: L717828-06 Account: TERRLWA Received: 08/23/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/29/14 10:24

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Terracon- Mountlake Terrace, WA
Mike Noll
21905 64th Ave W Ste 100

Mountlake Terrace, WA 98043

Quality Assurance Report
Level II

L717828

August 29, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Benzene	< .0005	mg/l			WG739103	08/24/14 04:11
Ethylbenzene	< .0005	mg/l			WG739103	08/24/14 04:11
Toluene	< .005	mg/l			WG739103	08/24/14 04:11
Total Xylene	< .0015	mg/l			WG739103	08/24/14 04:11
a,a,a-Trifluorotoluene(FID)		% Rec.	99.70	62-128	WG739103	08/24/14 04:11
a,a,a-Trifluorotoluene(PID)		% Rec.	104.0	55-122	WG739103	08/24/14 04:11
Gasoline Range Organics-NWTPH	< .1	mg/l			WG739442	08/26/14 14:21
a,a,a-Trifluorotoluene(FID)		% Rec.	99.40	62-128	WG739442	08/26/14 14:21
a,a,a-Trifluorotoluene(PID)		% Rec.	99.70	55-122	WG739442	08/26/14 14:21
Benzene	< .0005	mg/l			WG739443	08/26/14 14:11
Ethylbenzene	< .0005	mg/l			WG739443	08/26/14 14:11
Toluene	< .005	mg/l			WG739443	08/26/14 14:11
Gasoline Range Organics-NWTPH	< .1	mg/l			WG739443	08/26/14 14:11
Total Xylene	< .0015	mg/l			WG739443	08/26/14 14:11
a,a,a-Trifluorotoluene(FID)		% Rec.	100.0	62-128	WG739443	08/26/14 14:11
a,a,a-Trifluorotoluene(PID)		% Rec.	101.0	55-122	WG739443	08/26/14 14:11
Lead	< .005	mg/l			WG739710	08/27/14 14:46
Diesel Range Organics (DRO)	< .1	mg/l			WG739327	08/27/14 16:36
Residual Range Organics (RRO)	< .25	mg/l			WG739327	08/27/14 16:36
o-Terphenyl		% Rec.	103.0	50-150	WG739327	08/27/14 16:36

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Benzene	mg/l	.05	0.0511	102.	70-130	WG739103
Ethylbenzene	mg/l	.05	0.0528	106.	70-130	WG739103
Toluene	mg/l	.05	0.0521	104.	70-130	WG739103
Total Xylene	mg/l	.15	0.159	106.	70-130	WG739103
a,a,a-Trifluorotoluene(PID)				103.0	55-122	WG739103
Gasoline Range Organics-NWTPH	mg/l	5.5	4.36	79.4	66-123	WG739442
a,a,a-Trifluorotoluene(FID)				99.00	62-128	WG739442
Benzene	mg/l	.05	0.0420	84.0	70-130	WG739443
Ethylbenzene	mg/l	.05	0.0463	92.6	70-130	WG739443
Toluene	mg/l	.05	0.0453	90.6	70-130	WG739443
Total Xylene	mg/l	.15	0.142	94.6	70-130	WG739443
a,a,a-Trifluorotoluene(FID)				100.0	62-128	WG739443
a,a,a-Trifluorotoluene(PID)				102.0	55-122	WG739443
Gasoline Range Organics-NWTPH	mg/l	5.5	4.64	84.3	66-123	WG739443
a,a,a-Trifluorotoluene(FID)				97.40	62-128	WG739443
a,a,a-Trifluorotoluene(PID)				104.0	55-122	WG739443
Lead	mg/l	1	1.05	105.	80-120	WG739710
Diesel Range Organics (DRO)	mg/l	.75	0.829	111.	50-150	WG739327
Residual Range Organics (RRO)	mg/l	.75	0.779	104.	50-150	WG739327

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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21905 64th Ave W Ste 100

Mountlake Terrace, WA 98043

Quality Assurance Report
Level II

L717828

August 29, 2014

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
o-Terphenyl					104.0		50-150	

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Benzene	mg/l	0.0505	0.0511	101.	70-130	1.20	20	WG739103
Ethylbenzene	mg/l	0.0514	0.0528	103.	70-130	2.73	20	WG739103
Toluene	mg/l	0.0506	0.0521	101.	70-130	2.84	20	WG739103
Total Xylene	mg/l	0.155	0.159	103.	70-130	3.07	20	WG739103
a,a,a-Trifluorotoluene(PID)				103.0	55-122			WG739103
Gasoline Range Organics-NWTPH	mg/l	4.64	4.36	84.0	66-123	6.18	20	WG739442
a,a,a-Trifluorotoluene(FID)				99.20	62-128			WG739442
Benzene	mg/l	0.0420	0.0420	84.0	70-130	0.0100	20	WG739443
Ethylbenzene	mg/l	0.0461	0.0463	92.0	70-130	0.390	20	WG739443
Toluene	mg/l	0.0450	0.0453	90.0	70-130	0.580	20	WG739443
Total Xylene	mg/l	0.141	0.142	94.0	70-130	0.350	20	WG739443
a,a,a-Trifluorotoluene(FID)				99.90	62-128			WG739443
a,a,a-Trifluorotoluene(PID)				102.0	55-122			WG739443
Gasoline Range Organics-NWTPH	mg/l	4.68	4.64	85.0	66-123	0.870	20	WG739443
a,a,a-Trifluorotoluene(FID)				98.60	62-128			WG739443
a,a,a-Trifluorotoluene(PID)				104.0	55-122			WG739443
Lead	mg/l	1.04	1.05	104.	80-120	1.00	20	WG739710
Diesel Range Organics (DRO)	mg/l	0.832	0.829	111.	50-150	0.380	20	WG739327
Residual Range Organics (RRO)	mg/l	0.772	0.779	103.	50-150	0.950	20	WG739327
o-Terphenyl				103.0	50-150			WG739327

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Benzene	mg/l	0.0506	0.000124	.05	100.	57.2-131	L717630-03	WG739103
Ethylbenzene	mg/l	0.0519	0.000130	.05	100.	67.5-135	L717630-03	WG739103
Toluene	mg/l	0.0517	0.000245	.05	100.	63.7-134	L717630-03	WG739103
Total Xylene	mg/l	0.158	0.000400	.15	100.	65.9-138	L717630-03	WG739103
a,a,a-Trifluorotoluene(PID)					103.0	55-122		WG739103
Gasoline Range Organics-NWTPH	mg/l	4.58	0.0	5.5	83.0	47.5-136	L717828-01	WG739442
a,a,a-Trifluorotoluene(FID)					99.40	62-128		WG739442
Benzene	mg/l	0.0433	0.0000332	.05	87.0	57.2-131	L717828-04	WG739443
Ethylbenzene	mg/l	0.0479	0.0000185	.05	96.0	67.5-135	L717828-04	WG739443
Toluene	mg/l	0.0470	0.0000940	.05	94.0	63.7-134	L717828-04	WG739443
Total Xylene	mg/l	0.147	0.000402	.15	98.0	65.9-138	L717828-04	WG739443
a,a,a-Trifluorotoluene(FID)					99.90	62-128		WG739443
a,a,a-Trifluorotoluene(PID)					102.0	55-122		WG739443
Gasoline Range Organics-NWTPH	mg/l	4.78	0.0	5.5	87.0	47.5-136	L717828-03	WG739443
a,a,a-Trifluorotoluene(FID)					98.10	62-128		WG739443
a,a,a-Trifluorotoluene(PID)					104.0	55-122		WG739443

* Performance of this Analyte is outside of established criteria.
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Mike Noll
21905 64th Ave W Ste 100

Mountlake Terrace, WA 98043

Quality Assurance Report
Level II

L717828

August 29, 2014

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Benzene	mg/l	0.0521	0.0506	104.	57.2-131	2.89	20	L717630-03	WG739103
Ethylbenzene	mg/l	0.0531	0.0519	106.	67.5-135	2.18	20	L717630-03	WG739103
Toluene	mg/l	0.0523	0.0517	104.	63.7-134	1.23	20	L717630-03	WG739103
Total Xylene	mg/l	0.161	0.158	107.	65.9-138	1.69	20	L717630-03	WG739103
a,a,a-Trifluorotoluene(PID)				103.0	55-122				WG739103
Gasoline Range Organics-NWTPH	mg/l	4.40	4.58	80.0	47.5-136	4.05	20	L717828-01	WG739442
a,a,a-Trifluorotoluene(FID)				99.10	62-128				WG739442
Benzene	mg/l	0.0428	0.0433	85.5	57.2-131	1.23	20	L717828-04	WG739443
Ethylbenzene	mg/l	0.0470	0.0479	94.0	67.5-135	1.79	20	L717828-04	WG739443
Toluene	mg/l	0.0460	0.0470	91.8	63.7-134	2.21	20	L717828-04	WG739443
Total Xylene	mg/l	0.144	0.147	96.0	65.9-138	1.95	20	L717828-04	WG739443
a,a,a-Trifluorotoluene(FID)				100.0	62-128				WG739443
a,a,a-Trifluorotoluene(PID)				102.0	55-122				WG739443
Gasoline Range Organics-NWTPH	mg/l	4.64	4.78	84.4	47.5-136	2.92	20	L717828-03	WG739443
a,a,a-Trifluorotoluene(FID)				99.20	62-128				WG739443
a,a,a-Trifluorotoluene(PID)				103.0	55-122				WG739443

Batch number /Run number / Sample number cross reference

WG739103: R2980209: L717828-01 02 03 05 06
WG739442: R2981536: L717828-01 02
WG739443: R2981752: L717828-03 04 05 06
WG739710: R2982061: L717828-01 02 03 04 05 06
WG739327: R2982151: L717828-01 02 03 04 05 06

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

ESC LAB SCIENCES
YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Terracon- Mountlake Terrace, WA
Mike Noll
21905 64th Ave W Ste 100

Mountlake Terrace, WA 98043

Quality Assurance Report
Level II

L717828

August 29, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

TERRLWA
Terracon
Mountlake Terrace, WA

Billing Information:
Terracon
21905 64th Ave W Ste 100
Mountlake Terrace, WA 98043

Report to: Mike Noll

Email to: mdnoll@terracon.com

Project Description: Former PNEC Bulk Petroleum Storage Facility

City/Sate Collected: Bainbridge Island, WA

Phone: 425-771-3304
FAX:

Client Project #: 81147093

ESC Key: TERRLWA

Collected by: Kyle Long

Site/Facility ID#:

P.O.#:

Collected by (signature):

Immediately Packed on Ice N Y

Rush? (Lab MUST Be Notified)
_____ Same Day. 200%
_____ Next Day. 100%
_____ Two Day 50%
_____ Three Day 25%

Date Results Needed: normal TAT

Email? __No ✔Yes

FAX? __No __Yes

Analysis/Container/Preservative

Chain of Custody
Page 1 of 1

ESC
L-A-B S-C-I-E-N-C-E-S
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

D158

CoCode TERRLWA (lab use only)

Template/Prelogin

Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	NWTPH-Gx	NWTPH-Dx	BTEX 8021	Total Lead <2	Remarks/Contaminant	Sample # (lab only)
MW-1	Grab	GW	12'	8/21/14	16:11	8	X	X	X	X		L717528-01
MW-2A	Grab	GW	12'	8/21/14	14:06	8	X	X	X	X		-02
MW-3	Grab	GW	11'	8/21/14	15:31	8	X	X	X	X		-03
MW-4	Grab	GW	12'	8/21/14	12:24	8	X	X	X	X		-04
MW-5	Grab	GW	13'	8/21/14	13:17	8	X	X	X	X		-05
RW-1	Grab	GW	12'	8/21/14	14:50	8	X	X	X	X		-06

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other WW

pH _____ Temp _____

Flow _____ Other _____

Remarks: 5790113109 00

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	8/22/14	10:30	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Condition: OK (lab use only) JWS

Temp:	Bottles Received:
3.1	4 7 FT3

CoC Seals Intact: ____ Y ____ N ____ NA

Date:	Time:	pH Checked:	NCF:
8/23/14	0900	<2	