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Stantec

April 25, 2012

Libby Goldstein
Department of Ecology
Toxic Cleanup Program, NWRO
3190 160th Avenue, SE
Bellevue, Washington 98008

Re: Fourth Quarter 2011 Monitoring and Sampling Report
Former Tidewater Service Station
ConocoPhillips Site 5173
Chevron Site 301233
2800 Martin Luther King Way, Seattle, WA
Stantec Project No.: 211602382

Dear Ms. Goldstein:

Stantec is pleased to submit the enclosed *Fourth Quarter 2011 Monitoring and Sampling Report* for the above referenced site on behalf Chevron Environmental Management Company and ConocoPhillips.

If there are any questions or comments regarding the contents of this document, please contact Dan Schreiner at (916) 861-0400 extension 227.

Sincerely,
Stantec Consulting Services Inc.

Dan Schreiner
Senior Project Manager

cc: Mr. Eric Hetrick, ConocoPhillips – EDMS Upload
Mr. Rick Rittenberg, Chevron Environmental Management Company – Strata Upload
Mr. Howard F. Jensen and Ms. Alison Robinson, Veris Law Group, 1809 7th Ave., Suite 1400, Seattle, WA 98101 – Hard Copy
Mr. Greg McMormick, 295 NE Gilman Blvd., Suite 201, Issaquah, WA 98027 – Hard Copy

Stantec

Fourth Quarter 2011 Monitoring and Sampling Report

Prepared for

Chevron Environmental Management Company and ConocoPhillips Company

Former Tidewater Site
Chevron Site 301233
ConocoPhillips Site 5173
2800 Martin Luther King Way South
Seattle, WA

April 25, 2012

Prepared By

for
Tony Giglini
Associate Scientist

Reviewed By

Dan Schreiner
Senior Project Manager

Marc Sauze, P.E.
Senior Engineer

INTRODUCTION

Stantec Consulting Services Inc. (Stantec) is pleased to present this quarterly groundwater monitoring report to the Washington State Department of Ecology (DOE) Voluntary Cleanup Program on behalf of the Chevron Environmental Management Company (CEMC) and ConocoPhillips Company (COP). This report describes the results of groundwater monitoring activities performed by Stantec during the fourth quarter of 2011 (the reporting period) at CEMC Facility No. 301233 / COP Facility No. 5173 (Facility Site ID # 42746846, Cleanup Site ID # 6056; the Site). The source property for the site is located at 2800 Martin Luther King Jr. Way South, Seattle, Washington (the "Property").

SITE DESCRIPTION

The Property is an approximately 0.25-acre lot currently occupied by Auto Care Detail, which uses the Property as an auto detailing business. The Property was formerly used as a gasoline station between approximately 1955 and 1989. According to historical documents, the Property was undeveloped until 1955 and has since been owned and operated by the following companies:

- ~1955 to ~1965: Associated Oil Company-Associates Gas Station (in 1938, Associated Oil and Tidewater Oil merged to become Tidewater Associated Oil Company)
- ~1965 to 1967: Phillips Gas Station
- ~1967 to ~1973: Rainier Bonanza Self Serve Gas
- ~1974 to ~1986: Vacant
- ~1986 to ~ 1990: Empire Mobile
- ~1994 to ~2004: R&R Auto Repair
- ~2004 ~2010: Vacant auto repair garage
- ~2010 to Present: Auto Care Detail

Three underground storage tanks (USTs) consisting of two gasoline USTs (4,000 and 5,000 gallon tanks) and one waste oil UST (approximately 300-gallon tank) were removed from the northwest corner of the Site in 1989. UST removal activities were summarized in G-Logics *Phase I Environmental Site Assessment* report dated January 11, 2005. Additional service station equipment, including two vehicle hoists, a heating oil UST, an oil/water separator, and drain sump were removed in February 2005.

The Site is located in a mixed commercial and residential area. To the north of the Property is South McClellan Street and to the north-northwest, across South McClellan Street, is a home improvement store (Lowes). To the north-northeast, across South McClellan Street, is Mt. Baker Cleaners. The Property is bounded to the east by a dental clinic and a residential area is

located to the southeast. Directly south of the Property is a strip mall with a nail salon and a few other small businesses. The Property is bounded to the west by Martin Luther King Jr. Way South. Across Martin Luther King Jr. Way South to the southwest and west are commercial buildings.

There is an active gas station northwest of the Site across Martin Luther King Jr. Way South. The potential for impacts migrating from the gas station to the Site have not been investigated; however, the gas station is located hydraulically cross gradient of the Site and the potential for impacts to the Site from the gas station appear limited.

PREVIOUS INVESTIGATIONS

Soil and groundwater investigations at the Site began with the UST removals in 1989. All soil samples collected from the UST excavation, in the northwest corner of the Property, were documented below the MTCA Method A Cleanup Levels for constituents of concern (COC).

Additional soil and groundwater investigations were conducted by G-Logics in February 2005. A groundwater sample collected from boring GL-4, contained total petroleum hydrocarbons in the gasoline range (TPH-GRO) at 5,900 micrograms per liter (µg/L), exceeding the MTCA Method A Cleanup Level (1,000 µg/L). The sample area was located between the former western and eastern pump islands. G-Logics also conducted an investigation beneath the former heating oil UST. Impacted soil was found in this location but it did not exceed MTCA Method A Cleanup Levels.

Further soil and groundwater investigation of the western and eastern pump island area was conducted by G-Logics in June 2005 (soil borings P1 through P11). Laboratory results confirmed that the highest concentrations of petroleum-impacted soil, mostly in the gasoline range, were from soil borings P-7, P-8, and P-9 in the vicinity of the western pump island, which all exceeded MTCA Method A Cleanup Levels. The impact was primarily observed between 15 and 20 feet below ground surface (bgs).

In August 2005 G-Logics began the installation and operation of an ozone treatment system. Five ozone injection points (IP-1 through IP-5) and monitoring wells MW-1, MW-2, and MW-3 were installed. The ozone system began operation on August 26, 2005.

Elevated concentrations of TPH-GRO were regularly detected at MW-3, located west of the western pump island. As a result, G-Logics continued soil investigations in the vicinity of MW-3 in June 2006 due to elevated concentrations of TPH-GRO detected in the groundwater well during quarterly sampling activities. Petroleum related compounds were either non-detect or were below the MTCA Method A Cleanup Levels in the borings, supporting that the source area was concentrated in the area of the west pump island.

In July 2006, ozone flow to injection points IP-1, IP-2, and IP-3 was stopped and directed towards injection points IP-4 and IP-5, in the area near MW-3. Petroleum related compounds

were either non-detect or were below the MTCA Method A Cleanup Levels in monitoring wells MW-1 and MW-2, supporting that the source area impacting MW-3 was concentrated in the area of the west pump island.

In August 2006, a second compressor was added to augment the ozone injection system. The second compressor was dedicated to providing a primary source of air flow to the wells; the original compressor was dedicated to providing air flow to the ozone generator.

To supplement the ozone treatment system, in December 2006, G-Logics oversaw the installation of a horizontal pipe for In-Situ Chemical Oxidation (ISCO) in an area up-gradient of the western pump island. The pipe was installed at approximately six to seven feet; installation at a greater depth was unfeasible due to soil caving. Between January and March 2007, ISCO using Fenton's Reagent was performed to supplement ozone injection remediation efforts. On January 4, 2007, a buffered, iron-catalyst was introduced with the Fenton's application. In March 2007, a Fenton's application treatment well (TW-1) was installed directly west of the west pump island source area. The ozone system was shut down in June 2007.

In April and July 2011, Stantec oversaw Cascade Drilling, L.P. advance seven soil borings (B-1 through B-7) and install five two-inch diameter groundwater monitoring wells (MW-6 through MW-10). Analytical results from the smear zone and water bearing zone from soil collected between 10 and 17 feet bgs contained relatively low to non-detectable concentrations for TPH-G, total petroleum hydrocarbons in the diesel range (TPH-D), total petroleum hydrocarbons in the heavy oil-range organics (TPH-O), and benzene, toluene, ethylbenzene, and total xylenes (collectively BTEX) except for the samples collected from the former Heating Oil UST area (B-3 and MW-9) at 10 and 15 feet bgs. Soil samples screened in the vadose zone, in general, contained low to non-detectable concentrations of TPH-G, TPH-D, TPH-O, and BTEX. Groundwater samples collected in borings B-1 through B-7 showed slightly elevated concentrations of TPH-G and total xylenes near the former pump island (borings B-2 and B-6). Down-gradient of the Site, in borings B-4 and B-5, concentrations of TPH-G and BTEX were below the laboratory method detection limit (MDL).

GROUNDWATER MONITORING ACTIVITIES

Groundwater monitoring activities during the reporting period were performed on December 15, 2011. Groundwater monitoring activities were performed in accordance with Stantec's protocols for groundwater monitoring and sampling events (Appendix A).

During the fourth quarter 2011, nine groundwater monitoring wells were gauged and sampled (MW-2 through MW-10). At the time of sampling, Stantec was unable to locate monitoring well MW-1; it was not included in the sampling schedule this reporting period. Monitoring activities for the fourth quarter 2011 are described below.

Monitoring Well Gauging

On December 15, 2011, nine groundwater monitoring wells were gauged (MW-2 through MW-10). Monitoring wells were gauged for the presence of liquid phase hydrocarbons (LPH) and depth-to-groundwater prior to purging and sampling. LPH was not measured in any of the groundwater monitoring wells during the reporting quarter. The depth to groundwater ranged from 10.93 feet (MW-7) to 13.01 feet (MW-9) below the top of casing. Depth-to-groundwater data was used to calculate the groundwater elevation in each well and evaluate the groundwater flow direction and gradient. Fourth quarter 2011 gauging data and historical groundwater gauging data are summarized in Table 1. Well locations and groundwater flow direction are shown on Figure 1. Based on these data, the inferred groundwater flow direction was to the southwest at an approximate gradient of 0.043 foot per foot (ft/ft) and to the west at an approximate gradient of 0.031 ft/ft.

Monitoring Well Purging

On December 15, 2011, the wells intended to be sampled were purged after gauging. Groundwater was purged from the wells using low-flow methods, which included using a peristaltic pump and dedicated polyethylene tubing. Water quality parameters were measured during purging and recorded on field data sheets (Appendix B). Using low flow methodology, wells were considered ready for sampling after water quality parameters have shown to be stable. Purged groundwater and rinsate/decontamination water were stored on the Site in Department of Transportation (DOT)-approved, steel drums pending laboratory characterization and off the Site disposal.

Monitoring Well Sampling

Following purging operations, groundwater samples were collected and placed directly into pre-cleaned sample containers provided by an independent laboratory.

Once the sample containers were filled and sealed, they were labeled with the pertinent sampling information, and immediately placed on ice in an insulated cooler for delivery under chain-of-custody documentation to an independent laboratory.

Chemical Analyses

Groundwater samples collected during the reporting period were submitted to Lancaster Laboratories (Lancaster) in Lancaster, PA for the following chemical analyses:

- BTEX and Risk Based Corrective Action (RBCA) Volatile Organic Compounds using Environmental Protection Agency Method 8260B

- TPH-G using Ecology Northwest Method NWTPH-Gx
- TPH-D and TPH-O using Ecology Northwest Method NWTPH-Dx

Fourth quarter 2011 chemical analyses results are described below. A copy of the certified laboratory analytical report and chain-of-custody documentation from Lancaster are included in Appendix C.

Laboratory Quality Assurance/Quality Control (QA/QC)

A copy of the analytical report for the samples collected during the reporting period is included in Appendix C. Please refer to the analytical report for a description of QA/QC methods and potential concerns (if any) that were identified during chemical analysis. Potential QA/QC concerns are summarized on pages 13-16 of the analytical report. Based on Stantec's review of the analytical report, all data is considered valid.

Results

Fourth quarter 2011 chemical analyses results and historic results are summarized in Table 1. Fourth quarter 2011 analytical results for TPH-G, TPH-D, TPH-O, BTEX, and methyl tertiary butyl ether (MTBE) are illustrated on Figure 2.

A summary of the fourth quarter 2011 analytical results exceeding MTCA Method A cleanup levels is provided below. Analytical results not exceeding MTCA Method A cleanup levels are not included.

- TPH-G concentrations were detected in groundwater samples collected from wells MW-3, MW-5, and MW-8 at concentrations of 5,400, 1,900, and 8,100 micrograms per liter (µg/L), respectively; which exceeds the MTCA Method A cleanup level of 1,000 µg/L. The detected concentrations are relatively consistent with recent sampling events.
- 1,2-Dibromoethane concentrations were not detected at or above the laboratory's MDL; however, it should be noted that the MTCA Method A cleanup level (0.1 µg/L) is lower than the laboratory MDL (1 µg/L) in all groundwater samples.

WASTE DISPOSAL

Purge and rinsate water generated during the monitoring and sampling event were temporarily stored on the Site in labeled, DOT-approved, 55-gallon steel drums pending characterization and disposal. The drums and its contents were transported off the Site to an appropriate licensed disposal or recycling facility.

CONCLUSIONS

The TPH-G concentration in MW-3, MW-5, and MW-8 exceeds MTCA Method A cleanup level. The reported concentrations are relatively consistent with previous sampling events at the Site. The laboratory MDL for 1,2-Dibromoethane exceeded the MTCA Method A cleanup level in all groundwater samples.

LIMITATIONS AND CERTIFICATIONS

This report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the Site. It was prepared for the exclusive use of Chevron Environmental Management Company and ConocoPhillips Company for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this report is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the Site existing at the time of the field investigations. No other warranties, expressed or implied are made by Stantec.

Marc Sauze, P.E.
Senior Engineer

ATTACHMENTS

Figure 1	Site Plan with Groundwater Elevation Contour Map Fourth Quarter 2011
Figure 2	Site Plan with Analytical Results Fourth Quarter 2011
Table 1	Cumulative Summary of Groundwater Elevations and Sample Analytical Results
Appendix A	Field and Laboratory Procedures
Appendix B	Field Data Sheets
Appendix C	Certified Laboratory Analytical Report and Chain-of-Custody Documentation

FIGURES

SOUTH McCLELLAN STREET

76 UNION SERVICE STATION

MARTIN LUTHER KING WAY

GL-1

FORMER UST EXCAVATION

FORMER STATION BUILDING

DENTIST OFFICE

FORMER PUMP ISLAND

FORMER HEATING OIL UST (REMOVED 02-02-05)

RESIDENTIAL YARDS

COMMERCIAL SHOPS

MW-1 NM

MW-2 49.19

MW-3 50.43

MW-4 51.06

MW-5 50.25

MW-6 45.94

MW-7 46.03

MW-8 50.46

MW-9 49.57

MW-10 47.83

51.0

50.0

49.0

48.0

47.0

46.0

GRADIENT = 0.043

GRADIENT = 0.031

LEGEND:

MW-1	GROUNDWATER MONITORING WELL
	SITE BOUNDARY
	FENCE LINE
GRADIENT	INFERRED GROUNDWATER DIRECTION AND GRADIENT (ft/ft)
47.00	GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
45.81	GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
NM	NOT MEASURED (WELL NOT FOUND)
ft/ft	FOOT PER FOOT

N

0 25 50

APPROXIMATE SCALE IN FEET

Stantec

FOR: FORMER TIDERWATER SERVICE STATION 2800 MARTIN LUTHER KING WAY SEATTLE, WASHINGTON

SITE PLAN WITH GROUNDWATER ELEVATION CONTOUR MAP (FOURTH QUARTER 2011)

FIGURE: **1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
211602341	MDR	AS	CG	FEB. 2012

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SOUTH McCLELLAN STREET

76 UNION SERVICE STATION

MARTIN LUTHER KING WAY

FORMER UST EXCAVATION

FORMER STATION BUILDING

DENTIST OFFICE

FORMER PUMP ISLAND

FORMER HEATING OIL UST (REMOVED 02-02-05)

RESIDENTIAL YARD

COMMERCIAL SHOPS

MW-3	
TPH-GRO	**5,400**
TPH-DRO	<29
TPH-MRO	<67
B	<0.5
T	<0.7
E	120
X	400
MTBE	<0.5

MW-4	
TPH-GRO	<50
TPH-DRO	<29
TPH-MRO	<67
B	<0.5
T	<0.7
E	<0.8
X	<1.6
MTBE	<0.5

MW-5	
TPH-GRO	**1,900**
TPH-DRO	66
TPH-MRO	<67
B	1.0
T	1.0
E	24
X	33
MTBE	<0.5

MW-8	
TPH-GRO	**8,100**
TPH-DRO	98
TPH-MRO	<67
B	<0.5
T	<0.7
E	79
X	880
MTBE	<0.5

MW-2	
TPH-GRO	750
TPH-DRO	30
TPH-MRO	<67
B	1.0
T	<0.7
E	1.0
X	<1.6
MTBE	<0.5

MW-6	
TPH-GRO	<50
TPH-DRO	<29
TPH-MRO	<67
B	<0.5
T	<0.7
E	<0.8
X	<1.6
MTBE	<0.5

MW-9	
TPH-GRO	<50
TPH-DRO	<29
TPH-MRO	<67
B	<0.5
T	<0.7
E	<0.8
X	<1.6
MTBE	<0.5

MW-7	
TPH-GRO	<50
TPH-DRO	45
TPH-MRO	89
B	<0.5
T	<0.7
E	<0.8
X	<1.6
MTBE	<0.5

MW-10	
TPH-GRO	51
TPH-DRO	<28
TPH-MRO	<66
B	3
T	<0.7
E	<0.8
X	0.8
MTBE	<0.5

MW-1 NS

LEGEND:

MW-1 GROUNDWATER MONITORING WELL

SITE BOUNDARY

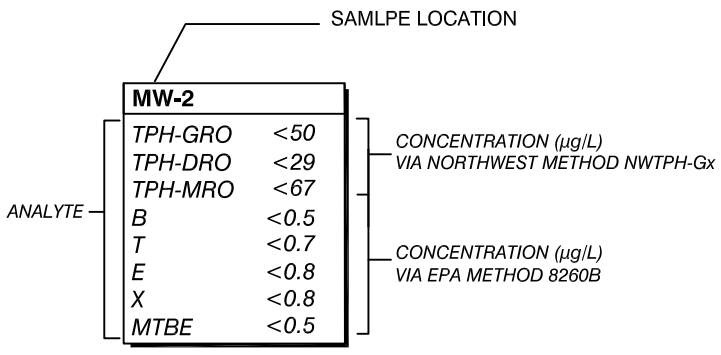
FENCE LINE

ANALYTES:

TPH-GRO	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-DRO	TOTAL PETROLEUM HYDROCARBONS AS DIESEL
TPH-MRO	TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
B	BENZENE
T	TOULENE
E	ETHYLBENZENE
X	TOTAL XYLENES
MTBE	METHYL TERTIARY BUTYL ETHER

µg/L	MICROGRAMS PER LITER
NS	NOT SAMPLED
BOLD	EXCEEDS MTCA METHOD A CLEANUP LEVEL.

CHEMICAL ANALYTICAL RESULTS:



N

0 25 50

APPROXIMATE SCALE IN FEET

Stantec

FOR:				FIGURE:
FORMER TIDERWATER SERVICE STATION 2800 MARTIN LUTHER KING WAY SEATTLE, WASHINGTON		**SITE PLAN WITH ANALYTICAL RESULTS (FOURTH QUARTER 2011)**		**2**
JOB NUMBER: 211602341	DRAWN BY: MDR	CHECKED BY: AH	APPROVED BY: DS	DATE: FEB. 2012

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TABLE

Table 1
Cumulative Summary of Groundwater Elevations and Sample Analytical Results

Former Tidewater Site
2800 Martin Luther King Way
Seattle, WA

Sample ID / Well Elevation (feet, amsl)	Date Sampled	Depth to Water (feet, TOC)	Groundwater Elevation (feet, amsl)	NWTPH-Dx		NWTPH-Gx	EPA Method 8260B											
				TPH-DRO (ug/L)	TPH-MRO (ug/L)	TPH-GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)	Naphthalene (ug/L)	MTBE (ug/L)	1,2-Di-bromoethane (ug/L)	1,2-Di-chloroethane (ug/L)	1,2,4-Tri-methylbenzene (ug/L)	1,3,5-Tri-methylbenzene (ug/L)	n-Propylbenzene (ug/L)	Iso-Propylbenzene (ug/L)
MW-1	08/19/05	13.01	84.91	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
97.92	10/27/05	12.62	85.30	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	12/27/05	--	--	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	01/12/08	9.03	88.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	03/02/06	10.56	87.36	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	06/28/06	12.42	85.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/01/06	9.33	88.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/06/06	9.72	88.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/28/07	11.04	86.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	03/07/07	11.14	86.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/11/07	11.06	86.86	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	11/12/09	11.08	86.84	--	--	<50	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
	08/30/11	--	--	Well not sampled - well not found														
	12/15/11	--	--	Well not sampled - well not found														
MW-2	08/19/05	13.02	83.23	--	--	**2,000**	ND	10	81	91	--	--	--	--	--	--	--	--
96.25	10/27/05	13.62	82.63	--	--	**2,300**	ND	ND	89	93	--	--	--	--	--	--	--	--
	12/27/05	--	--	--	--	**820**	ND	ND	21	66	--	--	--	--	--	--	--	--
	01/12/06	5.77	90.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	03/02/06	11.82	84.43	--	--	**1,300**	ND	3.9	23	50	--	--	--	--	--	--	--	--
	04/13/06	13.06	83.19	--	--	470	ND	1.4	6.9	15	--	--	--	--	--	--	--	--
	06/28/06	12.40	83.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/11/06	13.64	82.61	--	--	580	ND	1.6	2.9	6.2	--	--	--	--	--	--	--	--
	12/01/06	10.65	85.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/06/06	10.20	86.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	01/12/07	11.06	85.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/12/07	--	--	--	--	**1,400**	1.4	3.5	16	13	--	--	--	--	--	--	--	--
	02/28/07	11.65	84.60	--	--	**1,200**	1.8	3.7	18	60	--	--	--	--	--	--	--	--
	03/07/07	11.43	84.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/11/07	11.07	85.18	--	--	**1,200**	ND	2.8	11	63	--	--	--	--	--	--	--	--
	11/12/09	12.35	83.90	--	--	455	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
60.72	08/31/11	11.96	48.76	**590**	<66	**960**	1	<0.7	1	6	<1	<0.5	**<1**	<1	<1	2	59	24
	12/15/11	11.53	49.19	30	<67	750	1	<0.7	1	<1.6	<1	<0.5	**<1**	<1	<1	<1	60	25

Table 1
Cumulative Summary of Groundwater Elevations and Sample Analytical Results

Former Tidewater Site
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Seattle, WA

Sample ID / Well Elevation (feet, amsl)	Date Sampled	Depth to Water (feet, TOC)	Groundwater Elevation (feet, amsl)	NWTPH-Dx		NWTPH-Gx	EPA Method 8260B											
				TPH-DRO (ug/L)	TPH-MRO (ug/L)	TPH-GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)	Naphthalene (ug/L)	MTBE (ug/L)	1,2-Di-bromoethane (ug/L)	1,2-Di-chloroethane (ug/L)	1,2,4-Tri-methylbenzene (ug/L)	1,3,5-Tri-methylbenzene (ug/L)	n-Propylbenzene (ug/L)	Iso-Propylbenzene (ug/L)
MW-3	08/19/05	12.72	84.71	--	--	**44,000**	4.1	18	**780**	**3,600**	--	--	--	--	--	--	--	--
97.43	10/27/05	13.42	84.01	--	--	**17,000**	ND	38	580	**3,000**	--	--	--	--	--	--	--	--
	12/27/05	--	--	--	--	**6,600**	**5.0**	22	200	**1,100**	--	--	--	--	--	--	--	--
	01/12/06	8.84	88.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	03/02/06	10.90	86.53	--	--	**22,000**	ND	26	450	**4,200**	--	--	--	--	--	--	--	--
	04/13/06	11.92	85.51	--	--	**33,000**	ND	3.4	**700**	**3,100**	--	--	--	--	--	--	--	--
	06/28/06	12.17	85.26	--	--	**53,000**	ND	17	530	**2,600**	--	--	--	--	--	--	--	--
	08/13/06	13.91	83.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/11/06	13.77	83.66	--	--	**14,000**	ND	5.6	180	**1,100**	--	--	--	--	--	--	--	--
	10/13/06	--	--	--	--	**1,400**	ND	1.0	26	98	--	--	--	--	--	--	--	--
	11/17/06	10.56	86.87	--	--	**48,000**	ND	34	490	**4,100**	--	--	--	--	--	--	--	--
	12/01/06	9.78	87.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/06/06	10.01	87.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	01/12/07	10.90	86.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/12/07	--	--	--	--	**36,000**	ND	10	280	**1,800**	--	--	--	--	--	--	--	--
	02/28/07	11.12	86.31	--	--	**22,000**	ND	5.8	200	**1,400**	--	--	--	--	--	--	--	--
	03/07/07	11.17	86.26	--	--	**21,000**	ND	18	170	**1,000**	--	--	--	--	--	--	--	--
	04/11/07	11.04	86.39	--	--	**19,000**	ND	5.5	110	**1,100**	--	--	--	--	--	--	--	--
	11/12/09	11.98	85.45	--	--	71.7	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
61.81	08/31/11	12.10	49.71	370	<68	**7,400**	<1	<1	190	554	67	<1	**<2**	<2	1,300	330	140	47
	12/15/11	11.38	50.43	<29	<67	**5,400**	<0.5	<0.7	120	400	50	<0.5	**<1**	<1	950	210	110	37
MW-4	06/28/06	12.40	85.96	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
98.36	12/01/06	9.90	88.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/06/06	10.21	88.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/28/07	11.43	86.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	03/07/07	11.49	86.87	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	04/11/07	11.27	87.09	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	11/12/09	11.82	86.54	--	--	<50	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
62.75	08/31/11	12.42	50.33	<29	<68	<50	<0.5	<0.7	<0.8	<0.8	<1	<0.5	**<1**	<1	<1	<1	<1	<1
	12/15/11	11.69	51.06	<29	<67	<50	<0.5	<0.7	<0.8	<1.6	<1	<0.5	**<1**	<1	<1	<1	<1	<1
MW-5	06/28/06	12.09	85.11	--	--	**21,000**	ND	14	290	920	--	--	--	--	--	--	--	--
97.2	09/11/06	13.63	83.57	--	--	**2,500**	ND	ND	34	60	--	--	--	--	--	--	--	--
	11/17/06	10.57	86.63	--	--	**23,000**	ND	52	450	**1,700**	--	--	--	--	--	--	--	--
	12/01/06	9.75	87.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	01/12/07	10.85	86.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/12/07	--	--	--	--	**37,000**	ND	33	**1,600**	**2,800**	--	--	--	--	--	--	--	--
	02/28/07	11.05	86.15	--	--	**29,000**	ND	24	550	**1,800**	--	--	--	--	--	--	--	--
	03/07/07	11.11	86.09	--	--	**42,000**	**11.0**	24	**740**	**2,500**	--	--	--	--	--	--	--	--
	04/11/07	10.96	86.24	--	--	**65,000**	ND	79	**850**	**4000**	--	--	--	--	--	--	--	--
	11/12/09	12.10	85.10	--	--	**2,340**	1.3	36.3	<1.0	125	--	--	--	--	--	--	--	--
61.66	08/31/11	12.80	48.86	770	<67	**3,100**	2	1	72	124	120	<0.5	**<1**	<1	130	18	210	78
	12/15/11	11.41	50.25	66	<67	**1,900**	1	0.9	24	33	81	<0.5	**<1**	<1	43	3	120	43

Table 1
Cumulative Summary of Groundwater Elevations and Sample Analytical Results

Former Tidewater Site
2800 Martin Luther King Way
Seattle, WA

Sample ID / Well Elevation (feet, amsl)	Date Sampled	Depth to Water (feet, TOC)	Groundwater Elevation (feet, amsl)	NWTPH-Dx		NWTPH-Gx	EPA Method 8260B											
				TPH-DRO (ug/L)	TPH-MRO (ug/L)	TPH-GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)	Naphthalene (ug/L)	MTBE (ug/L)	1,2-Di-bromoethane (ug/L)	1,2-Di-chloroethane (ug/L)	1,2,4-Tri-methylbenzene (ug/L)	1,3,5-Tri-methylbenzene (ug/L)	n-Propylbenzene (ug/L)	Iso-Propylbenzene (ug/L)
MW-6	08/31/11	12.33	45.70	44	<67	<50	<0.5	<0.7	<0.8	<0.8	1	<0.5	**<1**	<1	<1	<1	<1	<1
58.03	12/15/11	12.09	45.94	<29	<67	<50	<0.5	<0.7	<0.8	<1.6	<1	<0.5	**<1**	<1	<1	<1	<1	<1
MW-7	08/31/11	11.15	45.81	<29	<67	<50	<0.5	<0.7	<0.8	<0.8	<1	<0.5	**<1**	<1	<1	<1	<1	<1
56.96	12/15/11	10.93	46.03	45	89	<50	<0.5	<0.7	<0.8	<1.6	<1	<0.5	**<1**	<1	<1	<1	<1	<1
MW-8	08/31/11	12.01	49.70	240	<67	**4,400**	<0.5	<0.7	41	442	33	<0.5	**<1**	<1	500	130	26	11
61.71	12/15/11	11.25	50.46	98	<67	**8,100**	<0.5	<0.7	79	880	72	<0.5	**<1**	<1	900	230	46	20
MW-9	08/31/11	14.29	48.29	78	<68	<50	<0.5	<0.7	<0.8	<0.8	<1	<0.5	**<1**	<1	<1	<1	<1	<1
62.58	12/15/11	13.01	49.57	<29	<67	<50	<0.5	<0.7	<0.8	<1.6	<1	<0.5	**<1**	<1	<1	<1	<1	<1
MW-10	08/31/11	11.94	47.02	260	100	<50	2	<0.7	<0.8	<0.8	<1	<0.5	**<1**	<1	<1	<1	<1	<1
58.96	12/15/11	11.13	47.83	<28	<66	51	3	<0.7	<0.8	0.8	<1	<0.5	**<1**	<1	<1	<1	2	<1
TB	11/12/2009	---	---	--	--	<50	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
	8/31/2011	---	---	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	12/15/11	---	---	--	--	<50	<0.5	<0.7	<0.8	<1.6	<1	<0.5	**<1**	<1	<1	<1	<1	<1
MTCA METHOD A CLEANUP LEVEL				**500**	**500**	**800/1,000***	**5**	**1,000**	**700**	**1,000**	**160**	**20**	**0.1**	**5**	**--**	**--**	**--**	**--**

Explanation:

amsl = above mean sea level
bgs = below ground surface
EPA = Environmental Protection Agency
ND = Not detected at or above laboratory method reporting limit
SPH = separate phase hydrocarbons
TB = Trip blank
TOC = top of casing
MTCA= Model Toxics Control Act
TPH-DRO = Total Petroleum Hydrocarbons as Diesel Range Organics
TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics
TPH-MRO = Total Petroleum Hydrocarbons as Motor Oil Range Organics
ug/L= micrograms per liter
< = Not detected at or above laboratory method reporting limits.
-- = Not applicable or not analyzed
Bold = Exceeds MTCA Method A Cleanup Levels
MTBE= Methyl Tertiary Butyl Ether

*=Concentration of TPH-GRO containing benzene have a MTCA Method A cleanup level of 800 ug/L; no detectable benzene have a cleanup level of 1,000 ug/L.

APPENDIX A
FIELD AND LABORATORY PROCEDURES

STANTEC MONITORING WELL GAUGING, PURGING AND SAMPLING PROCEDURES

Monitoring well purging and sampling was conducted based on USEPA approved (Puls and Barcelona, 1996) low-flow sampling techniques whenever possible.

Purging Procedures

A. Using a decontaminated instrument (i.e., tape measure, continuity meter, or interface probe) measure the depth to groundwater in reference to the measuring point at the top of the casing. Measure the total depth of the well and diameter of the well casing to calculate the volume of water in the well casing.

B. Based on previously obtained data, if a monitoring well is suspected of containing LPH concentrations, lower a transparent bailer into the well to evaluate the presence of a hydrocarbon sheen on the water table.

C. Decontaminate the purge pump and/or PVC bailers by scrubbing in Alconox detergent solution, followed by a tap water rinse and then a de-ionized water rinse.

D. Purge by low-flow pumping (less than 0.5 liters per minute) for approximately five minutes. Monitor the static water level in the well using a decontaminated instrument and adjust the pumping rate to maintain a minimal drawdown. If low-flow purging is not possible and bailing is used to purge the well, then a minimum of three well volumes will be removed. When purging 3 well volumes, parameters should be measured after each casing volume is removed. If the well goes dry, the procedure listed in step E2 (below) should be followed.

E. Conduct field measurements (i.e., pH, specific conductivity, temperature, and oxidation-reduction potential) note clarity, color, turbidity, and odor of purge water, and measure depth to groundwater.

    1. If the well has not been purged dry and drawdown is minimal, continue to pump and conduct field measurements (including depth to water) again every three to five minutes during purging.

        a) If the first through third series of measurements vary by less than 10 percent, the well has been adequately purged. If bailers are used to purge the well, then the water level is allowed to recover to 80 percent of its static condition, or for two hours, whichever comes first prior to beginning the sampling procedure.

        b) If the measurements vary by 10 percent or greater, repeat Step E1 above.

        c) If a minimum of three parameters cannot be measured during purging and or drawdown cannot be controlled to minimal, remove three well volumes with a bailer prior to sampling.

    2. If the well has been purged dry, measure the water level and allow the well to recharge to 80 percent, or for two hours, whichever occurs first. Calculate the percent recovery, and begin the sampling procedure.

Sampling Procedures

- Use the pump and a clean, dedicated section of tubing to collect the groundwater sample from the screened interval of the water column. If the pump cannot be used, collect the water sample with a clean, dedicated polyethylene disposable bailer.

- Transfer the groundwater sample into the appropriate container(s). Where applicable, some containers are completely filled to achieve zero headspace. Label the samples according to location and date of collection.

- Enter the samples into Chain-of-Custody and preserve on ice until delivery to the analytical laboratory. Complete the Well Development or Purging/Sampling Log to be stored in the project file.

Reference:

Puls, R.W., and Barcelona M.J., 1996. EPA Ground Water Issue Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures, EPA/540/S-95/504.

APPENDIX B
FIELD DATA SHEETS

JOB NAME: Tidewater Seattle
ADDRESS: 2800 Martin Luther King Way
ADDRESS: Seattle, WA
PREPARED FOR: Deirnie Hanson, Adam Valenti

JOB NUMBER: ~~211602211.400.400~~ 2116023411.400.400
START DATE: ~~08/22/11~~ 12/15/2011
DATE PREPARED: ~~08/10/11~~ 12/14/2011
PREPARED BY: Alejandra Hernandez

STANTEC - SITE VISITATION REPORT

Did you call in? Yes No
Who did you call? Chris Gdak (425) 698-7398 cell
Weather Notations SUN (RAIN) CLOUDY SNOW Temperature: 38°F

Arrival Time: 0637
Departure Time: 1750
OnSite Time: 11.25

PURPOSE OF VISIT: Conduct M&S Event

DESCRIPTION OF ACTIVITIES ON SITE AND NOTES Need J plug MW-4

DRUM INVENTOR Type: Number: 1 (16 gal) Purge decon water Contents: Purge water and decon water

(0500 up)

0530-0547 Loaded up Stantec FORD F250 of 3 pumps and 2 HORIBA-22s. Raining. Walk around truck at Deirnie's house. Secured outside load
0547-0553 Drove from Deirnie's house to local QFC to buy wet ice.
0553-0618 Purchased 5 bags of wet ice, $1.59/bag at QFC. Pack 3 large coolers with ice in rain.
0618-0637 Drove from QFC to Chevron, TW site. Exit 3A to S McClellan Street.
0637-0639 Called PM Chris Gdak that I am on-site.
0639-0712 Donned PPE. Checked site. Delineators out. 3-stage decon buckets.
0712-0720 Adam Valenti arrived on-site. He donned his PPE. Checked locked site. Waiting for Greg McCormick of EPI to arrive and unlock gate.
0725 Greg McCormick of EPI arrived. He parked on other side of Adam V.
0733 We the locked out of car wash property. Decide to do H&S meeting. Waiting for Adam V. to get off the phone w/ 23020 project Greg texts client. Adam V. off the phone. Told him Adam, Greg, and I work on separate things in the meantime. I checked HORIBA 22 that had WET-CHE error yesterday. WET-CHE means connector is wet. Dried it out at home.
0753 Second HORIBA 22 works this morning!! Yep! INW called back.
0801 Conducted BIG H&S meeting. Daily Product for H&S, 100 Site Health & Safety Quiz. PTW form. COP RMOR commitments
0807 Paul Faubion arrived on site to pick up HASP for #23020 Madison.
0840 Finished H&S talk. Filled out 2nd page of notes.
0850 Roach coachman opened fence gate. Spot Adam backup.
0858 Both Stantec vehicles inside the fencing. 3-stage decon.
0902 Begin gauging wells. MW-8, decon DTW, MW-9, decon DTW, MW-4 next Greg McCormick departed the site. Depth to water is falling in MW-5. Decon'd DTW meter.
0935 Gauge MW-3. Greg McCormick returned to site from Starbucks. Greg checked my work. Gauged MW-10.
0955 Move to outer sidewalk. Gauged MW-6.
1004 Gauged MW-7. Finished gauging. Maria came out
1005-1028 Prep for sampling MW-7
Greg wants to get a metal detector for tomorrow or 1Q12 to try to locate MW-1. Greg will call Chris Gdak.
1030-1055 Low-flow purge MW-7.

JOB NAME: Tidewater Seattle
ADDRESS: 2800 Martin Luther King Way
ADDRESS: Seattle, WA
PREPARED FOR: Deitrie Hanson, Adam Valenti

JOB NUMBER: ~~211602211.400.400~~ 211602341.400.400
START DATE: ~~08/22/11~~ 12/15/11
DATE PREPARED: ~~08/10/11~~ 12/14/11
PREPARED BY: Alejandra Hernandez

STANTEC - SITE VISITATION REPORT (continued)

Health and Safety Notes:

0801-0840 Conducted H&S tailgate meeting w/ D.H
Filled out: Attachment II Daily Production. H&S Briefing Log.
Site H&S Quiz 100%
General Permit-to-Work PTW Form
COP RM&R Personal H&S commitment
HASP Acknowledgement form

1055 sampled MW-7. 6 (40 ml) voas and 2 ambers.
1110 Closed MW-7. Set-up equipment on well MW-6. Deitrie walked DTW meter, samples, and got new voas/ambers for MW-6. Put MW-7 samples on ice. New silicon tubing.
1130 Began to low-flow purge MW-6.
* 1150 sampled MW-6
12noon Closed MW-6. Bring all equipment back over. Greg copied DTW values Greg EPI talked to Chris Odah. APS will use GPR to find MW-1 later.
1230-1240 Greg brought me McDonalds Double quarter pounder hamburger. Ate lunch.
1240 Cont'd prep MW-8 Adam V. and MW-10 DH. Split off separate teams. 2nd HORIBA out.
1300 Adam on MW-8
Deitrie on MW-10
1310 Began to low-flow purge MW-10
* 1325 Sample MW-10
1355 Closed MW-10. Adam Finished MW-8. Adam move to MW-9
1355-1420 Set-up on MW-2. Decon'd DTW meter. Made labels
1420-1443 Low-flow purge MW-2.
* 1443 sampled MW-2. Raining.
Pump 2 died on Adam at MW-9. I'm finished MW-2
Adam took my 1 pump and I used AC/DC adapter off
1500 Chevy truck. Closed MW-2 in
Paul E back on-site.
1537 Low flow purge MW-3
* 1555 sampled MW-3. 1600 Paul Faubaun left
1620 Closed MW-3
Adam V. Set-up on MW-5.

SITE OBSERVATION REPORT

Stantec

Project: Chevron TW
Contractor: Stantec
Owner: Chevron / COP
Location: 2800 MLK Jr Way S

File No.
Project No: 21160234 1.400.400
Project No
Date: 12/15/11
Page 1 of 1

The following items were noted: Weather:

0715 On-site / Don PPE / discussed days work with Deitrie Hanson.
0725 Greg McCormick of ECI on-site Waiting for Greg McCormick to unlock gate
0801 Conducted H&S meeting.
0840 Finished H&S meeting.

1309 AV sampled MW-8
1425 AV sampled MW-4
1520 AV sampled MW-9
1640 AV sampled MW-5

Prepared by: Adam Valenti
Print Name

Signature

SITE OBSERVATION REPORT

Stantec

Project: Tidewater Seattle
Contractor: 2800 Martin Luther King Way
Owner: Seattle, WA / Chevron / CEP
Location:

File No.
Project No.
Project No. 21160234 1.400.400
Date 12/15/2011
Page 3 of 3

The following items were noted: Weather:

1620-1710 Adam V. had trouble pulling up water on MW-5. I helped. Decon'd DTW meter. Purge water into 16-gal drum Labeled drum at corner

1710 Greg EPI said his good-byes. Will keep 6 VOAs and 2 ambers, meant for MW-1 at Stantec. If and when PM Chris Odak can get APS out here to find MW-1 under gravel/dirt parking lot

1712 Adam V. done sampling MW-5. Decon. Put away gear. Drum secured

1730 Load up truck. Filled out Waste.

1750 Talked to man on-site. Packed up and secured truck. Departed the site.

1752-1844 Drove from site back to Stantec Redmond office

1844-1910 Put all 54 voas and 18 ambers into Stantec's sample refrigerator.

1910-2000 Demobilization of FORD F250.

Prepared by: Deitrie Hanson
Print Name
Deitrie Hanson
Signature

JOB NAME: **Tidewater Seattle**
ADDRESS: 2800 Martin Luther King Way
ADDRESS: Seattle, WA
PREPARED FOR: Deirdre Hanson.

JOB NUMBER: ~~211602211.400.400~~ 21160234H.400.400
START DATE: ~~08/22/11~~ 12/15/2011
DATE PREPARED: ~~08/10/11~~ 12/14/2011
PREPARED BY: Alejandra Hernandez

STANTEC - GROUND WATER GAUGING FORM

MEASURED TO TOC — Top of Casing

	WELL I.D.	Gauge Order	Well Diameter	~~3Q11~~ 4Q11 ~~3Q11~~ DTB (ft)	~~3Q11~~ DTP (ft below TOC)	~~3Q11~~ 4Q11 DTW (ft below TOC)	~~3Q11~~ 4Q11 LPH (feet)	~~2Q11~~ 3Q11 4Q11 DTW (ft below TOC)	NOTES OR COMMENTS Was there sheen?
—	MW-1	1	2	—	—	—	—	---	Not able to locate
0920	MW-2	2	2	21.10	—	11.53	—	---	3 bolts. Gasket. Well tag APM 434
0935	MW-3	3	2	20.10		11.38	—	---	Well tag APM 435, Gasket. 3 bolts
0915	MW-4	4	2	19.12	—	11.69	—	---	3 bolts. Gasket. No well tag.
0925	MW-5	5	2	19.29	—	11.41	—	---	Tiny 2 bolts. Well tag APK 217, Gasket rising tube taken out
0955	MW-6	6	2	19.93	—	12.09	—	---	3 bolts. Gasket. BHA 125
1007	MW-7	7	2	19.97	—	10.93	—	---	3 bolts. Well tag BHA 127.
3905	MW-8	8	2	20.00	—	11.25	—	---	3 bolts. Has gasket. Well tag BHA 124
0910	MW-9	9	2	24.00	—	13.01	—	---	3 bolts. Gasket. Well tag BHA 123
0945	MW-10	10	2	19.86	—	11.13	—	---	3 bolts. Gasket. BHA 126 Well tag

Stantec Consulting

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 211602274.400.150 PURGED BY: Deitrie Hanson WELL I.D.: MW- 2

CLIENT NAME: Tidewater Seattle SAMPLED BY: Deitrie Hanson SAMPLE I.D.: MW-2

LOCATION: 2800 Martin Luther King Way, Seattle, WA QA SAMPLES: _____

DATE PURGED 12/15/2011 START (2400hr) 1423 END (2400hr) 1500

DATE SAMPLED 12/15/2011 SAMPLE TIME (2400hr) 1443

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" X (0.17) 3" ____ (0.38) 4" ____ (0.67) 5" ____ (1.02) 6" ____ (1.50) 8" ____ (2.60) Other ____ ( )

Casing Volume: (gallons per foot)

DEPTH TO BOTTOM (feet) = 21.10 CASING VOLUME (gal) = 1.62 gal

DEPTH TO WATER (feet) = 11.53 CALCULATED PURGE (gal) = —

WATER COLUMN HEIGHT (feet) = 9.57 ACTUAL PURGE (gal) = 1.00 gal

FIELD MEASUREMENTS

DH 12/15/11

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
12/15/11	1428	0.20 gal	13.52	56.6	6.0	Gray opaque	~~0.12 g/L~~ -5mV
12/15/11	1431	0.20 gal	13.25	59.4	5.90	Gray opaque	~~0.50 g/L~~ -5mV
12/15/11	1434	0.20 gal	13.00	59.2	5.90	Gray opaque	-5mV
12/15/11	1437	0.20 gal	13.00	57.8	5.90	Gray opaque	-5mV
12/15/11	1440	0.20 gal	13.00	57.7	5.90	Gray opaque	-5mV

Post Purge Measurements

Dissolved Oxygen 0.0 g/L ORP -14 mV -5mV

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 12.08 SAMPLE TURBIDITY: ~~0.5 g/L~~

80% RECHARGE: ___ YES ___ NO ANALYSES: See Work Order 2 HCl preserved ambers

ODOR: None SAMPLE VESSEL / PRESERVATIVE: 3 HCl preserved 40 mL

3 HCl preserved 40 mL

PURGING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (PVC)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____

Other: ____

Pump Depth: 8.50

SAMPLING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (___ PVC or ___ disposable)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____

Other: ____

WELL INTEGRITY: GOOD - 3 bolts LOCK#: Yes

REMARKS: Sheen seen on purged

SIGNATURE: Deitrie Hanson 12-15-2011

Stantec Consulting

WATER SAMPLE FIELD DATA SHEET

ROJECT #: 211602274.400.150 PURGED BY: Deitrie Hanson WELL I.D.: MW- 3

CLIENT NAME: Tidewater Seattle SAMPLED BY: Deitrie Hanson SAMPLE I.D.: MW-3

LOCATION: 2800 Martin Luther King Way, Seattle, WA QA SAMPLES: _____

DATE PURGED 12/15/2011 START (2400hr) 1537 END (2400hr) 1620

DATE SAMPLED 12/15/2011 SAMPLE TIME (2400hr) 1555

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" X 3" ____ 4" ____ 5" ____ 6" ____ 8" ____ Other ____

Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 20.10

DEPTH TO WATER (feet) = 11.38

WATER COLUMN HEIGHT (feet) = 8.72

CASING VOLUME (gal) = 1.48 gal

CALCULATED PURGE (gal) = —

ACTUAL PURGE (gal) = 1.15 gal

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY ~~(umhos/cm)~~ mS/m	pH (units)	COLOR (visual)	TURBIDITY (NTU)
12/15/11	1542	0.25gal	13.28	51.3	5.60	Clear	-5 mV
12/15/11	1545	0.25gal	12.89	99.9	5.60	Clear	-5 mV
12/15/11	1548	0.25gal	13.110	99.9	5.60	Clear	-5 mV
12/15/11	1551	0.20gal	13.606	99.9	5.60	Clear	-4 mV
12/15/11	1554	0.20gal	13.75	99.9	5.60	Clear	-5 mV

Post Purge Measurements

Dissolved Oxygen 0.09 IL ORP 9 mV

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 11.81 SAMPLE TURBIDITY: -5 mV

80% RECHARGE: X YES ___ NO ANALYSES: See Work Order 2 HCl preserved ambers

ODOR: None SAMPLE VESSEL / PRESERVATIVE: _____

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ Bladder Pump	___ Bailer (Teflon)	___ Bladder Pump	___ Bailer (Teflon)
___ Centrifugal Pump	___ Bailer (PVC)	___ Centrifugal Pump	___ Bailer (___ PVC or ___ disposable)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Submersible Pump	___ Bailer (Stainless Steel)
X Peristalic Pump	___ Dedicated _____	X Peristalic Pump	___ Dedicated _____
Other: _____		Other: _____	
Pump Depth: 7.72			

WELL INTEGRITY: GOOD LOCK#: Yes

REMARKS: _____

SIGNATURE: Deitrie Hanson 12-15-2011

Stantec Consulting

WATER SAMPLE FIELD DATA SHEET

ROJECT #: 211602274.400.150 PURGED BY: Adam Valent. WELL I.D.: MW- 4

CLIENT NAME: Tidewater Seattle SAMPLED BY: AV SAMPLE I.D.: MW-4

LOCATION: 2800 Martin Luther King Way, Seattle, WA QA SAMPLES:

DATE PURGED 12/15/11 START (2400hr) 1405 END (2400hr) 1445

DATE SAMPLED 12/15/11 SAMPLE TIME (2400hr) 1425

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" X (0.17) 3" ____ (0.38) 4" ____ (0.67) 5" ____ (1.02) 6" ____ (1.50) 8" ____ (2.60) Other ____ ( )

Casing Volume: (gallons per foot)

DEPTH TO BOTTOM (feet) = 19.12 CASING VOLUME (gal) = 1.26 gal

DEPTH TO WATER (feet) = 11.69 CALCULATED PURGE (gal) = —

WATER COLUMN HEIGHT (feet) = 7.43 ACTUAL PURGE (gal) = 1.0 gal

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY ~~(umhos/cm)~~ S/m	pH (units)	COLOR (visual)	TURBIDITY (NTU)
~~12/15/11~~	~~1408~~						
12/15/11	1411	0.20	11.30	0.090	6.44	clear	0.49/L
~~12/15/11~~	~~1414~~						
12/15/11	1414	0.20	11.40	0.090	6.45	clear	0.49/L
~~12/15/11~~	~~1417~~						
12/15/11	1417	0.20	11.50	0.090	6.44	clear	0.49/L
~~12/15/11~~	~~1420~~						
12/15/11	1420	0.20	11.50	0.090	6.42	clear	0.49/L

Post Purge Measurements

Dissolved Oxygen 2.9 g/L ORP -49

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 11.96 SAMPLE TURBIDITY: 0.45/L

80% RECHARGE: X YES ___ NO ANALYSES: See Work Order 2 HCl pres. ambers 3 HCl preserved 40 ml NWTPHGx 3 HCl preserved 40 ml RBCA VOCs

ODOR: none SAMPLE VESSEL / PRESERVATIVE:

PURGING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (PVC)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____

Other: ____

Pump Depth: 18'

SAMPLING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (___ PVC or ___ disposable)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____

Other: ____

WELL INTEGRITY: ____ LOCK#: ____

REMARKS: ____

SIGNATURE: Adam Valent

Stantec Consulting

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 211602274.400.150 PURGED BY: AV WELL I.D.: MW-5

CLIENT NAME: Tidewater Seattle SAMPLED BY: AV SAMPLE I.D.: MW-5

LOCATION: 2800 Martin Luther King Way, Seattle, WA QA SAMPLES:

DATE PURGED 12/15/11 START (2400hr) 1620 END (2400hr)

DATE SAMPLED 12/15/11 SAMPLE TIME (2400hr) 1640

SAMPLE TYPE: Groundwater X Surface Water Treatment Effluent Other

CASING DIAMETER: 2" X (0.17) 3" (0.38) 4" (0.67) 5" (1.02) 6" (1.50) 8" (2.60) Other ( )

Casing Volume: (gallons per foot)

DEPTH TO BOTTOM (feet) = 19.29 CASING VOLUME (gal) = 1.34

DEPTH TO WATER (feet) = 11.41 CALCULATED PURGE (gal) =

WATER COLUMN HEIGHT (feet) = 7.88 ACTUAL PURGE (gal) = 1.0 gal

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY ~~(umhos/cm)~~ mS/m	pH (units)	COLOR (visual)	TURBIDITY (NTU)
12/15/11	1623	0.2 gal	11.71	54.0	5.15	Gray	0.64 g/L
	1626	0.2 gal	11.50	0.377	5.6	Gray	0.69 g/L
	1629	0.2 gal	11.52	0.238	5.6	Gray	0.84 g/L
	1631	0.2 gal	11.51	0.231	5.6	light gray	1.29 g/L
	1634	0.2 gal	11.50	0.227	5.6	light gray	1.29 g/L

Post Purge Measurements

Dissolved Oxygen 0.0 ORP 5

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 12.32 SAMPLE TURBIDITY: 0.64 g/L

80% RECHARGE: X YES ___ NO ANALYSES: See Work Order 3 VOA's 40 ml RBCA VOCs

3 VOA's 40 ml NWTPH-Dx

ODOR: Yes SAMPLE VESSEL / PRESERVATIVE: HCl 2 Ambers 1L

PURGING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
X Peristalic Pump
___ Bailer (Teflon)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated

Other:

Pump Depth: 18'

SAMPLING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
X Peristalic Pump
___ Bailer (Teflon)
___ Bailer (___ PVC or ___ disposable)
___ Bailer (Stainless Steel)
___ Dedicated

Other:

LOCK#:

WELL INTEGRITY:

REMARKS:

SIGNATURE: Adam Valat

Stantec Consulting

WATER SAMPLE FIELD DATA SHEET

ROJECT #: 211602274.400.150 PURGED BY: Adam V./D. Hanson WELL I.D.: MW- 6

CLIENT NAME: Tidewater Seattle SAMPLED BY: Adam V./D. Hanson SAMPLE I.D.: MW

LOCATION: 2800 Martin Luther King Way, Seattle, WA QA SAMPLES: _____

DATE PURGED 12/15/2011 START (2400hr) 1130 END (2400hr) 12 noon

DATE SAMPLED 12/15/2011 SAMPLE TIME (2400hr) 1150

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" X (0.17) 3" ____ (0.38) 4" ____ (0.67) 5" ____ (1.02) 6" ____ (1.50) 8" ____ (2.60) Other ____ ( )

Casing Volume: (gallons per foot)

DEPTH TO BOTTOM (feet) = 19.93 CASING VOLUME (gal) = 1.33 gal

DEPTH TO WATER (feet) = 12.09 CALCULATED PURGE (gal) = —

WATER COLUMN HEIGHT (feet) = 7.84 ACTUAL PURGE (gal) = 1.00 gal

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F) °C	CONDUCTIVITY ~~(umhos/cm)~~ s/m	pH (units)	COLOR (visual)	TURBIDITY (NTU)
12/15/11	1135	0.20 gal	11.50	0.114	6.62	Clear	+0.7 g/L
12/15/11	1138	0.20 gal	12.30	0.117	6.59	Clear	+0.7 g/L
12/15/11	1141	0.20 gal	12.80	0.115	6.58	Clear	0.7 g/L
12/15/11	1144	0.20 gal	13.20	0.113	6.58	Clear	0.7 g/L
12/15/11	1147	0.20 gal	13.40	0.110	6.58	Clear	0.7 g/L

Post Purge Measurements

Dissolved Oxygen 3.10 g/L ORP −65 mV

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 12.10 SAMPLE TURBIDITY: 0.7 g/L

80% RECHARGE: X YES ___ NO ANALYSES: See Work Order 2 HCl amber

3-HCl preserved 40ml voas for NWTPHGx

ODOR: Slight odor SAMPLE VESSEL / PRESERVATIVE: 3-HCl preserved 40ml voas for RBCA VOCs

PURGING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (PVC)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____
Other: ____
Pump Depth: 6.80

SAMPLING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (___ PVC or ___ disposable)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____
Other: ____

WELL INTEGRITY: GOOD - 3 bolts LOCK#: NO

REMARKS: Sheen on top of purged water

SIGNATURE: Katrin Hanson / 12-15-2011

Stantec Consulting

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 211602274.400.150 PURGED BY: Adam V. / D. Hanson WELL I.D.: MW-7

CLIENT NAME: Tidewater Seattle SAMPLED BY: Adam V. / D. Hanson SAMPLE I.D.: MW-7

LOCATION: 2800 Martin Luther King Way, Seattle, WA QA SAMPLES:

DATE PURGED 12/15/2011 START (2400hr) 1035 END (2400hr) 1110

DATE SAMPLED 12/15/2011 SAMPLE TIME (2400hr) 1055

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" X (0.17) 3" ____ (0.38) 4" ____ (0.67) 5" ____ (1.02) 6" ____ (1.50) 8" ____ (2.60) Other ____ ( )

Casing Volume: (gallons per foot)

DEPTH TO BOTTOM (feet) = 19.97

DEPTH TO WATER (feet) = 10.93

WATER COLUMN HEIGHT (feet) = 9.04

CASING VOLUME (gal) = 1.53 gal

CALCULATED PURGE (gal) = —

ACTUAL PURGE (gal) = 1.25 gal

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F) °C	CONDUCTIVITY ~~(umhos/cm)~~ S/m DH	pH (units)	COLOR (visual)	TURBIDITY (NTU)
12/15/11	1040	0.25G	13.50	0.112	6.73	Dark brown	0.7 g/L
12/15/11	1043	0.25G	13.80	0.106	6.72	Dark brown	0.7 g/L
12/15/11	1046	0.25G	13.90	0.102	6.71	Dark brown	0.7 g/L
12/15/11	1049	0.25G	13.90	0.100	6.69	Dark brown	0.6 g/L
12/15/11	1052	0.25G	13.80	0.097	6.69	Dark brown	0.6 g/L

Post Purge Measurements

Dissolved Oxygen 1.5 grams/Liter ORP -107 mV

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 10.93 SAMPLE TURBIDITY: 0.60 g/L

80% RECHARGE: X YES ___ NO ANALYSES: See Work Order 2 ambers - TPH-D

3 - HCl preserved 40 ml VOAs - NWTPHGx

ODOR: No SAMPLE VESSEL / PRESERVATIVE: 3 - HCl preserved 40 ml VOAs - RBCA VOCs

PURGING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (PVC)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____
Other: ____
Pump Depth: 8.00

SAMPLING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (___ PVC or ___ disposable)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____
Other: ____

WELL INTEGRITY: GOOD - 3 bolts, gasket LOCK#: No

REMARKS: Well tag # BHA 127. Dark brown water.

SIGNATURE: Dottie Hanson 12-15-2011

Stantec Consulting

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 211602274.400.150 PURGED BY: Adam Valenti WELL I.D.: MW-8

CLIENT NAME: Tidewater Seattle SAMPLED BY: Adam Valenti SAMPLE I.D.: MW-8

LOCATION: 2800 Martin Luther King Way, Seattle, WA QA SAMPLES: _____

DATE PURGED 12/15/11 START (2400hr) 1257 END (2400hr) 1330

DATE SAMPLED 12/15/11 SAMPLE TIME (2400hr) 1309

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" X (0.17) 3" ____ (0.38) 4" ____ (0.67) 5" ____ (1.02) 6" ____ (1.50) 8" ____ (2.60) Other ____ ( )

Casing Volume: (gallons per foot)

DEPTH TO BOTTOM (feet) = 20.00 CASING VOLUME (gal) = 2.34 gal

DEPTH TO WATER (feet) = 11.25 CALCULATED PURGE (gal) = 1.0 gal

WATER COLUMN HEIGHT (feet) = 13.75 ACTUAL PURGE (gal) = 0.90 gal

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. ~~(degrees F)~~ C	CONDUCTIVITY ~~(umhos/cm)~~ S/m	pH (units)	COLOR (visual)	TURBIDITY ~~(NTU)~~ g/L
12/15/11	1257	0.30 gal	11.3	0.090	6.53	clear	0.4
12/15/11	1300	0.20 gal	11.9	0.090	6.32	clear	0.4
12/15/11	1303	0.20 gal	12.1	0.090	6.38	clear	0.4
12/15/11	1306	0.20 gal	12.1	0.090	6.38	clear	0.4

Post Purge Measurements

Dissolved Oxygen 2.4 ORP -17

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 11.74 SAMPLE TURBIDITY: 0.4 g/L

80% RECHARGE: X YES ANALYSES: See Work Order 2 HCl pres. ambers

ODOR: Yes SAMPLE VESSEL / PRESERVATIVE: 3 HCl preserved 40ml NWTPH-Gx

3 HCl preserved 40ml RBCA 8260 VOCs

PURGING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (PVC)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____
Other: ____
Pump Depth: 191

SAMPLING EQUIPMENT

___ Bladder Pump ___ Bailer (Teflon)
___ Centrifugal Pump ___ Bailer (___ PVC or ___ disposable)
___ Submersible Pump ___ Bailer (Stainless Steel)
X Peristalic Pump ___ Dedicated ____
Other: ____

WELL INTEGRITY: ____ LOCK#: ____

REMARKS: Odor

SIGNATURE: Adam Valenti

Stantec Consulting

WATER SAMPLE FIELD DATA SHEET

'ROJECT #: 211602274.400.150 PURGED BY: Adam Valenti WELL I.D.: MW- 9

CLIENT NAME: Tidewater Seattle SAMPLED BY: AV SAMPLE I.D.: MW-9

LOCATION: 2800 Martin Luther King Way, Seattle, WA QA SAMPLES:

DATE PURGED 12/15/11 START (2400hr) 1500 END (2400hr)

DATE SAMPLED 12/15/11 SAMPLE TIME (2400hr) 1520

SAMPLE TYPE: Groundwater X Surface Water Treatment Effluent Other

CASING DIAMETER: 2" X (0.17) 3" (0.38) 4" (0.67) 5" (1.02) 6" (1.50) 8" (2.60) Other ( )

Casing Volume: (gallons per foot)

DEPTH TO BOTTOM (feet) = 24.00

DEPTH TO WATER (feet) = 13.01

WATER COLUMN HEIGHT (feet) = ~~12~~ 10.99

CASING VOLUME (gal) = 1.87

CALCULATED PURGE (gal) =

ACTUAL PURGE (gal) = 1.0 gal

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (~~umhos/cm~~) S/m	pH (units)	COLOR (visual)	TURBIDITY (NTU)
12/15/11	1503	0.20 gal	~~11.88~~ 11.80	0.090	6.83	gray	0.6 g/L
12/15/11	1506	0.20 gal	11.70	0.090	6.93	gray	0.6 g/L
12/15/11	1509	0.20 gal	11.30	0.090	6.94	light gray	0.6 g/L
12/15/11	1512	0.20 gal	11.25	0.090	6.96	light gray	0.6 g/L
12/15/11	1515	0.20 gal	11.21	0.090	6.96	light gray	0.6 g/L

Post Purge Measurements

Dissolved Oxygen 2.6 ORP -28

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 13.29 SAMPLE TURBIDITY: 0.6 g/L

80% RECHARGE: X YES ___ NO ANALYSES: See Work Order 2 HCl pres. ambers

ODOR: None SAMPLE VESSEL / PRESERVATIVE: 3 HCl preserved 40 ml voas

3 HCl preserved 40 ml voas

PURGING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
X Peristalic Pump
___ Bailer (Teflon)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated

Other:

Pump Depth: 23'

SAMPLING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
X Peristalic Pump
___ Bailer (Teflon)
___ Bailer (___ PVC or ___ disposable)
___ Bailer (Stainless Steel)
___ Dedicated

Other:

WELL INTEGRITY: Good LOCK#: NA

REMARKS: None

SIGNATURE: Adam Valenti

Stantec Consulting

WATER SAMPLE FIELD DATA SHEET

ROJECT #: 211602274.400.150 PURGED BY: Deitrie Hanson WELL I.D.: MW- 10

CLIENT NAME: Tidewater Seattle SAMPLED BY: Deitrie Hanson SAMPLE I.D.: MW-10

LOCATION: 2800 Martin Luther King Way, Seattle, WA QA SAMPLES: —

DATE PURGED 12/15/2011 START (2400hr) 1307 END (2400hr) 1355

DATE SAMPLED 12/15/2011 SAMPLE TIME (2400hr) 1325

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER: 2" X 3" ____ 4" ____ 5" ____ 6" ____ 8" ____ Other ____

Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 19.86 CASING VOLUME (gal) = 1.48 gal

DEPTH TO WATER (feet) = 11.13 CALCULATED PURGE (gal) = —

WATER COLUMN HEIGHT (feet) = 8.73 ACTUAL PURGE (gal) = 1.10 gal

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F) °C	CONDUCTIVITY ~~(umhos/cm)~~ S/m	pH (units)	COLOR (visual)	TURBIDITY (NTU)
12/15/11	1312	0.20gal	13.18	0.297	6.50	Clear	~5
12/15/11	1315	0.20gal	12.60	0.295	6.10	Clear	~5
12/15/11	1318	0.20gal	12.80	0.281	6.00	Clear	~5
12/15/11	1321	0.25gal	13.12	0.279	6.00	Clear	~5
12/15/11	1324	0.25gal	13.18	0.279	5.90	Clear	~5

Post Purge Measurements

Dissolved Oxygen 0.0g/L ORP 14 mV

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 10.54 SAMPLE TURBIDITY: ~5

80% RECHARGE: X YES ___ NO ANALYSES: See Work Order 2HCl preserved ambers

3HCl preserved vials, NWTPHGx

ODOR: None SAMPLE VESSEL / PRESERVATIVE: 3HCl preserved vials, RBCA VOCs

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ Bladder Pump	___ Bailer (Teflon)	___ Bladder Pump	___ Bailer (Teflon)
___ Centrifugal Pump	___ Bailer (PVC)	___ Centrifugal Pump	___ Bailer (___ PVC or ___ disposable)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Submersible Pump	___ Bailer (Stainless Steel)
X Peristalic Pump	___ Dedicated ____	X Peristalic Pump	___ Dedicated ____
Other: ____		Other: ____	
Pump Depth: 7.70			

WELL INTEGRITY: GOOD - 3 bolts LOCK#: No

REMARKS: Well tag BHA126. Clear water

SIGNATURE: Deitrie Hanson 12-15-11

APPENDIX C
CERTIFIED LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

January 06, 2012

Project: 301233/5173

Submittal Date: 12/17/2011
Group Number: 1281665
PO Number: 301233/5173
Release Number: RITTENBERG
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LLI) #
MW-2 Grab Water Sample	6503686
MW-3 Grab Water Sample	6503687
MW-4 Grab Water Sample	6503688
MW-5 Grab Water Sample	6503689
MW-6 Grab Water Sample	6503690
MW-7 Grab Water Sample	6503691
MW-8 Grab Water Sample	6503692
MW-9 Grab Water Sample	6503693
MW-10 Grab Water Sample	6503694
QA-T Water Sample	6503695

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Stantec - Tidewater	Attn: Laura Viesselman
ELECTRONIC COPY TO	STANTEC	Attn: Tony Giglini
ELECTRONIC COPY TO	STANTEC-TIDEWATER	Attn: Dan Schreiner
ELECTRONIC COPY TO	Stantec	Attn: Alejandra Hernandez
ELECTRONIC COPY TO	Stantec	Attn: Jennifer Tanner
ELECTRONIC	STANTEC-TIDEWATER	Attn: Brian Goss

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Analysis Report

COPY TO
ELECTRONIC COPY TO Stantec

Attn: Justin Dauphinais

Questions? Contact your Client Services Representative
Jill M Parker at (717) 656-2300 Ext. 1241

Respectfully Submitted,

Lawrence M. Taylor
Senior Specialist

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Sample Description: MW-2 Grab Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503686
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011 14:43 by AV

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLK02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10903	Benzene	71-43-2	1	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	0.8	0.8	1
10903	Isopropylbenzene	98-82-8	25	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	N.D.	1	1
10903	n-Propylbenzene	103-65-1	60	1	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	1
10903	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	750	50	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	30	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1

The reverse surrogate, capric acid, was present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 17:43	Chelsea B Eastep	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113621AA	12/28/2011 17:43	Chelsea B Eastep	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11357B20A	12/26/2011 23:14	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	11357B20A	12/26/2011 23:14	Marie D John	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	113550026A	12/29/2011 08:16	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	113550026A	12/22/2011 08:30	Catherine R Wiker	1

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Analysis Report

Sample Description: MW-3 Grab Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503687
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011 15:55 by AV

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLK-3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	120	0.8	1
10903	Isopropylbenzene	98-82-8	37	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	50	1	1
10903	n-Propylbenzene	103-65-1	110	1	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	950	10	10
10903	1,3,5-Trimethylbenzene	108-67-8	210	1	1
10903	m+p-Xylene	179601-23-1	370	0.8	1
10903	o-Xylene	95-47-6	30	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	5,400	50	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1

The reverse surrogate, capric acid, was present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 18:04	Chelsea B Eastep	1
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 18:25	Chelsea B Eastep	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113621AA	12/28/2011 18:04	Chelsea B Eastep	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Y113621AA	12/28/2011 18:25	Chelsea B Eastep	10
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11357B20A	12/26/2011 23:36	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	11357B20A	12/26/2011 23:36	Marie D John	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	113550026A	12/29/2011 08:37	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	113550026A	12/22/2011 08:30	Catherine R Wiker	1

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Analysis Report

Sample Description: MW-4 Grab Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503688
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011 14:25 by AV

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLK04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Isopropylbenzene	98-82-8	N.D.	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	N.D.	1	1
10903	n-Propylbenzene	103-65-1	N.D.	1	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	1
10903	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		ug/l	ug/l	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1

The reverse surrogate, capric acid, was present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 18:45	Chelsea B Eastep	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113621AA	12/28/2011 18:45	Chelsea B Eastep	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11357B20A	12/26/2011 23:58	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	11357B20A	12/26/2011 23:58	Marie D John	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	113550026A	12/29/2011 08:58	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	113550026A	12/22/2011 08:30	Catherine R Wiker	1

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Analysis Report

Sample Description: MW-5 Grab Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503689
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011 16:40 by AV

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLK05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10903	Benzene	71-43-2	1	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	24	0.8	1
10903	Isopropylbenzene	98-82-8	43	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	81	1	1
10903	n-Propylbenzene	103-65-1	120	1	1
10903	Toluene	108-88-3	0.9	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	43	1	1
10903	1,3,5-Trimethylbenzene	108-67-8	3	1	1
10903	m+p-Xylene	179601-23-1	32	0.8	1
10903	o-Xylene	95-47-6	1	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	1,900	50	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	66	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1

The reverse surrogate, capric acid, was present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 19:06	Chelsea B Eastep	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113621AA	12/28/2011 19:06	Chelsea B Eastep	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11357B20A	12/27/2011 00:20	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	11357B20A	12/27/2011 00:20	Marie D John	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	113550026A	12/29/2011 09:19	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	113550026A	12/22/2011 08:30	Catherine R Wiker	1

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Analysis Report

Sample Description: MW-6 Grab Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503690
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011 11:50 by AV

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLK06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Isopropylbenzene	98-82-8	N.D.	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	N.D.	1	1
10903	n-Propylbenzene	103-65-1	N.D.	1	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	1
10903	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1

The reverse surrogate, capric acid, was present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 19:26	Chelsea B Eastep	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113621AA	12/28/2011 19:26	Chelsea B Eastep	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11357B20A	12/27/2011 00:42	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	11357B20A	12/27/2011 00:42	Marie D John	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	113550026A	12/29/2011 09:40	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	113550026A	12/22/2011 08:30	Catherine R Wiker	1

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Analysis Report

Sample Description: MW-7 Grab Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503691
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011 10:50 by AV

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLK07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Isopropylbenzene	98-82-8	N.D.	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	N.D.	1	1
10903	n-Propylbenzene	103-65-1	N.D.	1	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	1
10903	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	45	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	89	68	1

The reverse surrogate, capric acid, was present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 19:47	Chelsea B Eastep	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113621AA	12/28/2011 19:47	Chelsea B Eastep	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11357B20A	12/27/2011 01:04	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	11357B20A	12/27/2011 01:04	Marie D John	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	113550026A	12/29/2011 10:01	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	113550026A	12/22/2011 08:30	Catherine R Wiker	1

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Analysis Report

Sample Description: MW-8 Grab Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503692
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011 13:09 by AV

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLK08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	79	0.8	1
10903	Isopropylbenzene	98-82-8	20	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	72	1	1
10903	n-Propylbenzene	103-65-1	46	1	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	900	10	10
10903	1,3,5-Trimethylbenzene	108-67-8	230	1	1
10903	m+p-Xylene	179601-23-1	680	8	10
10903	o-Xylene	95-47-6	200	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	8,100	250	5
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	98	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1

The reverse surrogate, capric acid, was present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 20:08	Chelsea B Eastep	1
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 20:28	Chelsea B Eastep	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113621AA	12/28/2011 20:08	Chelsea B Eastep	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Y113621AA	12/28/2011 20:28	Chelsea B Eastep	10
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11358D20A	12/28/2011 18:10	Catherine J Schwarz	5
01146	GC VOA Water Prep	SW-846 5030B	1	11358D20A	12/28/2011 18:10	Catherine J Schwarz	5
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	113610022A	01/04/2012 20:20	Elizabeth J Marin	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	113610022A	12/28/2011 08:45	Kerrie A Freeburn	1

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Analysis Report

Sample Description: MW-9 Grab Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503693
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011 15:20 by AV

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLK09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Isopropylbenzene	98-82-8	N.D.	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	N.D.	1	1
10903	n-Propylbenzene	103-65-1	N.D.	1	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	1
10903	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		ug/l	ug/l	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1

The reverse surrogate, capric acid, was present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 20:49	Chelsea B Eastep	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113621AA	12/28/2011 20:49	Chelsea B Eastep	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11358D20A	12/28/2011 12:18	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	11358D20A	12/28/2011 12:18	Catherine J Schwarz	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	113610022A	01/04/2012 20:41	Elizabeth J Marin	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	113610022A	12/28/2011 08:45	Kerrie A Freeburn	1

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Analysis Report

Sample Description: MW-10 Grab Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503694
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011 13:25 by AV

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLK10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10903	Benzene	71-43-2	3	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Isopropylbenzene	98-82-8	N.D.	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	N.D.	1	1
10903	n-Propylbenzene	103-65-1	2	1	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	1
10903	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	1
10903	m+p-Xylene	179601-23-1	0.8	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	51	50	1
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.	28	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	66	1

The reverse surrogate, capric acid, was present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113621AA	12/28/2011 21:09	Chelsea B Eastep	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113621AA	12/28/2011 21:09	Chelsea B Eastep	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11358D20A	12/28/2011 12:40	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	11358D20A	12/28/2011 12:40	Catherine J Schwarz	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	113610022A	01/04/2012 21:02	Elizabeth J Marin	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	113610022A	12/28/2011 08:45	Kerrie A Freeburn	1

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Analysis Report

Sample Description: QA-T Water Sample
301233/5173
2800 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6503695
LLI Group # 1281665
Account # 11811

Project Name: 301233/5173

Collected: 12/15/2011

Submitted: 12/17/2011 09:45
Reported: 01/06/2012 10:57

STANTEC-TIDEWATER
3017 Kilgore Rd, Ste 100
Rancho Cordova CA 95670

MLKTB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	1,2-Dibromoethane	106-93-4	N.D.	1	1
10903	1,2-Dichloroethane	107-06-2	N.D.	1	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Isopropylbenzene	98-82-8	N.D.	1	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Naphthalene	91-20-3	N.D.	1	1
10903	n-Propylbenzene	103-65-1	N.D.	1	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	1
10903	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1

General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	VOCs by 8260B - Water	SW-846 8260B	1	Y113622AA	12/29/2011 04:05	Frank A Valla, Jr	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113622AA	12/29/2011 04:05	Frank A Valla, Jr	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11358D20A	12/28/2011 11:34	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	11358D20A	12/28/2011 11:34	Catherine J Schwarz	1

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Quality Control Summary

Client Name: STANTEC-TIDEWATER Group Number: 1281665
Reported: 01/06/12 at 10:57 AM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Y113621AA	Sample number(s): 6503686-6503694							
Benzene	N.D.	0.5	ug/l	111		79-120		
1,2-Dibromoethane	N.D.	1.	ug/l	106		80-120		
1,2-Dichloroethane	N.D.	1.	ug/l	109		70-130		
Ethylbenzene	N.D.	0.8	ug/l	108		79-120		
Isopropylbenzene	N.D.	1.	ug/l	109		77-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	107		76-120		
Naphthalene	N.D.	1.	ug/l	110		62-120		
n-Propylbenzene	N.D.	1.	ug/l	115		80-120		
Toluene	N.D.	0.7	ug/l	108		79-120		
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	113		74-120		
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	112		75-120		
m+p-Xylene	N.D.	0.8	ug/l	107		80-120		
o-Xylene	N.D.	0.8	ug/l	107		80-120		
Batch number: Y113622AA	Sample number(s): 6503695							
Benzene	N.D.	0.5	ug/l	110		79-120		
1,2-Dibromoethane	N.D.	1.	ug/l	106		80-120		
1,2-Dichloroethane	N.D.	1.	ug/l	109		70-130		
Ethylbenzene	N.D.	0.8	ug/l	110		79-120		
Isopropylbenzene	N.D.	1.	ug/l	111		77-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	109		76-120		
Naphthalene	N.D.	1.	ug/l	113		62-120		
n-Propylbenzene	N.D.	1.	ug/l	118		80-120		
Toluene	N.D.	0.7	ug/l	110		79-120		
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	115		74-120		
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	114		75-120		
m+p-Xylene	N.D.	0.8	ug/l	109		80-120		
o-Xylene	N.D.	0.8	ug/l	109		80-120		
Batch number: 11357B20A	Sample number(s): 6503686-6503691							
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	91	91	75-135	0	30
Batch number: 11358D20A	Sample number(s): 6503692-6503695							
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	90	89	75-135	1	30
Batch number: 113550026A	Sample number(s): 6503686-6503691							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	99	115	50-120	15	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					
Batch number: 113610022A	Sample number(s): 6503692-6503694							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	69	64	50-120	8	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: STANTEC-TIDEWATER Group Number: 1281665
Reported: 01/06/12 at 10:57 AM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: Y113621AA	Sample number(s): 6503686-6503694 UNSPK: P502843								
Benzene	112	114	80-126	1	30				
1,2-Dibromoethane	105	106	77-116	1	30				
1,2-Dichloroethane	108	108	66-141	0	30				
Ethylbenzene	112	114	71-134	1	30				
Isopropylbenzene	113	115	75-128	2	30				
Methyl Tertiary Butyl Ether	104	107	72-126	2	30				
Naphthalene	106	107	52-125	2	30				
n-Propylbenzene	120	121	74-134	1	30				
Toluene	112	112	80-125	1	30				
1,2,4-Trimethylbenzene	116	118	72-130	2	30				
1,3,5-Trimethylbenzene	115	116	72-131	1	30				
m+p-Xylene	112	113	79-125	1	30				
o-Xylene	108	110	79-125	2	30				
Batch number: Y113622AA	Sample number(s): 6503695 UNSPK: P505341								
Benzene	104	97	80-126	7	30				
1,2-Dibromoethane	96	89	77-116	7	30				
1,2-Dichloroethane	101	93	66-141	9	30				
Ethylbenzene	104	94	71-134	9	30				
Isopropylbenzene	104	94	75-128	10	30				
Methyl Tertiary Butyl Ether	97	91	72-126	7	30				
Naphthalene	95	88	52-125	7	30				
n-Propylbenzene	113	102	74-134	10	30				
Toluene	103	95	80-125	8	30				
1,2,4-Trimethylbenzene	108	98	72-130	9	30				
1,3,5-Trimethylbenzene	106	97	72-131	10	30				
m+p-Xylene	102	93	79-125	9	30				
o-Xylene	100	90	79-125	11	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs by 8260B - Water
Batch number: Y113621AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6503686	98	98	98	101
6503687	100	99	98	99
6503688	100	95	98	95
6503689	99	101	100	101
6503690	100	103	98	96
6503691	100	101	98	95
6503692	97	98	100	101
6503693	99	100	99	97

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: STANTEC-TIDEWATER Group Number: 1281665
Reported: 01/06/12 at 10:57 AM

Surrogate Quality Control

6503694	99	100	101	97
Blank	99	101	100	96
LCS	100	103	101	99
MS	99	104	102	99
MSD	99	102	101	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs by 8260B - Water
Batch number: Y113622AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6503695	100	103	99	95
Blank	99	101	100	97
LCS	99	103	101	101
MS	99	100	101	102
MSD	100	102	102	102
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 11357B20A

	Trifluorotoluene-F
6503686	96
6503687	127
6503688	79
6503689	115
6503690	82
6503691	83
Blank	76
LCS	98
LCSD	101
Limits:	63-135

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 11358D20A

	Trifluorotoluene-F
6503692	88
6503693	86
6503694	87
6503695	81
Blank	83
LCS	103
LCSD	104
Limits:	63-135

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 113550026A

	Orthoterphenyl
6503686	75
6503687	63
6503688	77

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: STANTEC-TIDEWATER Group Number: 1281665
Reported: 01/06/12 at 10:57 AM

Surrogate Quality Control

6503689	82
6503690	78
6503691	80
Blank	75
LCS	131
LCSD	155*
Limits:	50-150

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 113610022A

	Orthoterphenyl
6503692	80
6503693	82
6503694	86
Blank	73
LCS	87
LCSD	83
Limits:	50-150

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Chevron Northwest Region Analysis Request/Chain of Custody

223605

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Where quality is a science.

Acct. #: 11811 | For Lancaster Laboratories use only Sample #: 6503686-95 | SCR#: | G# 1281665

Facility #:	CEMC 301233/COP5173
Site Address:	2800 Martin Luther King Way, Seattle, WA
Chevron PM:	RICK RITTENBERG Lead Consultant: STANTEC
Consultant/Office:	3017 KILGORE RD, Ste 100, RANCHO CORDOVA
Consultant Prj. Mgr.:	DAN SCHREINER
Consultant Phone #:	(916) 861-0400 Fax #: (916) 861-0430
Sampler:	Adam Valenti / Deitrie Hanson
Service Order #:	☐ Non SAR:

Matrix: ☐ Potable ☐ NPDES; Soil ☐ Water ☐ Oil ☐ Air ☐

Preservative Codes: H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, O = Other

- ☐ J value reporting needed
- ☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
- ☐ Confirm MTBE + Naphthalene
- ☐ Confirm highest hit by 8260
- ☐ Confirm all hits by 8260
- ☐ Run ____ oxy s on highest hit
- ☐ Run ____ oxy s on all hits

Sample Identification	Date Collected	Time Collected	Grab	Composite	Total Number of Containers	BTEX + MTBE ☐ 8021 ☐ 8260 ☒ Naphth ☐	8260 full scan	___ Oxygenates	TPH G NWTPH-G8260	TPH D ☐ Extended Rng. ☐ Silica Gel Cleanup NWTPH-D	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH H HCID ☐ quantification	RBCA VOCs 8260
MW-2	12/15/11	1443	X		3	X			X	X				X
MW-3	12/15/11	1555	X		3	X			X	X				X
MW-4	12/15/11	1425	X		3	X			X	X				X
MW-5	12/15/11	1640	X		3	X			X	X				X
MW-6	12/15/11	1150	X		3	X			X	X				X
MW-7	12/15/11	1050	X		3	X			X	X				X
MW-8	12/15/11	1309	X		3	X			X	X				X
MW-9	12/15/11	1520	X		3	X			X	X				X
MW-10	12/15/11	1325	X		3	X			X	X				X
QA-T					1	X			X					X

Comments / Remarks

Please send report to:
Anthony.Giglini@Stantec.com
&
Alejandra.Hernandez@Stantec.com
GX+Dx on all samples
per T. Giglini
dmp 12/19/11

Turnaround Time Requested (TAT) (please circle)

STD. TAT | 72 hour | 48 hour | 24 hour | 4 day | 5 day

Data Package Options (please circle if required)

QC Summary | Type I - Full
Type VI (Raw Data) | Disk / EDD
WIP (RWQCB) | Standard Format
Disk | _____ Other.

	Date	Time		Date	Time
Relinquished by: Deitrie Hanson	12/16/11	1533	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:		
Temperature Upon Receipt _____ C°			Custody Seals Intact? Yes No		

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.