

December 5, 2013

Mr. Hans Qiu
Washington State Department of Ecology
Site Manager – Southwest Region
300 Desmond Drive
Lacey, WA 98503

Cardno ATC

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Seattle, WA 98107

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**RE: 2ND Round- Groundwater Monitoring Sampling Report
Northwest Building LLC / Port Commerce Center
2309 Milwaukee Way
Tacoma, Washington
Cardno ATC Project No. 76.40147.0003**

Dear Mr. Qiu:

Cardno ATC, on behalf of Northwest Building, LLC, is pleased to submit the 2nd Round Groundwater Monitoring Report for groundwater monitoring and sampling conducted on September 5, 2013 at the Port Commerce Center facility located at 2309 Milwaukee Way, Tacoma, WA (Property). The location of the facility is shown on a topographic map on **Figure 1**.

The work summarized in this report was performed to assess the current subsurface hydrological conditions and petroleum hydrocarbon concentrations in groundwater beneath the southwest portion of the Property.

GROUNDWATER SAMPLING PROCEDURES

On September 5, 2013, Cardno ATC personnel collected groundwater samples from monitoring wells MW-1 through MW-4. Tasks performed and associated with groundwater sampling included:

- Water level measurement;
- Groundwater sample collection; and
- Sample shipping to the analytical laboratory.

Static water levels and total well depth were measured from the top of casing of groundwater monitoring wells MW-1 through MW-4 and recorded on groundwater sampling forms (Appendix D). Groundwater elevation information is displayed in Table 1. The calculated direction of groundwater flow is approximately to the southeast, with two (2) measured gradient of approximately 0.01 and 0.03 feet per linear foot (ft/linear ft), toward the Puyallup River (Figure 1).

Estimated groundwater levels and/or flow direction(s) may vary due to seasonal fluctuations in precipitation, local usage demands, geology, underground structures, or dewatering operations. In addition, due to the proximity of the Property to the ocean, the groundwater flow direction changes throughout the tidal cycles.

Prior to collection of the groundwater samples, each monitoring well was purged using low-flow sampling techniques. During low-flow groundwater sampling, high density polyethylene (HDPE) tubing is lowered into the well until set within the screen interval. Groundwater was then purged by means of a peristaltic pump set at a steady flow rate while maintaining a drawdown of less than 0.33 feet. After a minimum of one tubing volume (including the volume of water in the pump and flow cell) was purged, water-quality indicator parameters, including dissolved oxygen, specific electrical conductance (specific conductance), pH, temperature, and oxidation-reduction potential (ORP) were recorded every three to five minutes until stabilization occurred. Stabilization is considered to have occurred when the following criteria are met, although, due to geological heterogeneities within the screened interval and site-specific conditions, adjustments on flow rate and stabilization criteria may be required:

- pH \pm 0.1 pH units
- Specific Conductance \pm 3%
- ORP \pm 10 millivolts (mV)
- Turbidity \pm 10 % Nephelometric turbidity units (NTUs); when turbidity is greater than 10 NTUs.

After achievement of stabilization, the well was considered purged, and the samples were collected in laboratory-prepared containers from the discharge port of the pump.

A summary of groundwater analytical results is presented in Table 1.

Equipment Decontamination

Groundwater sampling equipment was decontaminated prior to initiating sampling activities, between sampling locations, and upon completion of sampling activities.

Analytical Laboratory Analysis

Groundwater samples were stored in coolers with ice after collection and during transportation to the laboratory. Samples were sub-packed by sample location in new zippered plastic bags and stored in the dark at approximately 4°C. A temperature compliance vial accompanied each cooler to verify that proper holding temperatures were maintained during transport.

A chain-of-custody form sealed in a plastic zippered bag accompanied the sample cooler containing laboratory samples. The Cardno ATC field personnel retained a copy of the chain-of-custody, and the original was sent with the samples to the laboratory.

Groundwater samples submitted for chemical analysis were delivered to Fremont Analytical, a Washington State certified laboratory, and analyzed within standard holding times. Groundwater samples were analyzed for the following Contaminants of Concern (COCs) using the following methods:

- Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX), by United State Environmental Protection Agency (EPA) Method 8260B;
- Total petroleum hydrocarbons as gasoline (TPHG) by Ecology Method NWTPH-Gx;
- Total petroleum hydrocarbons as heavy oil (TPHO), and diesel (TPHD) by Ecology Method NWTPH-Dx.

Data Evaluation

COC concentrations in groundwater were compared to Model Toxics Control Act (MTCA) Method A cleanup levels. Applicable cleanup values for the COCs are provided below:

- Gasoline Range Organics (GRO), 800 micrograms/Liter ($\mu\text{g/L}$) when benzene present in groundwater,
- Heavy Oil and Diesel Range Organics (DRO), 500 $\mu\text{g/L}$
- Benzene, 5 $\mu\text{g/L}$
- Toluene, 1,000 $\mu\text{g/L}$
- Ethylbenzene, 700 $\mu\text{g/L}$
- Xylene 1,000 $\mu\text{g/L}$

GROUNDWATER ANALYTICAL RESULTS

The laboratory analytical results indicate that concentrations of BTEX, TPHG, and TPHD were not detected above the laboratory method reporting limits and the respective MTCA Method A cleanup levels in the groundwater samples collected from monitoring wells MW-1 through MW-4. TPHO was detected at concentration of 291 $\mu\text{g/L}$ in the groundwater sample collected from groundwater monitoring well MW-3. This concentration was below the MTCA Method A cleanup level of 500 $\mu\text{g/L}$ for heavy oil.

Groundwater analytical results are presented in Table 1. The laboratory analytical report is presented in Appendix B.

GROUNDWATER ELEVATIONS

Depths to groundwater and groundwater elevations from this and previous monitoring events are summarized on **Table 1**. On September 5, 2013 groundwater beneath the site was first encountered between approximately from 4.06 and 5.14 ft above mean sea level (MSL).

A groundwater elevation contour map based on the September 5, 2013 water level measurements is provided in **Figure 2**. The groundwater flow direction is approximately to the southeast, with two (2) measured gradient of approximately 0.01 and 0.03 ft/linear ft.

FINDING AND CONCLUSIONS

Based on the laboratory analytical and groundwater monitoring results:

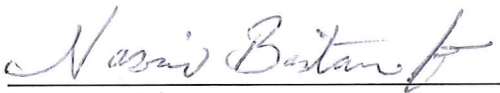
- Depth to water data collected during the monitoring event conducted on September 5, 2013, was used to prepare a groundwater flow direction and hydraulic gradient map. Groundwater flow direction is towards the southeast, with two (2) measured gradient of approximately 0.01 and 0.03 ft/linear ft.
- Concentrations of GRO in the groundwater samples collected from all groundwater monitoring wells were below the established MTCA Method A cleanup levels.
- Concentrations of DRO in the groundwater samples collected from all groundwater monitoring wells were below the established MTCA Method A cleanup levels.
- Concentrations of BTEX in the groundwater samples collected from all groundwater monitoring wells were below the established MTCA Method A cleanup levels..

- With the exception of groundwater sample collected from groundwater monitoring wells MW-3, concentrations of dissolved petroleum hydrocarbons (TPHD and TPHO) have decreased since the prior sampling event.

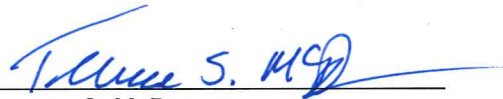
We appreciate the opportunity to be of service in this matter. If you have questions regarding this groundwater monitoring report, please feel free to contact us.

Sincerely,

Cardno ATC



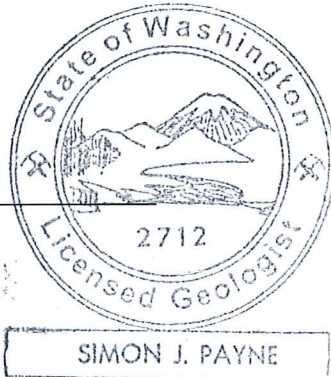
Nasrin Bastami
Project Manager



Terrence S. McDunner
Senior Project Manager/Branch Manager



Simon Payne, LG
Project Manager



Enc: **Table 1** – Summary of Groundwater Analytical Results

Figure 1 – Site Vicinity Map

Figure 2 – Petroleum Hydrocarbons & Related Constituents in Groundwater And Groundwater Contour Map

Attachment A – Field Notes

Attachment B – Certified Laboratory Analytical Report

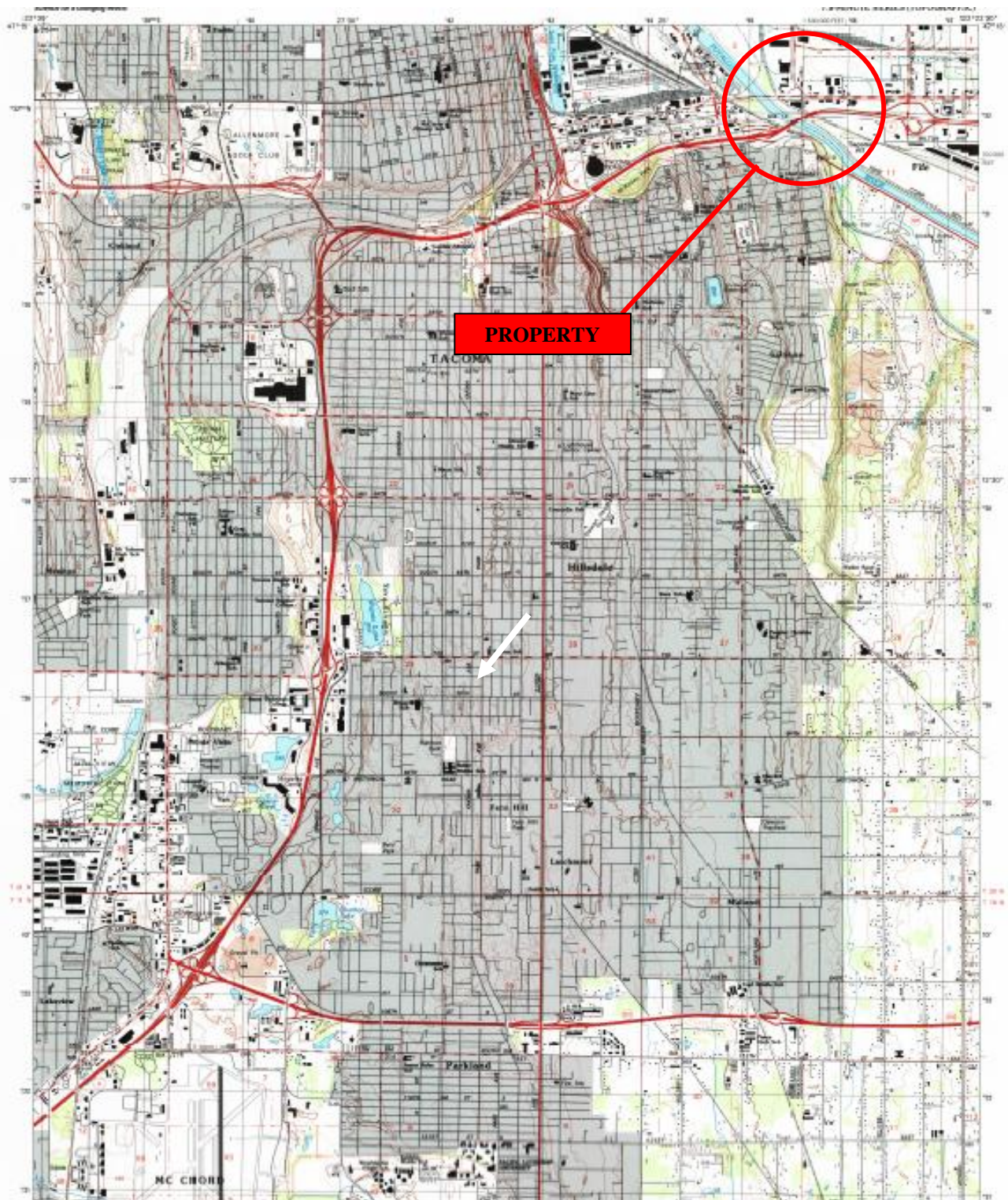
TABLES

TABLE 1
Summary of Groundwater Analytical Data - September 2013
NW Building - Port Commerce/ Parcel A
2309 Milwaukee Way
Tacoma, Washington
Cardno ATC Project No. 76.40147.0003

Monitoring Well	Top of Casing Elevation (feet above MSL)	Sample Date	Depth to Water (feet below TOC)	Groundwater Elevation (feet above MSL)	TPH-G (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	BTEX Compounds (µg/L)			
								Benzene	Toluene	Ethylbenzne	Xylenes
MW-1	13.66	06/13/13	8.59	5.07	<50.0	326	426	<1.00	<1.00	<1.00	<1.00
	13.66	09/05/13	8.95	4.71	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00
MW-2	12.15	06/13/13	7.01	5.14	<50.0	157	200	<1.00	<1.00	<1.00	<1.00
	12.15	09/05/13	7.25	4.90	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00
MW-3	13.58	06/13/13	6.09	7.49	<50.0	250	184	<1.00	<1.00	<1.00	<1.00
	13.58	09/05/13	9.52	4.06	<50.0	<50.0	291	<1.00	<1.00	<1.00	<1.00
MW-4	12.25	06/13/13	6.85	5.40	<50.0	167	184	<1.00	<1.00	<1.00	<1.00
	12.25	09/05/13	7.11	5.14	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00
MTCA Method A Cleanup Level					1,000/800 ^a	500	500	5	1,000	700	1,000

Notes:
bgs-below ground surface
MSL = Mean Sea Level
TOC = Top Of Casing
All concentrations are in micrograms per liter (µg/L).
DTW = Depth to water in feet below top of casing
GW Elevation = Groundwater elevation in feet relative to top of casing elevation
TPH-G = Gasoline range hydrocarbons by Ecology Method NWTPH-Gx
TPH-D and TPH-O = Diesel and oil range hydrocarbons, , by Ecology Method NWTPH-Dx (No Silica gel)
BTEX = Benzene, Toluene, Ethlybenzene, Total Xylenes; by EPA Method 8260
< = Less than the stated laboratory reporting limit
Bolded values equal or exceed Model Toxics Control Act (MTCA) Method A Cleanup Level.
^a MTCA Method A levels for TPH-g are 1,000 µg/L when no Benzene is present and 800 µg/L when Benzene is present.

FIGURES



SOURCE: USGS Topographic Map, Tacoma South, WA Quadrangle, 7.5 Minute Series, dated 1997



6347 Seaview Avenue NW
Seattle, Washington 98107
(206) 781-1449

PROJECT NO.: 076.40147.0003

APPENDIX A

SCALE: N/A

REVIEWED BY: NB

DRAWN BY: N/A

DATE: 07/2013

FILE: SITE VICINITY

SITE LOCATION MAP

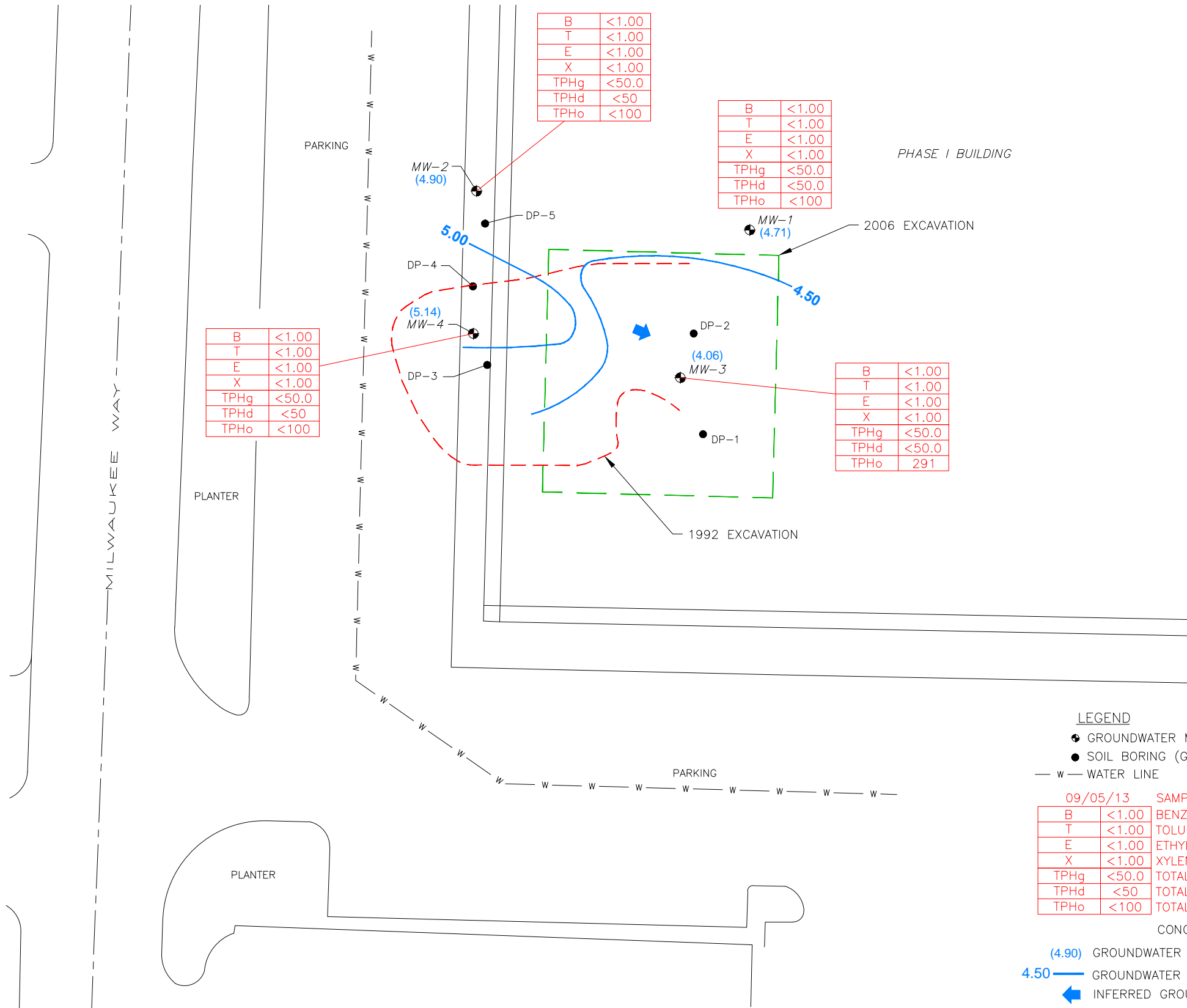
NW BUILDING – PORT COMMERCE CENTER
2309 MILWAUKEE WAY
TACOMA, WASHINGTON

S:\Projects\7640147 NORTHWEST\0003\PE\THYD\G\W090513.dwg



SCALE, FT

NOTE: ALL LOCATIONS ARE APPROXIMATE




LEGEND

- GROUNDWATER MONITOR WELL
- SOIL BORING (GOLDER 2012 ASSESSMENT)
- WATER LINE

09/05/13		SAMPLE DATE
B	<1.00	BENZENE
T	<1.00	TOLUENE
E	<1.00	ETHYLBENZENE
X	<1.00	XYLENES
TPHg	<50.0	TOTAL PETROLEUM HYDROCARBONS IN GASOLINE
TPHd	<50	TOTAL PETROLEUM HYDROCARBONS IN DIESEL
TPHo	<100	TOTAL PETROLEUM HYDROCARBONS IN OIL

CONCENTRATIONS IN $\mu\text{g/L}$

- (4.90) GROUNDWATER ELEVATION (FEET)
- 4.50 GROUNDWATER ELEVATION CONTOUR (FEET)
- INFERRED GROUNDWATER FLOW DIRECTION
- 0.03 GROUNDWATER GRADIENT, FT/FT

PETROLEUM HYDROCARBONS & RELATED CONSTITUENTS IN GROUNDWATER & GROUNDWATER CONTOUR MAP (09/05/13)		PROJECT NUMBER: 76.40147.0003	DATE: 3/3/14	FIGURE 2
NORTHWEST BUILDING LLC - PORT COMMERCE CENTER 2309 MILWAUKEE WAY TACOMA, WA		APPROVED BY: NB	DRAWN BY: BK	
		 6347 Seaview Avenue NW Seattle, Washington 98107 Ph: (206) 781-1449 *** Fax: (206) 781-1543		

Groundwater Monitoring Report – September 2013
Port Commerce Center
Cardno ATC Project No. 76.40147.0003



ATTACHMENT A

FIELD NOTES



Monitor Well Gauging Log

Jul-08

Date: 9-5-13

Page 1 of 1

Project: NW BLDG - Port Comm Center

M. Newman

Location: 2309 Milwaukee Way, Tacoma, WA

Project No: 76.40147.0003

Task No:

Weather: Cloudy

Temperature: 20.5

Enviros / Tage

Interface Probe Model/ID:

Comments:

Notes:

* If top of screen is submerged, allow at least 15 minutes for well equilibration following well cap removal.


All measurements to be reported to nearest 0.01 ft.


ID = Identification.


LNAPL = Light Non-Aqueous Phase Liquid.


Sheen = Discontinuous, non-measurable thickness of LNAPL (less than 0.01 ft).

Trace = Continuous, non-measurable thickness of LNAPL.

 Cardno[®] ATC Shaping the Future	Monitoring Well Purging and Sampling Log		FLD-103 Revision 1.0 Jul-08						
	ATC Branch: Seattle, WA		Date: 9-5-13						
	ATC Representative(s): M. Newman		Project: NW BLDG - Port Comm. Center						
Contact Information: 206-781-1449		Location: 2309 Milwaukee Way, Tacoma, WA							
MW-1		Project No: 76.40147.0003		Task No: 7601					
		Contractor: —							
		Weather: — Cloudy		Temperature: 70°					
Purging & Sampling Instrumentation & Method									
Water Level Meter (Model/ID): Envirotape		Interface Probe (Model/ID): NA							
Water Quality Meter (Model/ID): YSI 556 MPS		Decontamination Method: Alconox/DI Water							
Purging Method: <input type="checkbox"/> PVC Bailer <input type="checkbox"/> Vacuum Truck <input type="checkbox"/> Submersible Pump <input checked="" type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Other: —									
3 Well Volumes <input type="checkbox"/> Low Flow <input checked="" type="checkbox"/> Micro Purge <input type="checkbox"/> Intake Depth (feet below TOC) 10.00									
Sampling Method: <input type="checkbox"/> Teflon Bailer <input type="checkbox"/> Disposable Bailer <input checked="" type="checkbox"/> Dedicated Tubing <input type="checkbox"/> Other: —									
Casing Volume Information		Purging Calculations							
Casing Diameter (Circle): <input checked="" type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> Other		Casing Volumes (CV): —							
Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47		WC — x CM — = — (CV)(gal) x 3.0 CV (gal) = — PV							
Monitoring Measurements									
Depth to LNAPL (feet): —		Total Well Depth (feet): 15.00							
Depth to Water (DTW)(feet): 8.15		Water Column (WC)(feet): 6.05							
LNAPL Thickness (ft): —		Purging Start Time: 13:20							
Purging Data									
Time (24 Hours)	DTW (Feet)	Cum. Vol. Purged (Gallons)	Temp (°C) (± 1°)	Specific Cond. (uS/cm) (± 5%)	Turbidity NTU	Dissolved Oxygen (mg/L) (± 10%)	pH (± 0.1)	ORP (mV) (± 10 mV)	Other
13:30	8.99	0.10	16.91	2642	Clear	0.65	6.42	-103.2	
13:33	9.02	0.13	16.93	2651	11	0.61	6.42	-104.2	
13:36	9.04	0.16	16.95	2636	11	0.56	6.43	-105.1	
13:39	9.06	0.19	16.95	2630	11	0.47	6.43	-106.0	
Sample Data									
Sample ID: MW-1		Time of Sample: 13:40		Filtered (yes/no)	Preservatives	Analytical Parameters			
Container Types, Volumes, & Quantities:									
3-40ml 10.4				<input checked="" type="checkbox"/>	HCl	6x/OTFY			
1-1L Amber				<input checked="" type="checkbox"/>	HCl	DX			
Well Recovery Data									
Maximum Drawdown (DTWm)(feet): 9.06		Approximate Flow Rate (GPM): 0.01							
Recovery Type: <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Slow		% Recovery = 100							
Purge Water Disposition (Attach Drum Inventory Log - FLD 108):									
Comments:									

 Cardno[®] ATC Shaping the Future	Monitoring Well Purging and Sampling Log		FLD-103 Revision 1.0 Jul-08						
	ATC Branch: Seattle, WA		Date: 9-5-13						
	ATC Representative(s): <div style="text-align: center; font-family: cursive;">M. Newman</div>		Project: NW BLDG - Port Comm. Center Location: 2309 Milwaukee Way, Tacoma, WA						
Contact Information: 206-781-1449		Project No: 76.40147.0003		Task No: 7601					
<div style="text-align: center; font-family: cursive;">MW-2</div>		Contractor: —		Weather: Cloudy					
Temperature: 70°									
Purging & Sampling Instrumentation & Method									
Water Level Meter (Model/ID): Envirotape		Interface Probe (Model/ID): NA							
Water Quality Meter (Model/ID): YSI 556 MPS		Decontamination Method: Alconox/DI Water							
Purging Method: <input type="checkbox"/> PVC Bailer <input type="checkbox"/> Vacuum Truck <input type="checkbox"/> Submersible Pump <input checked="" type="checkbox"/> Peristaltic Pump Other: <input type="checkbox"/>									
3 Well Volumes <input type="checkbox"/> Low Flow <input checked="" type="checkbox"/> Micro Purge <input type="checkbox"/> Intake Depth (feet below TOC) 8.5'									
Sampling Method: <input type="checkbox"/> Teflon Bailer <input type="checkbox"/> Disposable Bailer <input checked="" type="checkbox"/> Dedicated Tubing Other: <input type="checkbox"/>									
Casing Volume Information			Purging Calculations						
Casing Diameter (Circle): 2" 4" 6" Other			Casing Volumes (CV):						
Casing Multiplier (CM)(gallons/foot) 0.16 0.65 1.47			WC <input type="checkbox"/> x CM <input type="checkbox"/> = <input type="checkbox"/> (CV)(gal) x 3.0 CV (gal) = <input type="checkbox"/> PV						
Monitoring Measurements									
Depth to LNAPL (feet): —			Total Well Depth (feet): 15.00						
Depth to Water (DTW)(feet): 7.25			Water Column (WC)(feet): 7.75						
LNAPL Thickness (ft): —			Purging Start Time: 12:40						
Purging Data									
Time (24 Hours)	DTW (Feet)	Cum. Vol. Purged (Gallons)	Temp (°C) (± 1°)	Specific Cond. (uS/cm) (± 5%)	Turbidity NTU	Dissolved Oxygen (mg/L) (± 10%)	pH (± 0.1)	ORP (mV) (± 10 mV)	Other
12:50	7.31	0.10	21.65	2303	Clear	0.58	6.61	-56.2	
12:53	7.35	0.13	21.67	2311	"	0.48	6.61	-56.9	
12:56	7.39	0.16	21.66	2317	"	0.42	6.61	-57.1	
12:59	7.41	0.19	21.44	2323	"	0.38	6.61	-57.4	
Sample Data									
Sample ID: MW-2		Time of Sample: 13:00			Filtered (yes/no)	Preservatives	Analytical Parameters		
Container Types, Volumes, & Quantities:									
3-40ml VOA					N	HCl	DX/BTEX		
1-1L Amber					N	HCl	DX		
Well Recovery Data									
Maximum Drawdown (DTWm)(feet): 7.41					Approximate Flow Rate (GPM): 0.01				
Recovery Type: <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Slow					% Recovery = 100				
Purge Water Disposition (Attach Drum Inventory Log - FLD 108):									
Comments:									

 Cardno[®] ATC Shaping the Future	Monitoring Well Purging and Sampling Log		FLD-103 Revision 1.0 Jul-08						
	ATC Branch: Seattle, WA		Date: 9-5-13						
	ATC Representative(s): M. Newman		Project: NW BLDG - Port Comm. Center Location: 2309 Milwaukee Way, Tacoma, WA						
Contact Information: 206-781-1449		Project No: 76.40147.0003		Task No: 7601					
MW-3		Contractor:		Temperature:					
Purging & Sampling Instrumentation & Method									
Water Level Meter (Model/ID): Envirotape		Interface Probe (Model/ID): NA							
Water Quality Meter (Model/ID): YSI 556 MPS		Decontamination Method: Alconox/DI Water							
Purging Method: <input type="checkbox"/> PVC Bailer <input type="checkbox"/> Vacuum Truck <input type="checkbox"/> Submersible Pump <input checked="" type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Other:									
3 Well Volumes <input type="checkbox"/> Low Flow <input checked="" type="checkbox"/> Micro Purge <input type="checkbox"/> Intake Depth (feet below TOC) 10.5									
Sampling Method: <input type="checkbox"/> Teflon Bailer <input type="checkbox"/> Disposable Bailer <input checked="" type="checkbox"/> Dedicated Tubing <input type="checkbox"/> Other:									
Casing Volume Information			Purging Calculations						
Casing Diameter (Circle): 2" 4" 6" Other			Casing Volumes (CV):						
Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47			WC _____ x CM _____ = _____ (CV)(gal) x 3.0 CV (gal) = _____ PV						
Monitoring Measurements									
Depth to LNAPL (feet): _____			Total Well Depth (feet): 15.00						
Depth to Water (DTW)(feet): 9.52			Water Column (WC)(feet): 5.48						
LNAPL Thickness (ft): _____			Purging Start Time: 14:00						
Purging Data									
Time (24 Hours)	DTW (Feet)	Cum. Vol. Purged (Gallons)	Temp (°C) (± 1°)	Specific Cond. (uS/cm) (± 5%)	Turbidity NTU	Dissolved Oxygen (mg/L) (± 10%)	pH (± 0.1)	ORP (mV) (± 10 mV)	Other
14:10	9.58	0.10	17.12	4237	clear	0.82	6.58	-89.7	
14:13	9.62	0.13	17.05	4240	11	0.73	6.59	-90.1	
14:16	9.65	0.16	17.01	4241	11	0.70	6.59	-89.9	
14:19	9.67	0.19	16.98	4242	11	0.67	6.60	-89.9	
Sample Data									
Sample ID: MW-3		Time of Sample: 14:20		Filtered (yes/no)		Preservatives		Analytical Parameters	
Container Types, Volumes, & Quantities:									
1-1L Amber						~		HCl	
3-40mL Vials						~		HCl	
Well Recovery Data									
Maximum Drawdown (DTW _m)(feet): 9.67				Approximate Flow Rate (GPM): 0.01					
Recovery Type: <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Slow				% Recovery = 100					
Purge Water Disposition (Attach Drum Inventory Log - FLD 108):									
Comments:									

 Cardno[®] ATC Shaping the Future	Monitoring Well Purging and Sampling Log		FLD-103						
			Revision 1.0						
			Jul-08						
ATC Branch: Seattle, WA		Date: 7-5-13		Page 1 of 1					
ATC Representative(s): <i>MZ</i>		Project: NW BLDG - Port Comm. Center							
		Location: 2309 Milwaukee Way, Tacoma, WA							
Contact Information: 206-781-1449		Project No: 76.40147.0003		Task No: 7601					
MW-4		Contractor: _____							
		Weather: Cloudy		Temperature: 70°					
Purging & Sampling Instrumentation & Method									
Water Level Meter (Model/ID): Envirotape		Interface Probe (Model/ID): NA							
Water Quality Meter (Model/ID): YSI 556 MPS		Decontamination Method: Alconox/DI Water							
Purging Method: _____ PVC Bailer _____ Vacuum Truck _____ Submersible Pump <input checked="" type="checkbox"/> Peristaltic Pump Other: _____									
3 Well Volumes _____ Low Flow <input checked="" type="checkbox"/> _____ Micro Purge _____ Intake Depth (feet below TOC) _____ 9.0									
Sampling Method: _____ Teflon Bailer _____ Disposable Bailer _____ Dedicated Tubing Other: _____									
Casing Volume Information			Purging Calculations						
Casing Diameter (Circle): <input checked="" type="radio"/> 4" <input type="radio"/> 6" Other _____			Casing Volumes (CV):						
Casing Multiplier (CM)(gallons/foot): <input checked="" type="radio"/> 0.16 <input type="radio"/> 0.65 <input type="radio"/> 1.47			WC _____ x CM _____ = _____ (CV)(gal) x 3.0 CV (gal) = _____ PV						
Monitoring Measurements									
Depth to LNAPL (feet): _____		Total Well Depth (feet): 15.00							
Depth to Water (DTW)(feet): 7.11		Water Column (WC)(feet): 7.89							
LNAPL Thickness (ft): _____		Purging Start Time: 12:00							
Purging Data									
Time (24 Hours)	DTW (Feet)	Cum. Vol. Purged (Gallons)	Temp (°C) (± 1°)	Specific Cond. (uS/cm) (± 5%)	Turbidity NTU	Dissolved Oxygen (mg/L) (± 10%)	pH (± 0.1)	ORP (mV) (± 10 mV)	Other
12:30	7.16	0.10	21.23	1050	Clear	1.01	6.38	-81.8	
12:13	7.19	0.13	21.11	1050	✓	1.01	6.39	-86.5	
12:16	7.21	0.16	21.09	1050	✓	1.01	6.39	-87.0	
12:19	7.22	0.19	21.08	1050	✓	1.02	6.39	-87.5	
Sample Data									
Sample ID: MW-4		Time of Sample: 12:20		Filtered (yes/no)		Preservatives		Analytical Parameters	
Container Types, Volumes, & Quantities:									
3 - 40ml BTL VOA				✓		HCL		BTEX/SV	
1 - 1L Amber				✓		HCL		DX	
Well Recovery Data									
Maximum Drawdown (DTWm)(feet): 7.22		Approximate Flow Rate (GPM): 0.01							
Recovery Type: <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Slow		% Recovery = 100							
Purge Water Disposition (Attach Drum Inventory Log - FLD 108): 5-gallon Bucket									
Comments:									

Groundwater Monitoring Report – September 2013
Port Commerce Center
Cardno ATC Project No. 76.40147.0003



ATTACHMENT B

CERTIFIED LABORATORY ANALYTICAL REPORT



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
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Cardno ATC

Nasrin Bastami
6347 Seaview Ave NW
Seattle, WA 98107

RE: NW BLDG-Port Commercial Ctr
Lab ID: 1309041

September 12, 2013

Attention Nasrin Bastami:

Fremont Analytical, Inc. received 5 sample(s) on 9/5/2013 for the analyses presented in the following report.

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

Gasoline by NWTPH-Gx

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Dee".

Michael Dee
Sr. Chemist / Principal

CLIENT: Cardno ATC
Project: NW BLDG-Port Commercial Ctr
Lab Order: 1309041

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1309041-001	MW-4	09/05/2013 12:20 PM	09/05/2013 4:40 PM
1309041-002	MW-2	09/05/2013 1:00 PM	09/05/2013 4:40 PM
1309041-003	MW-1	09/05/2013 1:40 PM	09/05/2013 4:40 PM
1309041-004	MW-3	09/05/2013 2:30 PM	09/05/2013 4:40 PM
1309041-005	Trip Blank	09/04/2013 3:25 PM	09/05/2013 4:40 PM

CLIENT: Cardno ATC
Project: NW BLDG-Port Commercial Ctr

I. SAMPLE RECEIPT:

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

II. GENERAL REPORTING COMMENTS:

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

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

III. ANALYSES AND EXCEPTIONS:

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

Prep Comments for METHOD (PREP-DX-W), SAMPLE (1309041-001B) required Silica Gel Cleanup Procedure.

Prep Comments for METHOD (PREP-DX-W), SAMPLE (1309041-002B) required Silica Gel Cleanup Procedure.

Prep Comments for METHOD (PREP-DX-W), SAMPLE (1309041-003B) required Silica Gel Cleanup Procedure.

Prep Comments for METHOD (PREP-DX-W), SAMPLE (1309041-004B) required Silica Gel Cleanup Procedure.



Analytical Report

WO#: 1309041

Date Reported: 9/12/2013

Client: Cardno ATC

Collection Date: 9/5/2013 12:20:00 PM

Project: NW BLDG-Port Commercial Ctr

Lab ID: 1309041-001

Matrix: Water

Client Sample ID: MW-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 5360

Analyst: JY

Diesel (Fuel Oil)	ND	50.0		µg/L	1	9/11/2013 9:02:00 PM
Heavy Oil	ND	100		µg/L	1	9/11/2013 9:02:00 PM
Surr: 2-Fluorobiphenyl	119	50-150		%REC	1	9/11/2013 9:02:00 PM
Surr: o-Terphenyl	119	50-150		%REC	1	9/11/2013 9:02:00 PM

Gasoline by NWTPH-Gx

Batch ID: R9946

Analyst: EM

Gasoline	ND	50.0		µg/L	1	9/8/2013 10:54:00 AM
Surr: 4-Bromofluorobenzene	107	65-135		%REC	1	9/8/2013 10:54:00 AM
Surr: Toluene-d8	114	65-135		%REC	1	9/8/2013 10:54:00 AM

Volatile Organic Compounds by EPA Method 8260

Batch ID: R9947

Analyst: EM

Benzene	ND	1.00		µg/L	1	9/8/2013 10:54:00 AM
Toluene	ND	1.00		µg/L	1	9/8/2013 10:54:00 AM
Ethylbenzene	ND	1.00		µg/L	1	9/8/2013 10:54:00 AM
m,p-Xylene	ND	1.00		µg/L	1	9/8/2013 10:54:00 AM
o-Xylene	ND	1.00		µg/L	1	9/8/2013 10:54:00 AM
Surr: Dibromofluoromethane	106	72.1-122		%REC	1	9/8/2013 10:54:00 AM
Surr: Toluene-d8	99.6	62.1-129		%REC	1	9/8/2013 10:54:00 AM
Surr: 1-Bromo-4-fluorobenzene	99.8	66.8-124		%REC	1	9/8/2013 10:54:00 AM

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

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



Analytical Report

WO#: 1309041

Date Reported: 9/12/2013

Client: Cardno ATC

Collection Date: 9/5/2013 1:00:00 PM

Project: NW BLDG-Port Commercial Ctr

Lab ID: 1309041-002

Matrix: Water

Client Sample ID: MW-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 5360

Analyst: JY

Diesel (Fuel Oil)	ND	50.0		µg/L	1	9/11/2013 9:31:00 PM
Heavy Oil	ND	100		µg/L	1	9/11/2013 9:31:00 PM
Surr: 2-Fluorobiphenyl	109	50-150		%REC	1	9/11/2013 9:31:00 PM
Surr: o-Terphenyl	117	50-150		%REC	1	9/11/2013 9:31:00 PM

Gasoline by NWTPH-Gx

Batch ID: R9946

Analyst: EM

Gasoline	ND	50.0		µg/L	1	9/8/2013 11:48:00 AM
Surr: 4-Bromofluorobenzene	105	65-135		%REC	1	9/8/2013 11:48:00 AM
Surr: Toluene-d8	112	65-135		%REC	1	9/8/2013 11:48:00 AM

Volatile Organic Compounds by EPA Method 8260

Batch ID: R9947

Analyst: EM

Benzene	ND	1.00		µg/L	1	9/8/2013 11:48:00 AM
Toluene	ND	1.00		µg/L	1	9/8/2013 11:48:00 AM
Ethylbenzene	ND	1.00		µg/L	1	9/8/2013 11:48:00 AM
m,p-Xylene	ND	1.00		µg/L	1	9/8/2013 11:48:00 AM
o-Xylene	ND	1.00		µg/L	1	9/8/2013 11:48:00 AM
Surr: Dibromofluoromethane	105	72.1-122		%REC	1	9/8/2013 11:48:00 AM
Surr: Toluene-d8	99.8	62.1-129		%REC	1	9/8/2013 11:48:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.7	66.8-124		%REC	1	9/8/2013 11:48:00 AM

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

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



Analytical Report

WO#: 1309041

Date Reported: 9/12/2013

Client: Cardno ATC

Collection Date: 9/5/2013 1:40:00 PM

Project: NW BLDG-Port Commercial Ctr

Lab ID: 1309041-003

Matrix: Water

Client Sample ID: MW-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 5360

Analyst: JY

Diesel (Fuel Oil)	ND	50.0		µg/L	1	9/11/2013 9:59:00 PM
Heavy Oil	ND	100		µg/L	1	9/11/2013 9:59:00 PM
Surr: 2-Fluorobiphenyl	101	50-150		%REC	1	9/11/2013 9:59:00 PM
Surr: o-Terphenyl	105	50-150		%REC	1	9/11/2013 9:59:00 PM

Gasoline by NWTPH-Gx

Batch ID: R9946

Analyst: EM

Gasoline	ND	50.0		µg/L	1	9/8/2013 12:16:00 PM
Surr: 4-Bromofluorobenzene	104	65-135		%REC	1	9/8/2013 12:16:00 PM
Surr: Toluene-d8	112	65-135		%REC	1	9/8/2013 12:16:00 PM

Volatile Organic Compounds by EPA Method 8260

Batch ID: R9947

Analyst: EM

Benzene	ND	1.00		µg/L	1	9/8/2013 12:16:00 PM
Toluene	ND	1.00		µg/L	1	9/8/2013 12:16:00 PM
Ethylbenzene	ND	1.00		µg/L	1	9/8/2013 12:16:00 PM
m,p-Xylene	ND	1.00		µg/L	1	9/8/2013 12:16:00 PM
o-Xylene	ND	1.00		µg/L	1	9/8/2013 12:16:00 PM
Surr: Dibromofluoromethane	104	72.1-122		%REC	1	9/8/2013 12:16:00 PM
Surr: Toluene-d8	99.0	62.1-129		%REC	1	9/8/2013 12:16:00 PM
Surr: 1-Bromo-4-fluorobenzene	97.4	66.8-124		%REC	1	9/8/2013 12:16:00 PM

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

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



Analytical Report

WO#: 1309041

Date Reported: 9/12/2013

Client: Cardno ATC

Collection Date: 9/5/2013 2:30:00 PM

Project: NW BLDG-Port Commercial Ctr

Lab ID: 1309041-004

Matrix: Water

Client Sample ID: MW-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 5360

Analyst: JY

Diesel (Fuel Oil)	ND	50.0		µg/L	1	9/11/2013 10:28:00 PM
Heavy Oil	ND	100		µg/L	1	9/11/2013 10:28:00 PM
Heavy Fuel Oil	291	100		µg/L	1	9/11/2013 10:28:00 PM
Surr: 2-Fluorobiphenyl	122	50-150		%REC	1	9/11/2013 10:28:00 PM
Surr: o-Terphenyl	126	50-150		%REC	1	9/11/2013 10:28:00 PM

NOTES:

Heavy Fuel Oil - Indicates the presence of unresolved compounds in both the Diesel and Lube+ Oil ranges.

Gasoline by NWTPH-Gx

Batch ID: R9946

Analyst: EM

Gasoline	ND	50.0		µg/L	1	9/8/2013 12:43:00 PM
Surr: 4-Bromofluorobenzene	106	65-135		%REC	1	9/8/2013 12:43:00 PM
Surr: Toluene-d8	111	65-135		%REC	1	9/8/2013 12:43:00 PM

Volatile Organic Compounds by EPA Method 8260

Batch ID: R9947

Analyst: EM

Benzene	ND	1.00		µg/L	1	9/8/2013 12:43:00 PM
Toluene	ND	1.00		µg/L	1	9/8/2013 12:43:00 PM
Ethylbenzene	ND	1.00		µg/L	1	9/8/2013 12:43:00 PM
m,p-Xylene	ND	1.00		µg/L	1	9/8/2013 12:43:00 PM
o-Xylene	ND	1.00		µg/L	1	9/8/2013 12:43:00 PM
Surr: Dibromofluoromethane	104	72.1-122		%REC	1	9/8/2013 12:43:00 PM
Surr: Toluene-d8	102	62.1-129		%REC	1	9/8/2013 12:43:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.1	66.8-124		%REC	1	9/8/2013 12:43:00 PM

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

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



Date: 9/12/2013

Work Order: 1309041
CLIENT: Cardno ATC
Project: NW BLDG-Port Commercial Ctr

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: LCS-5360		SampType: LCS			Units: µg/L		Prep Date: 9/9/2013			RunNo: 9957		
Client ID: LCSW		Batch ID: 5360			Analysis Date: 9/10/2013			SeqNo: 200464				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Diesel (Fuel Oil)	1,960	50.0	2,000	0	97.9	65	135				
Surr: 2-Fluorobiphenyl	129		160.0		80.4	50	150				
Surr: o-Terphenyl	188		160.0		117	50	150				

Sample ID: MB-5360	SampType: MBLK	Units: µg/L			Prep Date: 9/9/2013			RunNo: 9957			
Client ID: MBLKW	Batch ID: 5360				Analysis Date: 9/10/2013			SeqNo: 200465			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	50.0									
Heavy Oil	ND	100									
Surr: 2-Fluorobiphenyl	181		160.0		113	50	150				
Surr: o-Terphenyl	192		160.0		120	50	150				

Sample ID: 1309049-001BDUP		SampType: DUP			Units: µg/L		Prep Date: 9/9/2013			RunNo: 9957		
Client ID: BATCH		Batch ID: 5360			Analysis Date: 9/10/2013			SeqNo: 200490				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Diesel (Fuel Oil)	ND	50.0						0	0	30	
Diesel Range Organics (C12-C24)	204	50.0						228.9	11.6	30	
Heavy Oil	1,040	100						1,131	8.53	30	
Surr: 2-Fluorobiphenyl	154		160.0		96.3	50	150		0		
Surr: o-Terphenyl	199		160.0		124	50	150		0		

NOTES:

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

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



Date: 9/12/2013

Work Order: 1309041
CLIENT: Cardno ATC
Project: NW BLDG-Port Commercial Ctr

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: LCS-R9946		SampType: LCS			Units: µg/L		Prep Date: 9/8/2013			RunNo: 9946		
Client ID: LCSW		Batch ID: R9946			Analysis Date: 9/8/2013			SeqNo: 200294				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Gasoline	424	50.0	500.0	0	84.8	65	135				
Surr: Toluene-d8	56.9		50.00		114	65	135				
Surr: 4-Bromofluorobenzene	51.6		50.00		103	65	135				

Sample ID: MB-R9946	SampType: MBLK	Units: µg/L			Prep Date: 9/8/2013			RunNo: 9946			
Client ID: MBLKW	Batch ID: R9946				Analysis Date: 9/8/2013			SeqNo: 200295			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	50.0									
Surr: Toluene-d8	57.8		50.00		116	65	135				
Surr: 4-Bromofluorobenzene	53.9		50.00		108	65	135				

Sample ID: 1309041-001ADUP		SampType: DUP			Units: µg/L		Prep Date: 9/8/2013			RunNo: 9946		
Client ID: MW-4		Batch ID: R9946			Analysis Date: 9/8/2013					SeqNo: 200332		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Gasoline	ND	50.0						0	0	30	
Surr: Toluene-d8	56.8		50.00		114	65	135		0	0	
Surr: 4-Bromofluorobenzene	53.3		50.00		107	65	135		0	0	

Qualifiers:

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



Date: 9/12/2013

Work Order: 1309041
CLIENT: Cardno ATC
Project: NW BLDG-Port Commercial Ctr

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: 1309034-001AMS	SampType: MS	Units: µg/L				Prep Date: 9/8/2013			RunNo: 9947		
Client ID: BATCH	Batch ID: R9947					Analysis Date: 9/8/2013			SeqNo: 200300		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.0	1.00	20.00	0	100	65.4	138				
Toluene	19.6	1.00	20.00	0	98.2	64	139				
Ethylbenzene	19.3	1.00	20.00	0	96.3	64.5	136				
m,p-Xylene	38.4	1.00	40.00	0	96.1	63.3	135				
o-Xylene	19.4	1.00	20.00	0	97.0	65.4	134				
Surr: Dibromofluoromethane	51.4		50.00		103	72.1	122				
Surr: Toluene-d8	50.1		50.00		100	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	48.0		50.00		96.0	66.8	124				

Sample ID: 1309041-001ADUP	SampType: DUP	Units: µg/L				Prep Date: 9/8/2013			RunNo: 9947		
Client ID: MW-4	Batch ID: R9947					Analysis Date: 9/8/2013			SeqNo: 200310		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00						0	0	30	
Toluene	ND	1.00						0	0	30	
Ethylbenzene	ND	1.00						0	0	30	
m,p-Xylene	ND	1.00						0	0	30	
o-Xylene	ND	1.00						0	0	30	
Surr: Dibromofluoromethane	52.8		50.00		106	72.1	122		0		
Surr: Toluene-d8	49.8		50.00		99.6	62.1	129		0		
Surr: 1-Bromo-4-fluorobenzene	49.6		50.00		99.3	66.8	124		0		

Sample ID: LCS-R9947	SampType: LCS	Units: µg/L				Prep Date: 9/8/2013			RunNo: 9947		
Client ID: LCSW	Batch ID: R9947					Analysis Date: 9/8/2013			SeqNo: 200320		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.8	1.00	20.00	0	104	75.2	124				
Toluene	20.5	1.00	20.00	0	102	75.2	129				

Qualifiers:

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



Date: 9/12/2013

Work Order: 1309041
CLIENT: Cardno ATC
Project: NW BLDG-Port Commercial Ctr

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: LCS-R9947	SampType: LCS	Units: µg/L				Prep Date: 9/8/2013			RunNo: 9947		
Client ID: LCSW	Batch ID: R9947					Analysis Date: 9/8/2013			SeqNo: 200320		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	20.2	1.00	20.00	0	101	78	127				
m,p-Xylene	41.1	1.00	40.00	0	103	77.5	130				
o-Xylene	20.4	1.00	20.00	0	102	77.6	126				
Surr: Dibromofluoromethane	50.8		50.00		102	72.1	122				
Surr: Toluene-d8	50.5		50.00		101	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	49.2		50.00		98.4	66.8	124				

Sample ID: MB-R9947	SampType: MBLK	Units: µg/L				Prep Date: 9/8/2013			RunNo: 9947		
Client ID: MBLKW	Batch ID: R9947					Analysis Date: 9/8/2013			SeqNo: 200321		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00									
Toluene	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Surr: Dibromofluoromethane	52.2		50.00		104	72.1	122				
Surr: Toluene-d8	50.1		50.00		100	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	50.2		50.00		100	66.8	124				

Qualifiers:

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

Sample Log-In Check List

Client Name: **ATC**
 Logged by: **Chelsea Ward**

Work Order Number: **1309041**
 Date Received: **9/5/2013 4:40:00 PM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

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

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	8.4	Good
Sample	9.8	Good



Fremont
Analytical

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Client: Cardco A/C
Address: 6347 Greenwood Ave
City, State, Zip: Seattle

Date: 9-5-13

Laboratory Project No (internal): 1309041
Page: 1 of: 1

Project Name: NW BDD - Port Commercial Ctr.
Location: 2309 Tacoma M. Weaver Way, Tacoma
Collected by: M. M. W. W. W.

Tel: 206-781-1449

Chain of Custody Record

Reports To (PM):

Fax:

Email:

Project No:

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8160) GC/MS or EPA 8210	GC/MS or EPA 8210	Hydrocarbon Identification (HID)	Dielectric Oil Range Organic	SMI Vol (EPA 8270-SM)	PAH (EPA 8270)	PCBs (EPA 8082)	Chlorinated (EPA 8081)	Mercury (EPA 8131A)	Total (T) / Dissolved (D)	Anions (IC) **	Comments/Depth
1 MW-4	9-5-13	12:20	Water	X											Dx w/ Silica Gel
2 MW-2		13:00		X											Clean up
3 MW-1		13:40		X											
4 MW-3		14:30		X											
5															
6															
7															
8															
9															
10															

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide Fluoride Nitrate-Nitrite

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

Relinquisher: Cardco A/C Date/Time: 9-5-13 15:40
Relinquished: Seattle Date/Time: 9-5-13 16:40

Special Remarks:

TAT -> Next Day 2 Day 3 Day STD