NW 2334

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September 30, 2011

Mr. Walter Sprague
Retail Maintenance and Environmental Operations
Pacific Convenience & Fuels, LLC
7180 Koll Center Parkway, Suite 100
Pleasanton, Washington 94566

Project No. 468

Third Quarter 2011 Groundwater Monitoring Report
Site 1-288
14312 Lake City Way NE
Seattle, Washington

Dear Mr. Sprague:

Environ Strategy Consultants, Inc. is pleased to provide the *Third Quarter 2011 Groundwater Monitoring Report* (Report) for the above-referenced site. The site location is shown on Figure 1. This Report presents a summary of field activities, findings and analytical results for the groundwater monitoring event conducted on September 13, 2011.

Groundwater monitoring results indicate that residual concentrations of dissolved-phase hydrocarbons are present in the groundwater at levels below the Model Toxics Control Act (MTCA) Method A Cleanup Levels, except for benzene in Well MW-1. Consequently, it is recommended that PC&F proceed with Task 1 of the Site Closure Plan, email dated May 8, 2010 and approved on January 28, 2011.

Should you have questions regarding this Report, please contact the undersigned at (714) 919-6500.

Sincerely,
ENVIRON STRATEGY

Becky L. Hawkins, L.G. 2880
Project Geologist

State of Washington 2880 Licensed Geologist
BECKY L. HAWKINS

Laura Skow, L.G. 2882
Project Manager

State of Washington 2882 Licensed Geologist
LAURA B. SKOW

~ Promoting People, Partnerships, Performance and Environmental Stewardship ~

SITE AND CONTRACTOR OVERVIEW

Site Location:	Site 1-288 14312 Lake City Way NE Seattle, Washington
Pacific Convenience & Fuels Contact:	Mr. Walter Sprague
Environmental Consultant:	Environ Strategy Consultants, Inc. One Technology Drive, Suite B-123 Irvine, California 92618
Laboratory Contactor:	ESN 1210 Eastside Street SE, Suite 200 Olympia, Washington 98501 DOE Accreditation No. C076 (Olympia Lab)

SITE DESCRIPTION

The site is located on the eastern side of Lake City Way just south of the 145th Street intersection in Seattle and is approximately 0.60 acres in size. The site is currently a vacant lot paved with asphalt and concrete. A former convenience store, no longer in operation, is centrally located on the property. The site is bordered by an insurance company office to the north, residential properties to the east, an automobile repair shop to the south, and Lake City Way to the west.

The subject property formerly operated as an ExxonMobil retail gasoline station and prior to that, the site operated as a bulk fuel terminal. Pertinent site features including the former fuel distribution system are shown on Figure 2. A summary of historical site assessment activities is provided in Appendix A.

WORK PERFORMED – THIRD QUARTER 2011

- On September 13, 2011, performed groundwater monitoring activities consisting of well gauging and the collection and analysis of groundwater samples from four (4) site wells, identified as Monitoring Wells MW-1, MW-2, MW-3 and MW-4. The monitoring well network is shown on Figure 2 and well construction details are provided in Table 1.

- Each monitoring well was sampled in accordance with DOE approved low-flow, minimal drawdown sampling techniques. Groundwater monitoring and sampling techniques are summarized in Appendix B. Groundwater samples were transported to a State-certified environmental laboratory and analyzed for the presence of total petroleum hydrocarbons

quantified as gasoline (TPH-Gx), benzene, toluene, ethlybenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE) and naphthalene.

- Field redox parameters consisting of dissolved oxygen (DO), oxidation reduction potential (ORP) and ferrous iron (Fe^{+2}), along with standard water quality parameters were collected from each well. Measured groundwater levels, laboratory analytical results and field redox parameters are summarized on Table 2, Table 3 and Table 4, respectively. In addition, Figure 2 shows measured groundwater elevation data. A copy of the laboratory analytical report is contained in Appendix C. Groundwater monitoring field data sheets are provided in Appendix D.

- One (1), partially full, 55-gallon, Department of Transportation (DOT) approved drum was generated to contain purge waste. The drum was appropriately labeled, marked and stored in a secure location pending waste classification for offsite disposal. A waste manifest will be prepared to track the transportation and disposal of purge water. Upon receipt, the manifest will be forwarded accordingly to be placed in Appendix E of this Report.

SUMMARY DATA

Monitoring Details

Monitoring Date:	September 13, 2011
Monitoring Wells:	4 (onsite) Wells gauged: 4 Wells sampled: 4
Purging Method:	QED Sample Pro Bladder Pump
Sampling Method:	Low-flow, minimal drawdown
Purge Water Disposal:	Pending (~3.6 gallons)
Wells with LPH:	None
LPH Thickness:	None
Current Remediation Method:	None

Hydrological Parameters (see Table 2)

Depth to Groundwater (below TOC):	1.41 feet to 3.42 feet
Groundwater Elevation:	233.05 to 235.75 feet amsl
Groundwater Gradient:	Variable: 0.06 ft/ft northeast; 0.02 ft/ft southeast
Groundwater Flow Direction:	Radial
Average Water Level Change	Approximately -0.79 ft

Groundwater Analytical Results (see Table 3)

Wells with TPH-Gx: 1	Maximum: 180 µg/L (MW-1)
Wells with Benzene: 1	Maximum: 6.4 µg/L (MW-1)
Wells with MTBE: 0	Maximum: ND

GROUNDWATER MONITORING RESULTS

The results for the Third Quarter 2011 groundwater monitoring event are summarized below. Groundwater elevation data are presented in Table 2 and groundwater analytical results are presented in Table 3.

- Static water levels measured in site monitoring wells ranged from 1.41 feet to 3.42 feet below top of casing (btoc).

- The groundwater gradient is variable across the site and ranges from approximately 0.06 feet per foot (ft/ft) to the northeast to 0.02 ft/ft to the southeast.

- Dissolved-phase TPH-Gx was detected in Well MW-1 at a concentration of 180 micrograms per Liter (µg/L), which is below the MTCA Method A Cleanup Level of 800 µg/L when benzene is present. TPH-Gx was not detected in the remaining three site wells sampled.

- Benzene (6.4 µg/L) was detected in Well MW-1 at a concentration exceeding the MTCA Method A Cleanup Level of 5 µg/L. Toluene (2.8 µg/L), ethylbenzene (13 µg/L) and total xylenes (24 µg/L) were detected in Well MW-1 at concentrations below their respective MTCA Method A Cleanup Levels. BTEX compounds were not detected in the remaining three site wells sampled.

- MTBE and naphthalene were not detected in site wells above laboratory method detection limits.

- Dissolved oxygen was measured in site wells at levels ranging from 0.73 milligrams per Liter [(mg/L), MW-1] to 9.51 mg/L (MW-3). ORP levels ranged from -34.7 millivolts [(mV), MW-1] to -86.1 mV (MW-3). Conductivity levels ranged from 353 microSeimens per centimeter [(µs/cm), MW-4] to 964 µs/cm (MW-1) and pH levels ranged from 7.33 (MW-4) to 11.51 (MW-1). Ferrous iron levels were measured up to 1.8 mg/L (Well MW-4).

CONCLUSIONS & RECOMMENDATIONS

Based on the groundwater monitoring and sampling results, dissolved-phase hydrocarbon levels have increased slightly since the last sampling event (Second Quarter 2011), but remain below MTCA Method A Cleanup Levels, except for benzene in Well MW-1.

The groundwater flow direction measured for the Third Quarter 2011 monitoring event has changed since the previous monitoring event (Second Quarter 2011). During the Second Quarter 2011 event, the measured groundwater flow direction was radial, flowing to the northwest and southwest centered on MW-2. During the current monitoring event, measured groundwater flow

direction is radial, but flowing to the northeast and southeast centered on MW-3. The current groundwater flow direction is consistent with the Third Quarter 2009 (September 22, 2009) flow direction.

Based on the Third Quarter 2011 groundwater monitoring results, Environ Strategy recommends proceeding with Tasks 1 and 2 of the Site Closure Plan. Task 1 includes excavating shallow soils near the former southern UST cavity and product line corridor leading to the former western dispenser island. Task 2 includes installing additional monitoring wells to enhance the existing well network and reinstalling Well MW-1, which will be destroyed during excavation activities.

Please note that Tasks 1 and 2 will need to be coordinated with the current property owner due to the planned redevelopment of the Site.

CLOSURE

Environ Strategy is pleased to be of service to Pacific Convenience & Fuels, Inc. If there are questions regarding this report or if additional site information is required, please do not hesitate to contact Environ Strategy at (714) 919-6500.

ATTACHMENTS:

FIGURES

Figure 1:	Site Location Map
Figure 2:	Groundwater Contour Map, September 13, 2011

TABLES

Table 1:	Summary of Well Construction Details
Table 2:	Summary of Groundwater Elevation Data
Table 3:	Summary of Groundwater Analytical Results
Table 4:	Additional Groundwater Data for Site Wells

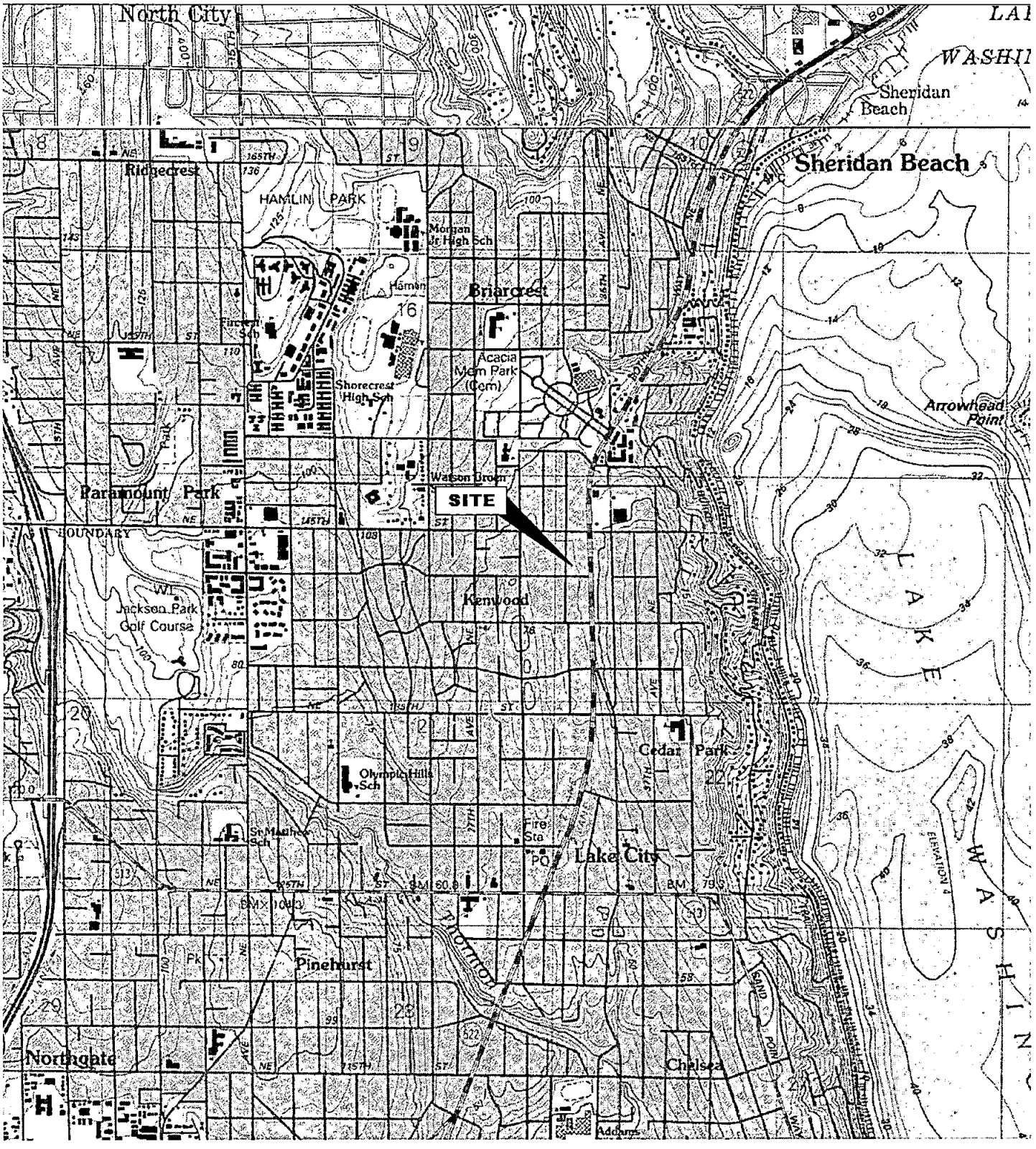
APPENDICES

Appendix A:	Site Background
Appendix B:	Monitoring Well Sampling Protocols
Appendix C:	Laboratory Analytical Report
Appendix D:	Groundwater Monitoring Field Forms
Appendix E:	Non-hazardous Waste Manifest

ACRONYMS:

amsl:	above mean sea level
bgs:	below ground surface
BTEX:	benzene, toluene, ethylbenzene and total xylenes
btoc:	below top of casing
DO:	dissolved oxygen
DOE:	Washington State Department of Ecology
DOT:	Department of Transportation
DUP:	duplicate sample
EPA:	Environmental Protection Agency
ES:	Environ Strategy Consultants, Inc.
ESN:	Environmental Services Network
Fe^{+2}:	ferrous iron
ft:	feet
ft/ft:	feet per foot
GW:	groundwater
µg/L:	microgram per Liter
µs/cm:	microSiemens per centimeter
mg/kg:	milligrams per kilogram
mg/L:	milligrams per Liter
MTCA:	Model Toxics Control Act
MTBE:	methyl tert-butyl ether
mV:	millivolts
MW:	monitoring well
NA:	not applicable
ND:	not detected
NELAP:	National Environmental Laboratory Accreditation Program
NTU:	nephelometric turbidity unit
ORP:	oxidation reduction potential
OWS:	Oil/Water Separator
PID:	photoionization detector
ppm:	parts per million
TPH-Dx:	total diesel-range petroleum hydrocarbons
TPH-Gx:	total petroleum hydrocarbons quantified as gasoline
TPH-Ox:	total oil-range petroleum hydrocarbons
UST:	underground storage tank
VOA:	volatile organic analysis
VOCs:	volatile organic compounds

FIGURES



Map Information:
1998 Maptech, Inc.

47°43'56"N 122°17'31"W

environ strategy consultants, inc.
1036 W. Taft Avenue, Suite 200
Orange, California 92865

N

0 2000

APPROX. SCALE: 1" = 2000'

FIGURE 1

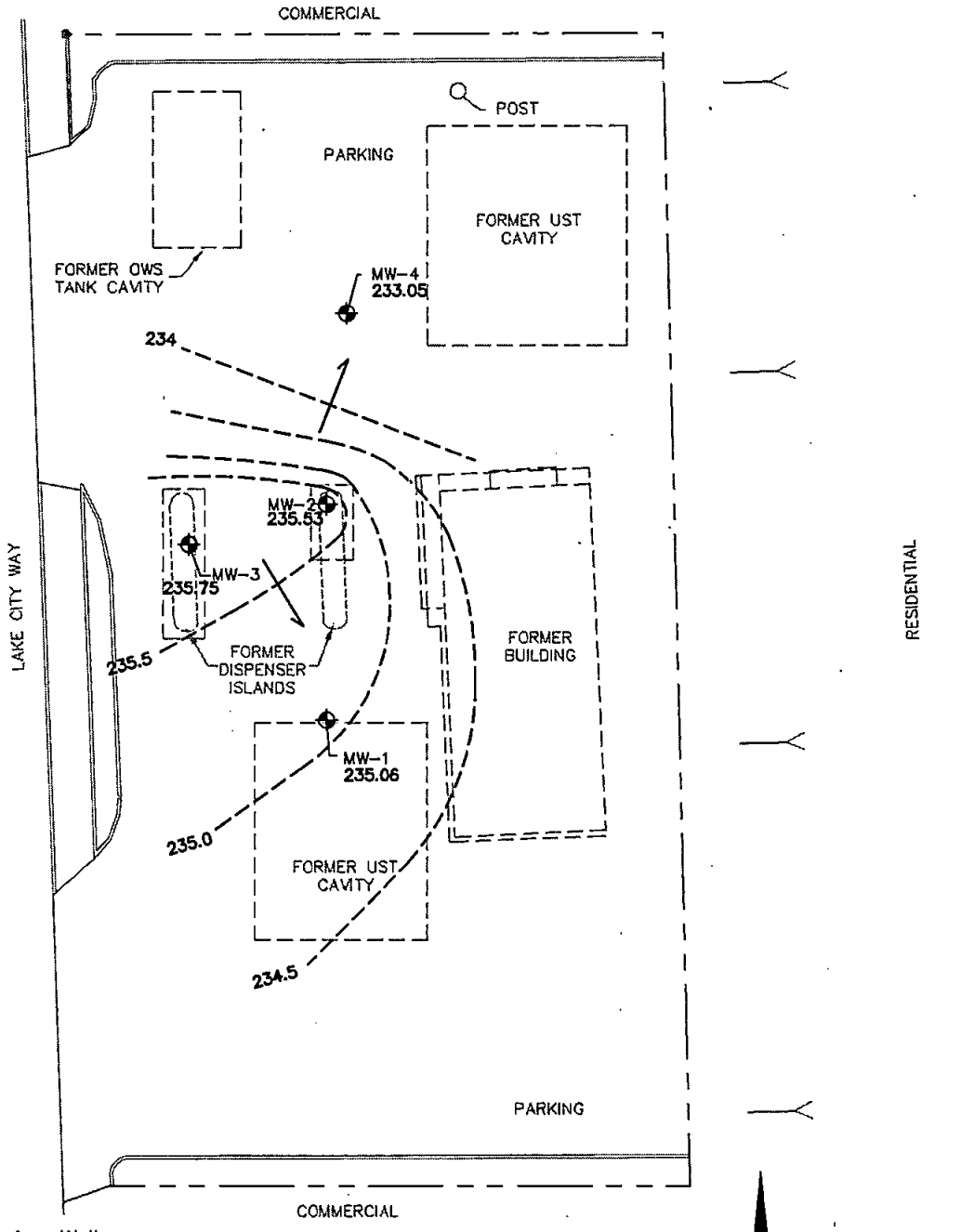
SITE LOCATION MAP

Site 01-288
14312 Lake City Way NE
Seattle, Washington

DATE 3/01/11

PROJECT NO. 468

FILE NO. 468F1-SLM



LEGEND:

- Groundwater Monitoring Well
- OWS — Oil/Water Separator
- UST — Underground Storage Tank
- Approximate Extent of Soil Excavation
- Approximate Groundwater Gradient
- Approximate Groundwater Elevation Contour (In Feet)
- Slope

N

30 0 30

APPROXIMATE SCALE: 1" = 30'

environ strategy consultants, inc.

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Orange, California 92865

FIGURE 2

GROUNDWATER CONTOUR MAP
September 13, 2011

Site 01-288
14312 Lake City Way NE
Seattle, Washington

DATE 6/28/11

PROJECT NO. 468

FILE NO. 468F2-GCM

TABLE 1

SUMMARY OF WELL CONSTRUCTION DETAILS
Pacific Convenience and Fuels Site 01-288
Seattle, Washington
1 of 1

Well ID	Consultant	Date Installed	Total Boring Depth (feet bgs)	Total Well Depth (feet bgs)	Well Type-Casing Diameter	Screen Interval (feet bgs)	Slot Size (inches)	Sealing Material	Casing Elevation (feet amsl)
MW-1	ES	29-Oct-08	19.00	18.50	GW-2"	3.50-18.50	0.010	Bentonite	236.84
MW-2	ES	29-Oct-08	19.00	18.50	GW-2"	3.50-18.50	0.010	Bentonite	237.33
MW-3	ES	29-Oct-08	19.00	18.50	GW-2"	3.50-18.50	0.010	Bentonite	237.16
MW-4	ES	29-Oct-08	19.00	18.50	GW-2"	3.50-18.50	0.010	Bentonite	236.47

Notes:

amsl - above mean sea level
bgs - below ground surface
Casing elevations for Wells MW-1 through MW-4 surveyed on October 30, 2008 by BT Surveys
ES - Environ Strategy Consultants, Inc.
GW - groundwater monitoring well

TABLE 2

SUMMARY OF GROUNDWATER ELEVATION DATA
Pacific Convenience and Fuels Site 01-288
Seattle, Washington
1 of 1

Well ID	Date Measured	Casing Elevation (feet amsl)	Depth to Water (feet btoc)	Depth to Product (feet btoc)	Product Thickness (feet)	Water Table Elevation (feet amsl)	Change Since Last (feet amsl)
MW-1	07-Nov-08	236.84	2.49	0.00	0.00	234.35	na
	07-Jan-09		2.06	0.00	0.00	234.78	0.43
	06-May-09		1.64	0.00	0.00	235.20	0.42
	22-Sep-09		1.76	0.00	0.00	235.08	-0.12
	08-Oct-09		2.04	0.00	0.00	234.80	-0.28
	14-Feb-11		1.44	0.00	0.00	235.40	0.60
	17-May-11		0.69	0.00	0.00	236.15	0.75
	13-Sep-11		1.78	0.00	0.00	235.06	-1.09
MW-2	07-Nov-08	237.33	1.73	0.00	0.00	235.60	na
	07-Jan-09		0.49	0.00	0.00	236.84	1.24
	06-May-09		1.02	0.00	0.00	236.31	-0.53
	22-Sep-09		2.54	0.00	0.00	234.79	-1.52
	08-Oct-09		2.78	0.00	0.00	234.55	-0.24
	14-Feb-11		0.80	0.00	0.00	236.53	1.98
	17-May-11		0.68	0.00	0.00	236.65	0.12
	13-Sep-11		1.80	0.00	0.00	235.53	-1.12
MW-3	07-Nov-08	237.16	4.08	0.00	0.00	233.08	na
	07-Jan-09		1.71	0.00	0.00	235.45	2.37
	06-May-09		1.62	0.00	0.00	235.54	0.09
	22-Sep-09		1.98	0.00	0.00	235.18	-0.36
	08-Oct-09		2.06	0.00	0.00	235.10	-0.08
	14-Feb-11		1.71	0.00	0.00	235.45	0.35
	17-May-11		1.16	0.00	0.00	236.00	0.55
	13-Sep-11		1.41	0.00	0.00	235.75	-0.25
MW-4	07-Nov-08	236.47	3.26	0.00	0.00	233.21	na
	07-Jan-09		2.39	0.00	0.00	234.08	0.87
	06-May-09		3.21	0.00	0.00	233.26	-0.82
	22-Sep-09		3.86	0.00	0.00	232.61	-0.65
	08-Oct-09		4.32	0.00	0.00	232.15	-0.46
	14-Feb-11		3.77	0.00	0.00	232.70	0.55
	17-May-11		2.72	0.00	0.00	233.75	1.05
	13-Sep-11		3.42	0.00	0.00	233.05	-0.70

Notes:
amsl: above mean sea level
btoc: below top of casing
na: not applicable

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Pacific Convenience and Fuels Site 01-288
Seattle, Washington
1 of 1

Well ID	Sample Date	ANALYTICAL PARAMETERS								
		TPH-Ox (µg/L)	TPH-Dx (µg/L)	TPH-Gx (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Naph (µg/L)
		EPA 8015M		NWTPH-Gx	EPA Method 8021B/8260B					
MW-1	7-Nov-08	<500	<250	120	**8.4**	7.2	3.7	11	10	<1.0
	7-Jan-09	<500	<250	<100	**8.3**	3.1	4.3	7.8	6	--
	6-May-09	<500	<250	**2400**	**130**	54	100	160	**25**	9.6
(dup)	6-May-09	<500	<250	**1800**	**102**	47	86	140	19	6.1
	22-Sep-09	<500	<250	170	**9.6**	13	8.3	33	1.1	--
(dup)	22-Sep-09	<500	<250	200	**12**	16	10	40	1.3	--
	14-Feb-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	17-May-11	--	--	180	3.6	3.3	4.2	10	<1.0	1.1
	13-Sep-11	--	--	180	**6.4**	2.8	13	24	<1.0	<1.0
MW-2	7-Nov-08	<500	<250	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	7-Jan-09	<500	<250	<100	<1.0	<1.0	<1.0	28.3	1.8	--
	6-May-09	<500	<250	<100	<1.0	5.6	<1.0	<3.0	2.9	<1.0
	22-Sep-09	<500	<250	<100	<1.0	<1.0	<1.0	<3.0	1.0	--
	14-Feb-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	17-May-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	13-Sep-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
MW-3	7-Nov-08	<500	<250	<100	**8.6**	<1.0	1.5	3.7	**22**	<1.0
	7-Jan-09	<500	<250	<100	**6.4**	<1.0	<1.0	<3.0	2.4	--
(dup)	7-Jan-09	<500	<250	<100	**6.2**	<1.0	<1.0	<3.0	2.4	--
	6-May-09	<500	<250	<100	1.7	5.9	1.2	<3.0	1.7	<1.0
	22-Sep-09	<500	<250	<100	<1.0	<1.0	<1.0	<3.0	<1.0	--
	14-Feb-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	17-May-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	13-Sep-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
MW-4	7-Nov-08	<500	<250	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	7-Jan-09	<500	<250	<100	<1.0	<1.0	<1.0	<3.0	<1.0	--
	6-May-09	<500	<250	<100	<1.0	<1.0	<1.0	<3.0	1.6	<1.0
	22-Sep-09	<500	<250	<100	<1.0	<1.0	<1.0	<3.0	<1.0	--
	14-Feb-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	17-May-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	13-Sep-11	--	--	<100	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
MTCA Method A Cleanup Levels[1]		500	500	1000/800[2]	5	1000	700	1000	20	160

Notes:

Bold where results exceed cleanup levels
(1): MTCA Method A Table 720-1 for groundwater, WAC 173-340-900 Tables
(2): 1,000 µg/L when benzene is absent and 800 µg/L when benzene is present
--: not analyzed
<: not detected above laboratory reporting limit
BTEX: benzene, toluene, ethylbenzene, total xylenes
µg/L: micrograms per liter
MTBE: methyl tert-butyl ether
MTCA: Model Toxics Control Act
na: not applicable
TPH-Dx: total diesel-range petroleum hydrocarbons
TPH-Gx: total petroleum hydrocarbons quantified as gasoline
TPH-Ox: total oil-range petroleum hydrocarbons
VOCs: volatile organic compounds

TABLE 4

ADDITIONAL GROUNDWATER DATA FOR SITE WELLS
Pacific Convenience and Fuels Site 01-288
Seattle, Washington
1 of 1

Well ID	Date Sampled	Dissolved Oxygen (mg/L)	ORP (mV)	Conductivity (µs/cm)	pH	Temperature (°C)	Turbidity (NTU)	Ferrous Iron (mg/L)
MW-1	7-Nov-08	4.30	-183	974	11.70	15.83	20	0.0
	7-Jan-09	2.51	-108	429	7.18	10.77	8	0.0
	6-May-09	0.59	-59	551	11.32	14.13	11	0.0
	22-Sep-09	0.59	21.7	1165	12.64	22.01	3	0.0
	14-Feb-11	0.79	-101.3	872	11.74	10.43	2	0.0
	17-May-11	0.38	-105.6	799	12.38	12.80	1	---
	13-Sep-11	0.73	-86.1	964	11.51	19.23	4	0.0
MW-2	7-Nov-08	9.35	-82.1	516	9.45	15.03	49	0.0
	7-Jan-09	7.17	-10.9	478	8.39	9.28	21	0.0
	6-May-09	5.32	25.5	480	9.17	14.02	11	0.0
	22-Sep-09	6.52	169.2	465	9.25	22.83	8	0.0
	14-Feb-11	4.51	-66.3	399	8.35	9.68	10	0.0
	17-May-11	3.12	13.0	511	8.06	13.13	2	0.8
	13-Sep-11	2.49	-36.8	463	7.73	18.14	11	0.0
MW-3	7-Nov-08	3.34	-45.1	451	7.53	15.18	9	0.0
	7-Jan-09	10.32	-37.7	1,629	9.04	9.95	29	0.0
	6-May-09	5.30	66.7	1,053	8.49	14.29	18	0.0
	22-Sep-09	6.83	137.9	838	8.29	22.13	48	0.0
	14-Feb-11	4.42	-51.9	635	7.60	10.86	66	0.4
	17-May-11	6.79	46.1	653	7.20	12.93	4	0.2
	13-Sep-11	9.51	-34.7	380	8.77	18.89	9	0.0
MW-4	7-Nov-08	5.21	-156.7	1,685	10.19	18.53	44	0.0
	7-Jan-09	3.61	120.7	430	6.78	10.75	9	0.0
	6-May-09	1.55	23.7	356	7.49	12.04	7	0.0
	22-Sep-09	1.00	89.9	358	7.46	19.74	6	0.0
	14-Feb-11	0.55	-86.9	359	7.37	10.83	7	1.0
	17-May-11	0.47	-150.3	374	7.24	12.33	2	1.0
	13-Sep-11	0.99	-41.6	353	7.33	17.85	2	1.8

Notes:
°C: degrees celsius
µs/cm: microSiemens per centimeter
mg/L: milligrams per Liter
mV: millivolts
NTU: nephelometric turbidity unit
ORP: oxygen reduction potential

SITE DESCRIPTION AND BACKGROUND

Site 01-288
14312 Lake City Way NE
Seattle, Washington

The site is located on the eastern side of Lake City Way just south of the 145th Street intersection in Seattle and is approximately 0.60 acres. The site is currently a vacant lot paved with asphalt and concrete. A convenience store, no longer in operation, is centrally located on the property. The site is bordered by an insurance company office to the north, residential properties to the east, an automobile repair shop to the south, and Lake City Way to the west.

The subject property formerly operated as an ExxonMobil retail gasoline station. Before its operation as an ExxonMobil station, the site was used as a bulk fuel terminal by the former Time Oil Co. (currently TOC Holdings Co., Inc.). Six USTs and an oil/water separator (OWS) were located on the property. Specifically, three tanks were located on the northeastern and three on the southwestern portions of the property and utilized for bulk and retail fuel operations, respectively. Pertinent site features are shown on Figure 2.

On October 8, 2007, Environ Strategy performed a baseline environmental site assessment. Four soil borings (identified as SB-1 through SB-4) were advanced to assess subsurface soil and groundwater conditions in the vicinity of the fuel distribution system associated with the former ExxonMobil station. In addition, one boring, SB-5, was advanced adjacent to the OWS tank. The boring locations are shown on Figure 2. Results from the baseline assessment indicate that soil and groundwater beneath the site is impacted with fuel constituents exceeding MTCA Method A Cleanup Levels.

In December 2007, Landau Associates observed the removal of three (3) USTs associated with the former bulk distribution system (northeast corner of the site). Upon inspection, the 10,000-, 12,000-, and 20,000-gallon capacity USTs appeared in good condition with no visible signs of degradation, e.g. holes or corrosion. Confirmation soil samples collected from the sidewalls and floor of the resulting tank cavity did not contain TPH-Gx, TPH-Dx, BTEX, or lead above the respective MTCA Method A Cleanup Level. Additional details pertaining to UST removal activities, findings and results are presented in the *Underground Storage Tank Removal and Site Characterization Report*, dated August 26, 2008, prepared by Landau Associates.

In July 2008, Landau Associates oversaw the removal of the former ExxonMobil fuel retail distribution system located on the southwestern portion of the property. The fueling system comprised of two 10,000-gallon USTs and one 12,000-gallon UST, two dispenser islands and ancillary piping.

Upon inspection, the USTs appeared in good condition; there was no evidence of holes, pitting, corrosion or other indications of tank degradation or damage. Additionally, the fuel dispensers, associated product piping, and a 3,000-gallon OWS tank were removed from the site. The OWS tank appeared in good condition.

Confirmation soil samples were collected using the excavator bucket from the floor and sidewalls of each resulting tank cavity, the base of the trench corridors and beneath the former dispenser islands. A few of the confirmation samples contained fuel constituents above the respective MTCA Method A Cleanup Level and are bulleted below.

- Sample results from the floor of the UST excavation identified one (1) bottom sample (UST-2-B-12) from beneath the center tank that contained benzene at 0.14 milligrams per kilogram (mg/kg) and TPH-Gx at 33.5 mg/kg, which are above the MTCA Method A Cleanup Level of 0.03 mg/kg for benzene and 30.0 mg/kg for TPH-Gx.

- Samples collected from the northeast dispenser (UST-D1-B1), the northwest dispenser (UST-D3-B2), and the southwest dispenser (UST-D4-B1) also contained benzene at 0.78 mg/kg, 0.47 mg/kg and 0.71 mg/kg, respectively.

Approximately 75 tons of PCS (petroleum-contaminated soil) was stockpiled and transported offsite for thermal desorption. Excavated areas were backfilled with clean imported fill (predominately coarse gravel and crushed concrete) and paved with asphalt. Additional details summarizing the removal of the fuel distribution system is presented in the *UST Removal Report*, dated September 5, 2008, prepared by Landau Associates.

On September 4, 2008, Environ Strategy advanced four soil borings (SB-6 through SB-9) to define the vertical extent of residual contamination identified in the above-referenced *UST Removal Report*. As shown on Figure 2, Borings SB-6 and SB-7 were advanced at the former east and west dispenser islands, respectively, where excavation confirmation samples contained residual levels of fuel contaminants, namely benzene, above soil cleanup levels. Boring SB-8 was advanced to assess groundwater quality beneath the former OWS tank and SB-9 was advanced through the center of the UST excavation where confirmation bottom sample UST-2-B-12 was collected. As mentioned, sample UST-2-B-12 contained benzene just above the established cleanup level. Assessment results are bulleted below:

- Former East Dispenser Island (SB-6): The soil sample collected at SB-6 at 4 ft bgs contained benzene at 0.10 mg/kg, which is consistent with the level of benzene (0.78 mg/kg) reported in the *UST Removal Report*, confirmation sample UST-D1-B1. Groundwater was encountered at approximately 4.5 feet bgs and contained MTBE at

120 µg/L. Neither TPH-Gx nor BTEX constituents were detected in groundwater sample SB-6.

- Former West Dispenser Island (SB-7): The soil sample collected at SB-7 at 5 ft bgs did not contain fuel constituents above cleanup levels; whereas, benzene was detected above the respective cleanup goal for the two dispenser island confirmation samples [UST-D3-B2 (0.47 mg/kg) and UST-D4-B1 (0.71 mg/kg)]. The dispenser island confirmation samples were collected at an approximate depth of 3 feet suggesting that a relatively thin zone (2-foot thick) of hydrocarbon-affected soil is present between 3 and 5 feet bgs. In SB-7, groundwater was encountered at approximately 5 feet bgs; whereupon, a sample was collected. Groundwater sample SB-7 contained TPH-Gx at 9,900 µg/L, benzene at 120 µg/L and xylenes at 1,600 µg/L, which are above the respective MCTA Method A Cleanup Levels of 800 µg/L, 5 µg/L and 1,000 µg/L.

- UST Excavation (SB-9): Soil Boring SB-9 was advanced through the UST excavation and corresponds to the approximate location of a tank bottom sample, UST-2-B-12, which contained TPH-Gx at 33.5 mg/kg and benzene at 0.14 mg/kg. Two soil samples, SB-9-12 and SB-9-14, were collected at depths of 12 feet and 14 feet, respectively. Samples SB-9-12 and SB-9-14 did not contain detectable levels of TPH-Gx or benzene; however, MTBE was detected at 0.12 mg/kg and 0.08 mg/kg, respectively.

  The absence of TPH-Gx and benzene in the 12-foot sample (SB-9-12) and 14-foot sample (SB-9-14) suggests that the relatively low levels of TPH-Gx (33.5 mg/kg) and benzene (0.14 mg/kg) detected in confirmation sample UST-2-B-12 is likely attributed to cross-contamination. This explanation appears plausible considering sample UST-2-B-12 was collected from the excavator bucket.

  Groundwater sample SB-9 contained MTBE at 73 µg/L. Neither TPH-Gx nor BTEX compounds were detected in groundwater sample SB-9.

- OWS Tank Excavation (SB-8) - Soil Boring SB-8 was advanced through the former OWS tank cavity to facilitate the collection of a representative groundwater sample. Groundwater sample MW-8 did not contain fuel constituents above MCTA Method A Cleanup Levels.

On October 2, 2008, Environ Strategy oversaw the removal of hydrocarbon-affected soil beneath the former dispenser islands. Confirmation soil samples collected from the floor and sidewalls of the excavations were either non-detect for fuel constituents or contained trace levels below MCTA Method A Cleanup Levels. Benzene was not detected in any of the final confirmation soil samples. Approximately 55 cyds of soil was transported offsite for disposal. Excavated

areas were backfilled with clean imported fill to grade and paved with asphalt. Additional details summarizing soil excavation activities is presented in the *Addendum – Underground Storage Tank and Site Characterization Report*, dated November 14, 2008, prepared by Environ Strategy.

In October 29, 2008, four groundwater monitoring wells, identified as Wells MW-1 through MW-4 were installed at the site. With the exception of benzene, fuel hydrocarbons were not detected at levels exceeding MTCA Method A Cleanup Levels in the soil samples selected for analysis from Borings MW-1 through MW-4. Benzene was detected at 0.13 mg/kg in the 5-foot sample collected at MW-1, which is above the cleanup level of 0.03 mg/kg for benzene. Field activities, observations and soil analytical results associated with the installation of Well MW-1 through MW-4 are summarized in the *Well Installation Report*, dated November 14, 2008, prepared by Environ Strategy.

A quarterly groundwater monitoring program was implemented for the site and Wells MW-1 through MW-4 were initially sampled in the Fourth Quarter 2008.

On November 7, 2008, BioTrap samplers were deployed in each site well to facilitate the collection of biological data. Specifically, BioTrap samplers baited with carbon isotope (^{13}C)-labeled benzene were deployed in Well MW-3 and an unbaited BioTrap sampler was deployed in Well MW-1. The samplers remained in the wells for a period of 61 days.

On January 7, 2009, the BioTrap samplers were retrieved from the wells and submitted to Microbial Insights, an analytical laboratory located in Rockford, Tennessee for analysis. Analytical results for the Bio-Trap samplers showed conclusive evidence that biodegradation of petroleum constitutes, namely benzene, is naturally occurring in groundwater beneath the site. Additional details are provided in the *Second Quarter 2009 Groundwater Monitoring Report*, dated June12, 2009.

On September 22, 2009, groundwater monitoring and assessment activities were conducted at the subject property. Third Quarter 2009 groundwater monitoring consisted of collection of water levels and groundwater samples from Wells MW-1 through MW-4. Additional site assessment activities to delineate the extent of sorbed (soil)- and dissolved-phase contaminants in the vicinity of the former fuel distribution system consisted of collecting three groundwater grab samples (GW-1, GW-2 and GW-3) and drilling two soil borings (SB-10 and SB-11). Groundwater samples were also collected from SB-10 and SB-11.

Based on the groundwater monitoring and the additional assessment sampling results, it appears that dissolved-phase TPH-Gx and benzene levels have decreased and are consistent with historical data, specifically at Well MW-1. Groundwater analytical results detected TPH-Gx up to 200 µg/L at MW-1; benzene up to 12 µg/L at MW-1 and 14 µg/L at GW-2 (grab sample); and

MTBE up to 1.3 µg/L at Well MW-1, but also at 190 µg/L at GW-3 (grab sample southwest of tank cavity). The MTCA Method A Cleanup Level is exceeded for benzene (5 µg/L) and MTBE (20 µg/L).

Soil data was collected at SB-10 and SB-11 to delineate the extent of hydrocarbon-affected soil that was identified in a 5-foot sample while installing Well MW-1. Step-out sample results are non-detect with the exception of the 5-foot sample from SB-11 (identified as SB-11-5). Sample SB-11-5 contained benzene at 0.41 mg/kg, which is above the MCTA Method A Cleanup Level of 0.03 mg/kg for benzene.

Groundwater monitoring activities have been ongoing since the Fourth Quarter 2008. Results from the *Second Quarter 2011 Groundwater Monitoring Report,* dated July 18, 2011 indicate the following: dissolved-phase TPH-Gx, BTEX compounds, MTBE and naphthalene were not detected in site wells above laboratory method detection limits.

APPENDIX B

Monitoring Well Sampling Protocols

MONITORING WELL SAMPLING PROTOCOLS

The groundwater sampling procedures used by Environ Strategy Consultants, Inc. (Environ Strategy) are designed to comply with local regulatory guidance and reflect the current professional standards and practices employed in the industry. A description of the groundwater sampling procedures is provided below.

Well Gauging

Initial site activities include determination of well locations based on a current site map. The area around each well is inspected to ensure that it is free of debris that could potentially fall into the well. A clean plastic trash bag or a piece of visqueen plastic sheeting is placed adjacent to the well to stage sampling equipment and supplies. Indications of well or well box damage are noted on appropriate field forms.

Prior to sampling, the construction details of each groundwater monitoring well to be sampled are reviewed to establish their respective depths and the length and placement of their screened intervals.

When the well is opened, the Technician will immediately measure the concentration of volatile organic vapors in the upper portion of the well casing with a photo-ionization detector (PID) calibrated to hexane. This measurement will guide the selection of respiratory protection equipment for sampling (as dictated by Environ Strategy's Health and Safety Plan) at that particular well. Historical air monitoring data should also be referred to when selecting appropriate respiratory protection.

Prior to purging or sampling, initial static water levels are measured and recorded for all site wells. Depth to groundwater measurements accurate to 0.01 feet are obtained with an electronic sounding instrument that can also distinguish between liquid phase hydrocarbon (LPH) and water. The depths to LPH (if present), to water, and to the bottom of the well are measured from the top of the well casing (surveyors mark or notch if present). These measurements and the approximate thickness of potential LPH are recorded on the Fluid Level Measurement Form. Field forms are included in the Groundwater Monitoring Report as an Appendix.

As the measuring device is removed, it is thoroughly washed with a Liqui-nox/ water mixture and rinsed with distilled water. The tape is wiped dry with a paper towel as it is re-wound.

Note, wells that are found to contain LPH are not purged or sampled.

Traditional Well Purging

If purging is required, depth to groundwater measurements and well construction details are used to calculate the volume of water within each well casing.

During purging, the water quality parameters consisting of temperature, pH, conductivity, and turbidity are monitored as each well volume is removed. In some cases, additional water quality parameters, such as dissolved oxygen (DO) and oxidation-reduction potential (ORP), are also measured during purging. Purging continues until these parameters vary less than 10 percent from the previous reading, three well volumes are removed, or 80 percent of the well volume has been removed with no significant well recharge. Groundwater samples are collected without additional purging if the volume of groundwater in a well does not recover to at least 80 percent of its initial pre-purge measurement within two hours.

Depth to groundwater measurements, purge volumes, and water quality parameters obtained as each well is purged are recorded on Groundwater Monitoring Field Forms.

Instruments used for groundwater parameter measurements are calibrated daily in accordance with the manufacturer's instructions.

Purge water is generally collected in labeled 55-gallon, DOT-approved drums for disposal. Drums may be left on site in a secure location for disposal by others, or transported to a collection location for eventual transfer to a licensed treatment or recycling facility. In some cases, purge water is collected directly from the site by a licensed vacuum truck company, or treated on site by an active remediation system.

Low Flow, Minimal Drawdown Sampling

[For non-LNAPL (floating product) sites]

This procedure is designed to assist the user in taking representatives groundwater samples from groundwater monitoring wells. The groundwater samples will be collected using low-flow (minimal drawdown) purging and sampling methods and is based upon U.S. EPA, Ground Water Issue, Publication #EPA/540/S-95/504, April 1996.

The field sample's objective is to purge and sample the well so that the water that is discharge from the pump, and subsequently collected, is representative of the formation water from the aquifer's indentified zone of interest.

1. Calibrate all field instruments at the start of each day's deployment per the instrument manufacture's instruction. Record calibration data on the appropriate field calibration documentation form.

2. Begin sampling at the least contaminated and preferably upgradient well(s). Make notes describing the well condition, personnel, weather, location, etc. Note-Start at up gradient wells whenever possible.

3. Use only new, dedicated and/or clean (phosphate-free detergent, rinse and triple rinsed) equipment and sampling supplies. The water level meter, low-flow pump, discharge tubing and/or bailer will either be new or cleaned before measuring water levels and sampling.. Note-Anything placed into a monitoring well must be CLEANED beforehand.

4. Measure the depth to water from the surveyed reference mark on the wellhead and record the measurement on the gauging and sampling sheet. Lock the water level meter in place so that the level can be monitored during purging and sampling. When placing the probe in the well, take precautions to not disturb or agitate the water. Where compounds of interest are known to concentrate near the top or the bottom the screen zone, then located the pump intake in the upper one-third or lower one-third of the interval, respectively.

5. Connect the compressed air source's airline to the pump controller's "AIR IN" connection (If utilizing a gas-engine operated generator, locate the generator at least 25 feet downwind from the wellhead).

6. Connect the pump controller (AIR OUT" air-line to the bladder pump's air supply fitting at the wellhead. (If using electric pump, connect to generator's electric panel.)

7. Connect the pump discharge line to the in-line flow cells: IN: fitting. If electric, same as above.

8. Connect the flow cells "OUT" line and secure to drain the purge water into the purge water collection container.

9. Start the air supply to the pump. Set the pump controller settings to the documented settings for the specific well. Confirm the flow rate is equal to the well's established optimum flow rate, not to exceed 1 liter (1,000 ml) per minute. Modify as necessary and document any required modification. If electric, document MHz pump frequency for optimum flow rate.

10. Monitor the water level and confirm that he water level drawdown has stabilized within the well's allowable limits. Minimal drawdown is to be achieved which is less than 1/3-foot.

11. After a single pump-system's volume (bladder volume + discharge tubing volume has been adequately purged, read and record water quality field measurements every three to five minutes until all parameters have stabilized within their allowable ranges for at least three consecutive measurements. When stabilization has been achieved, sample collection may begin.

12. Disconnect the flow cell and its tubing from the pump line before collecting samples. Decrease the pump (MHz) rate to 100 millimeters per minute or less by lowering the

controller's air pressure setting or MHz pump frequency prior to collecting samples for volatiles. Place the samples in a cooler with enough ice to keep them at four degrees Celsius.

13. Once samples for volatiles have been collected, re-established pump flow rate to the original purge flow rate by inputting the documented controller settings for the well without the In-Line Flow Cell connected and collect remaining samples.

14. When all sample containers have been filled, make a final measurement of the well's Static Water Level and record the measurement on the gauging and sampling sheet.

15. Measure and record total purge volume collected. Consolidate generated purge water.

16. Remove and decontaminate the In-Line Flow Cell with phosphate-free detergent and triple rinse.

17. Disconnect the controller air supply to the pump. Disconnect electric cables to generator.

18. Secure the wellhead cover and secure with its lock. Move equipment to next well to be sampled.

Groundwater Sampling

After wells are purged, or not purged, according to agency-approved instructions/guidelines, groundwater samples are collected for laboratory analysis. Groundwater samples will be collected from each well using a ½-inch to 3-inch-diameter disposable polyethylene bottom-filling bailer which is lowered just below the water table. Groundwater brought to the surface is transferred from the bailer into appropriate laboratory prepared containers for each required analysis. After filling, sample containers are immediately capped. Particular care is given to containers for volatile organic analysis (VOAs), which require filling to zero headspace and fitting with Teflon-sealed caps.

Each sample container is labeled with the project number (or site ID), well designation, sample date, and the samplers initials, and then immediately sealed in a zip lock bag and placed in a pre-chilled, insulated chest with ice. Samples remain chilled prior to and during transport to a state-certified laboratory for analysis. Sample container description and requested analyses are entered onto a chain-of-custody form to provide instruction for the laboratory. The chain-of-custody form accompanies the samples during transportation to provide a continuous record of possession from the field to the laboratory. If a freight or overnight carrier transports the samples, the carrier is noted on the form along with the package tracking number.

For wells that are connected to a treatment system, samples are taken from the sample ports of actively pumping remediation wells.

Sequence of Gauging, Purging, and Sampling

The sequence in which monitoring activities are conducted is determined on a site-specific basis. In general, wells are gauged beginning with the least-affected well and ending with the well that has the highest contaminant concentration based on previous analytical results. After gauging is completed, wells are purged and/or sampled in the order of least-affected to most-affected wells.

Field QA/QC Procedures

A trip blank field sample is used to ensure that sample collection and handling procedures do not introduce contaminants into the groundwater samples. The trip blank is prepared by filling sample containers in the field with de-ionized water. The sample containers are labeled as "Trip Blank," placed in the cooler with other groundwater samples, and transported to the laboratory for analysis.

Decontamination

To reduce the potential for cross-contamination between wells, strict isolation and decontamination procedures are observed. Portable pumps are not used in wells with LPH. Technicians wear nitrile gloves during all gauging, purging and sampling activities. Gloves are changed between wells and more often if warranted. Any equipment that may come in contact with fluids is either dedicated to a particular well, decontaminated prior to each use, or discarded after a single use. Decontamination consists of a four-stage decontamination process: a phosphate-free detergent (Liqui-nox) wash, a double potable-water rinse, and a final deionized water rinse.

Exceptions

Additional tasks or non-standard procedures that may be requested or required for a particular site are documented on the appropriate field notes/forms.

APPENDIX C

Laboratory Analytical Report

ESN NORTHWEST CHEMISTRY LABORATORY

Environ Strategy Consultants
STATION #01-288 PROJECT
Client Project #01-288
Seattle, Washington

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

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

Sample Number	Date Analyzed	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	Gasoline Range Organics (ug/L)	Surrogate Recovery (%)
Method Blank	9/15/2011	nd	nd	nd	nd	nd	nd	nd	96%
LCS	9/15/2011	98%	100%	127%	116%	77%	107%	112%	100%
LCSD	9/15/2011	94%	95%	114%	111%	128%	101%	---	95%
MW-1	9/15/2011	nd	**6.4**	**2.8**	**13**	nd	**24**	**180**	99%
MW-2	9/15/2011	nd	nd	nd	nd	nd	nd	nd	98%
MW-3	9/15/2011	nd	nd	nd	nd	nd	nd	nd	96%
MW-3 Duplicate	9/15/2011	nd	nd	nd	nd	nd	nd	nd	98%
MW-4	9/15/2011	nd	nd	nd	nd	nd	nd	nd	95%
Reporting Limits		1.0	1.0	1.0	1.0	1.0	3.0	100	

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

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

ESN NORTHWEST CHEMISTRY LABORATORY

Environ Strategy Consultants
STATION #01-288 PROJECT
Client Project #01-288
Seattle, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
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Sample Number	Date Analyzed	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	Gasoline Range Organics (ug/L)	Surrogate Recovery (%)
Method Blank	9/15/2011	nd	nd	nd	nd	nd	nd	nd	96%
LCS	9/15/2011	98%	100%	127%	116%	77%	107%	112%	100%
LCSD	9/15/2011	94%	95%	114%	111%	128%	101%	---	95%
MW-1	9/15/2011	nd	**6.4**	**2.8**	**13**	nd	**24**	**180**	99%
MW-2	9/15/2011	nd	nd	nd	nd	nd	nd	nd	98%
MW-3	9/15/2011	nd	nd	nd	nd	nd	nd	nd	96%
MW-3 Duplicate	9/15/2011	nd	nd	nd	nd	nd	nd	nd	98%
MW-4	9/15/2011	nd	nd	nd	nd	nd	nd	nd	95%
Reporting Limits		1.0	1.0	1.0	1.0	1.0	3.0	100	

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

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

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY

BTS #

CLIENT: **Environ Strategy Consultants, Inc.**

SITE: **STATION # 01-288**

14312 Lake City Way NE

Seattle, WA

CONDUCT ANALYSIS TO DETECT

LAB: **ESN Northwest, Inc.** DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ RWQCB REGION _____
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS

E-mail COC and report to Environ Strategy Attn: Dave Dirkin after sample log in. - dave@environstrategy.com

Invoice to : Environ Strategy Attn: Emily O'Reilly
emily@environstrategy.com
One Technology Drive, Suite B-123 Irvine, CA 92618

SAMPLE I.D.	DATE	TIME	MATRIX S= SOIL W=H_2O	CONTAINERS TOTAL		C = COMPOSITE ALL CONTAINERS	TPH-Gasoline	TPH-Diesel	BTEX, MTBE by EPA 8260B	Naphthalene 8260					ADD'L INFORMATION	CONDITION	LAB SAMPLE #
MW-1	9/13/11	0952	W	3	HCL VOA		X		X	X							
MW-2		0854	W	3	HCL VOA		X		X	X							
MW-3		0921	W	3	HCL VOA		X		X	X							
MW-4	↓	0824	W	3	HCL VOA		X		X	X							

SAMPLING COMPLETED	DATE	TIME
	09/13/2011	0952

SAMPLING PERFORMED BY: Jonathan Bustamante

RESULTS NEEDED NO LATER THAN: Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	09/13/2011	1123		9/13/11	11:28
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

APPENDIX D

Groundwater Monitoring Field Forms

WELL GAUGING DATA

Project # 110913-JB1 Date 09/13/11 Client GEORGE STRATEGY

Site 14312 LAKECITY WAY SEATTLE

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or (TOC)	Notes
MW-1	0735	2					1.78	17.88		TUBING
MW-2	0724	2					1.80	17.94		
MW-3	0730	2					1.41	17.90		
MW-4	0719	2					3.42	17.92	↓	↓

LOW FLOW WELL MONITORING DATA SHEET

Project #: 1109B13-3331	Client: ENVIROSTOR STRATEGY
Sampler: JB	Gauging Date: 09/13/11
Well I.D.: MW-1	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 17.88	Depth to Water (ft.): 1.78
Depth to Free Product: ___	Thickness of Free Product (feet): ___
Referenced to: (PVC) Grade	Flow Cell Type: 251556

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: (Dedicated Tubing) New Tubing Other ___

Start Purge Time: 0930 Flow Rate: 200 ml/min Pump Depth: 10'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0933	18.70	11.31	878	9	1.35	-70.1	600	2.01
0936	18.91	11.42	917	7	1.05	-75.1	1200	2.01
0939	19.09	11.48	969	6	0.79	-79.3	1800	2.02
0942	19.11	11.50	964	5	0.72	-82.5	2400	2.04
0945	19.14	11.51	963	5	0.74	-84.7	3000	2.05
0948	19.17	11.51	963	4	0.73	-85.8	3600	2.07
0951	19.23	11.51	964	4	0.73	-86.1	4200	2.10
							PDES	EO2' = 0.0 mg/L

Did well dewater? Yes (No) Amount actually evacuated: 4.2 L

Sampling Time: 0952 Sampling Date: 09/13/11

Sample I.D.: MW-1 Laboratory: ESD

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 110913-5831	Client: ENVIRO STRATEGY
Sampler: JS	Gauging Date: 09/13/11
Well I.D.: MW-2	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 17.94	Depth to Water (ft.): 1.80
Depth to Free Product: ———	Thickness of Free Product (feet): ———
Referenced to: (PVC) Grade	Flow Cell Type: 251556

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other ___

Start Purge Time: 0835 Flow Rate: 200 ml/min Pump Depth: 10'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0838	17.52	7.56	464	14	3.03	-29.1	600	1.88
0841	17.58	7.58	464	13	2.79	-31.2	1200	1.90
0844	17.73	7.64	462	13	2.57	-33.4	1800	1.91
0847	18.08	7.72	463	12	2.53	-34.8	2400	1.93
0850	18.11	7.73	463	12	2.51	-35.2	3000	193
0853	18.14	7.73	463	11	2.49	-36.8	3600	1.95
							POST	Feas: 0.0 mg/L

Did well dewater? Yes (No) Amount actually evacuated: 3.6 L

Sampling Time: 0854 Sampling Date: 09/13/11

Sample I.D.: MW-2 Laboratory: GSN

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 110913-SS1	Client: GUIDRAZ STRATEGY
Sampler: SS	Gauging Date: 09/13/11
Well I.D.: MW-3	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 17.90	Depth to Water (ft.): 1.41
Depth to Free Product: ___	Thickness of Free Product (feet): ___
Referenced to: (PVC) Grade	Flow Cell Type: 351556

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: (Dedicated Tubing) New Tubing Other ___

Start Purge Time: 0902 Flow Rate: 200 mL/min Pump Depth: 10'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0905	17.89	8.14	393	17	9.24	-16.9	600	1.45
0908	18.21	8.33	397	13	9.55	-29.5	1200	1.48
0911	18.71	8.65	385	11	9.70	-32.6	1800	1.50
0914	18.80	8.76	384	9	9.56	-33.4	2400	1.51
0917	18.83	8.77	382	9	9.54	-33.9	3000	1.53
0920	18.87	8.77	380	9	9.51	-34.7	3600	1.53
							POST	FeZT= 0.0 mg/L

Did well dewater? Yes (No)	Amount actually evacuated: 3.6 L
Sampling Time: 0921	Sampling Date: 09/13/11
Sample I.D.: MW-3	Laboratory: ESN
Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D	Other:
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 110913-5331	Client: ENVIRO STRATEGY
Sampler: JB	Gauging Date:
Well I.D.: MW-4	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 17.92	Depth to Water (ft.): 3.42
Depth to Free Product: ___	Thickness of Free Product (feet): ___
Referenced to: (PVC) Grade	Flow Cell Type: 251 556

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: (Dedicated Tubing) New Tubing Other ___

Start Purge Time: 0759 Flow Rate: 100 ml/min Pump Depth: 11'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0805	17.36	7.57	359	2	1.38	103.4	600	3.65
0808	17.73	7.40	357	2	1.18	79.6	900	3.79
0811	17.84	7.33	355	2	1.07	23.4	1200	3.85
0814	17.82	7.33	354	2	1.03	-30.8	1500	3.94
0817	17.82	7.33	354	2	1.01	-35.4	1500	3.99
0820	17.83	7.33	353	2	1.01	-39.7	2100	4.06
0823	17.85	7.33	353	2	0.99	-41.6	2400	4.12
							POST	Fe^{2+} = 1.8 mg/L

Did well dewater? Yes (No) Amount actually evacuated: 2.4 L

Sampling Time: 0824 Sampling Date: 09/13/11

Sample I.D.: MW-4 Laboratory: ESN

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

WELLHEAD INSPECTION FORM

Client: ENVIROSTOR Site: 14312 LAKE CITY WAY SEATTLE Date 09/13/11

Job #: 110913-2331 Technician: JB Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency: Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty.)	Tabs stripped (list qty.)	Tabs broken (list qty.)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade	Other (explain in notes)	Well Not Inspected (explain in notes)	Notes (list if cap or lock replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)
MW-1	X														
MW-2	X														
MW-3	X														
MW-4	X														

Notes:

SPH or Purge Water Drum Log

Client: GeoTrack Strategies

Site Address: 14312 Lake City Way NE Seattle

STATUS OF DRUM(S) UPON ARRIVAL						
Date	09/13/11					
Number of drum(s) empty:	0					
Number of drum(s) 1/4 full:	0					
Number of drum(s) 1/2 full:	0					
Number of drum(s) 3/4 full:	0					
Number of drum(s) full:	0					
Total drum(s) on site:	0					
Are the drum(s) properly labeled?	N/A					
Drum ID & Contents:	N/A					
If any drum(s) are partially or totally filled, what is the first use date:	N/A					

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.

-If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.

-All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE						
Date	09/13/11					
Number of drums empty:	0					
Number of drum(s) 1/4 full:	1					
Number of drum(s) 1/2 full:	0					
Number of drum(s) 3/4 full:	0					
Number of drum(s) full:	0					
Total drum(s) on site:	1					
Are the drum(s) properly labeled?	YES					
Drum ID & Contents:	Purge/Rinse H2O					

LOCATION OF DRUM(S)	
Describe location of drum(s):	SOUTH SIDE OF BUILDING

FINAL STATUS						
Number of new drum(s) left on site this event	1					
Date of inspection:	09/13/11					
Drum(s) labelled properly:	YES					
Logged by BTS Field Tech:	JB					
Office reviewed by:						

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME	EVIRO STRATEGY @ LAKE ELSINORE	JOB NUMBER	110913-JBJ

EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED WITHIN 10% Y or N	COMMENTS	TEMP.	INIT
731556	355-SEQ	09/13/11 0620	PH 7, 4, 10 COND. 3900	7.00, 4.01, 10.02 3898	YES YES		21.73 21.89	SB SB
↓	↓	↓	ORP. 235.5 DO. 100%	235.0 99.8%	YES YES		22.06 ——	SB JB

APPENDIX E

Non-hazardous Waste Manifest

PENDING