

**SECOND QUARTER 2009
GROUNDWATER MONITORING REPORT**

**FORMER MOLALLA KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON
DEQ FILE No.: 03-05-461**

ECN PROJECT No. 05-106



December 4, 2010



ENVIRONMENTAL COMPLIANCE NORTHWEST

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December 4, 2010
ECN Project No. 05-106

Mr. Jason Powell.
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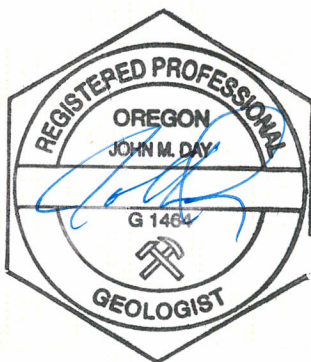
**SUBJECT: Second Quarter 2009
Groundwater Monitoring Report
Former Molalla Kwik Gas
305 West Main Street
Molalla, Oregon
DEQ LUST File No.: 03-05-461**

Dear Mr. Powell:

Environmental Compliance Northwest, Inc., (ECN) is pleased to submit this Groundwater Monitoring Report for the above referenced facility. We hope this report meets your needs at this time. If you should require additional information, please contact us at 503-372-9760.

Sincerely,

ENVIRONMENTAL COMPLIANCE NORTHWEST, INC.



John M. Day, RG
Principal Geologist
President



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1.0 INTRODUCTION

This report describes results of the second quarter 2009 groundwater monitoring and sampling activities conducted at the former Kwik Gas service station located at 305 West Main Street in Molalla, Oregon (Figure 1).

2.0 SITE DESCRIPTION

The site is located on the north side of West Main Street, approximately 100 feet west of Kennel Avenue near downtown Molalla and was formerly used as a fuel service station. The site is currently occupied by an automobile detail facility. A former service station building is located in the southeastern portion of the site. The UST cavity, formerly containing four 10,000-gallon tanks is located in the northwestern portion of the site and a former fuel dispenser island is located south of the station building. The site and surrounding area are relatively flat generally covered with gravel, with the exception of the former fuel dispenser island area, which is paved with asphalt. The locations of pertinent site features are shown on Figure 2.

3.0 BACKGROUND

The following background information was obtained from DEQ files, verbal discussions with Powell Distributing Company (Powell) personnel, and activities observed and conducted by ECN. The facility operated since at least 1977 until 2005 and consisted of a retail fueling and automotive repair facility. The former UST system consisted of three gasoline USTs and one diesel UST, located in the northwest corner of the site and one fuel dispenser island, located in the southern portion of the site (Figure 2). In April 2005, an apparent leak was detected in the underground product piping. A portion of the piping was uncovered and several small holes were observed in the piping.

In March 2005, ECN conducted initial site assessment activities consisting of drilling two hand auger borings adjacent to the fuel product piping. Subsurface soil sampling indicated the presence of petroleum hydrocarbon impact to soil in to the maximum explored depth of 8.5 feet below ground surface (bgs).

Also in March 2005, ECN conducted site assessment activities, including drilling a total of nine soil borings. Seven borings were completed adjacent and in the vicinity of the underground product piping trench. Two of the borings were completed adjacent to the former fuel island. Petroleum hydrocarbons were detected in soil samples collected from each boring, with the exception of the boring completed located near the northwest corner of the former service station

Prior to sample collection, monitoring wells were purged of at least three casing volumes. Groundwater samples were collected for laboratory analysis by lowering a bottom-fill, disposable bailer to just below the water level in the well. The collected water sample was then transferred from the bailer into laboratory-supplied containers.

5.0 ANALYTICAL TEST METHODS

Each groundwater sample collected during the second quarter 2009 monitoring event was analyzed for DEQ risk-based decision making (RBDM) volatile organic compounds (VOCs) by EPA Method 8260B. The RBDM VOCs include: benzene, toluene, ethylbenzene, and total xylenes (BTEX); 1,2,4-trimethylbenzene (1,2,4-TMB); ethylene dibromide (EDB); ethylene dichloride (EDC); 1,3,5-trimethylbenzene (1,3,5-TMB); isopropylbenzene (IPB) methyl-tertiary butyl ether (MTBE); n-propylbenzene (NPB); and naphthalene. Each sample was also analyzed for diesel-range hydrocarbons (diesel) and lube oil-range petroleum hydrocarbons (lube oil) by Northwest Method NWTPH-Dx. Select groundwater samples were analyzed for dissolved lead by EPA Method 6010 and polynuclear aromatic hydrocarbons (PAHs) by DEQ Method 8270SIM.

6.0 FINDINGS

Following are the physical and chemical results for the second quarter 2009 groundwater monitoring and sampling activities at the site. Naphthalene results are reported on both Table 1 and 2. The differing results shown in groundwater samples are a result of separate extraction methods. The concentrations from the VOC analyses are reported on the analytical results map (Figure 3).

Physical Results

The depth to water in the monitoring wells, as measured on June 30, 2009, ranged from 6.79 to 14.43 feet below the top of well casings. The groundwater flow direction was interpreted to be to the southwest with an average hydraulic gradient of approximately 0.11 feet per foot. Compared to the first quarter 2009 monitoring data, groundwater elevations in the monitoring wells decreased between 2.17 and 5.86 feet.

The groundwater elevation and flow direction data for the second quarter 2009 monitoring event are shown on Figure 2.

Chemical Results

MW-1: Benzene (0.910 micrograms per liter [$\mu\text{g/L}$]) was detected. The remaining RBDM VOCs, as well as diesel- and lube oil-range hydrocarbons, were not detected at or above the corresponding laboratory reporting limits.

MW-2: Diesel- and lube oil-range hydrocarbons, and RBDM VOCs were not detected at or above the corresponding laboratory reporting limits.

MW-3: Diesel-range hydrocarbons (194 $\mu\text{g/L}$), IPB (1.21 $\mu\text{g/L}$), and dissolved lead (1.1 $\mu\text{g/L}$) were detected. The following PAHs were also detected: acenaphthene (0.0572 $\mu\text{g/L}$); fluorene (0.124 $\mu\text{g/L}$); and naphthalene (0.734 $\mu\text{g/L}$).

MW-4: Diesel-range hydrocarbons (1,400 $\mu\text{g/L}$); lube oil-range hydrocarbons (310 $\mu\text{g/L}$); benzene (682 $\mu\text{g/L}$); toluene (7.28 $\mu\text{g/L}$); ethylbenzene (769 $\mu\text{g/L}$); total xylenes (248.8 $\mu\text{g/L}$); 1,2,4-TMB (594 $\mu\text{g/L}$); 1,3,5-TMB (76.7 $\mu\text{g/L}$); IPB (133 $\mu\text{g/L}$); MTBE (2.62 $\mu\text{g/L}$); NPB (438 $\mu\text{g/L}$); naphthalene (347 $\mu\text{g/L}$); and dissolved lead (1.4 $\mu\text{g/L}$) were detected. The following PAHs were also detected: acenaphthene (0.191 $\mu\text{g/L}$); acenaphthylene (0.0765 $\mu\text{g/L}$); fluorene (0.0229 $\mu\text{g/L}$); naphthalene (179 $\mu\text{g/L}$); phenanthrene (0.143 $\mu\text{g/L}$); and pyrene (0.0478 $\mu\text{g/L}$).

The groundwater sampling results for the second quarter 2009 monitoring event are shown on Figure 3 and summarized in Tables 1 and 2.

7.0 RISK-BASED EVALUATION OVERVIEW

In 1999, the Oregon DEQ issued the *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* guidance document (DEQ, 1999). This guidance document listed Risk-Based Concentration (RBC) cleanup levels that are based on current and potential future land and water uses at a site. The RBC cleanup levels are periodically revised, the most recent being September 15, 2009.

A detailed assessment of potential exposure pathways has not yet been conducted for the site. Although a conceptual site model has not been completed, based on our current knowledge of site conditions, the potentially complete exposure pathways for groundwater include: 1) vapor intrusion into buildings (occupational); 2) volatilization to outdoor air (occupational); and 3) groundwater in an excavation for a construction or excavation worker. The potentially applicable RBCs are shown on Tables 1 and 2.

None of the groundwater samples collected during the second quarter 2009 monitoring event exceeded RBCs for the potentially complete groundwater exposure pathways.

8.0 SUMMARY AND CONCLUSIONS

The site was operated as a retail fueling facility until March 2005. An apparent petroleum hydrocarbon release from the underground product piping was reported to DEQ on March 15, 2005. The site is currently operated as automotive detailing facility and is an area of commercial development.

ECN conducted site assessment activities between March and April 2005, consisting of advancing hand soil borings, limited excavation of apparent impacted soil associated with the product piping release, and drilling a total nine soil borings. Soil and water samples collected during the site assessment activities indicated that both soil and the shallow water-bearing zone in the vicinity of the product piping were impacted by petroleum hydrocarbons.

The four USTs at the site were decommissioned by removal in October 2006. Petroleum hydrocarbon-impacted backfill material was encountered adjacent to the fill port of one the USTs. Analytical results of samples collected from beneath the former fuel dispensers indicated that residual diesel- and gasoline-range hydrocarbons were present in the southern portion of the site.

A total of four groundwater monitoring wells and two soil borings were completed at the site in May 2007. Analytical results from the groundwater samples collected indicated that petroleum hydrocarbons were present in each monitoring well, the highest levels reported were in MW-4

Based on historic groundwater flow direction data, it appears that the generalized shallow water-bearing zone flow direction varies between west-southwest and southwest.

Based on analytical results, none of groundwater samples during the second quarter 2009 sampling event exceed the potentially complete exposure pathways at the site.

9.0 REFERENCES

ECN, 2007. Site Assessment and UST Decommissioning Report, Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. April 17.

ECN, 2010a. Additional Site Assessment and Monitoring Installation Report, Former Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. October 14.

ECN, 2010b. First Quarter 2008 Groundwater Monitoring Report, Former Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. December 1.

ECN, 2010c. Third Quarter 2008 Groundwater Monitoring Report, Former Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. December 2.

ECN, 2010d. First Quarter 2009 Groundwater Monitoring Report, Former Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. December 2.

Oregon Department of Environmental Quality, 1999 and 2003. Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites (OAR 340-122-0205 through 0360). September 29, 1999, updated September 22, 2003.

Oregon Department of Environmental Quality, 2000. UST Cleanup Manual, Cleanup Rules for Leaking Petroleum UST Systems, OAR 340-122-0205 through 340-122-0360, and Associated Documents. Oregon Department of Environmental Quality, Portland, Oregon, December.

Oregon Department of Environmental Quality, 2009. Risk-Based Concentrations for Individual Chemicals. September 15.

10.0 LIMITATIONS

Environmental Compliance Northwest, Inc., has performed the work described in this report in accordance with the generally accepted standard of care existing in the State of Oregon at the time of the assessment. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the subsurface and historical conditions applicable to the study area. More extensive studies may be used to supplement the information presented in this report. Environmental Compliance Northwest, Inc., should be notified for additional consultation if Powell Distributing Company wishes to reduce uncertainties beyond the level associated with this assessment. Our assessment of the property also may change, as new data becomes available during additional site exploration, remediation, or development.

Since site activities and regulations beyond our control could change at any time after the completion of this report, our observations, findings, and opinions can be considered valid only as of the date of the report.

No warranty, express or implied is made.

TABLES

TABLE 1
Groundwater Analytical Results - TPH-Dx, TPH-G, RBDM VOCs, and Dissolved Lead
Former Kwik Gas Station
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106



Well I.D.	Date of Sampling	Casing Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Change in Elevation (Feet)	TPH-Dx [1]		TPH-G [2]	B [3]	T [3]	E [3]	X [3]	1,2,4-TMB [3]	EDB [3]	EDC [3]	1,3,5-TMB [3]	IPB [3]	MTBE [3]	NPB [3]	Naphthalene [3]	Dissolved Lead [4]	LAB
						Diesel	Lube Oil															
MW-1	6/5/2007	94.77	13.82	80.95	---	247	116	624	40.5	7.16	51.2	67.4	9.34	ND<1.00	ND<1.00	5.98	2.95	ND<1.00	5.04	ND<1.00	---	SA
	3/30/2008	94.77	8.06	86.71	5.76	ND<245	ND<491	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2008	94.77	17.41	77.36	-9.35	ND<243	ND<487	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/26/2009	94.77	9.54	85.23	7.87	ND<238	ND<476	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	6/30/2009	94.77	14.43	80.34	-4.89	ND<86.3	ND<216	---	0.910	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
MW-2	6/5/2007	93.73	9.36	84.37	---	237	ND<100	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.73	3.35	90.38	6.01	ND<248	ND<495	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2008	93.73	11.10	82.63	-7.75	ND<242	ND<483	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/26/2009	93.73	3.50	90.23	7.6	ND<236	ND<473	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	6/30/2009	93.73	9.36	84.37	-5.86	ND<82.5	ND<206	---	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
MW-3	6/5/2007	93.44	6.65	86.79	---	ND<49.9	ND<49.9	363	ND<0.300	0.84	2.04	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.44	4.31	89.13	2.34	269	ND<485	589	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2008	93.44	6.46	86.98	-2.15	350	ND<541	787	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.00	ND<1.00	ND<1.00	ND<1.00	0.65	SA
	3/26/2009	93.44	4.62	88.82	1.84	277	ND<478	429	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.1	SA
	6/30/2009	93.44	6.79	86.65	-2.17	194	ND<203	---	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.21	ND<1.00	ND<1.00	ND<1.00	1.1	SA
MW-4	6/5/2007	94.10	7.16	86.94	---	2,060	3,500	7,370	326	5.97	216	336.2	239	ND<1.00	ND<1.00	55	34.4	6.92	66.2	55.6	14	SA
	3/30/2008	94.10	4.29	89.81	2.87	2,050	ND<489	15,900	985	8.93	397	343.0	386	ND<1.00	ND<1.00	43.4	92.2	11.3	261	150	2.5	SA
	9/28/2008	94.10	7.69	86.41	-3.4	2,070	665	14,000	979	9.74	743	167.8	332	ND<1.00	ND<1.00	88.3	125	ND<1.00	460	766	0.34	SA
	3/26/2009	94.10	4.54	89.56	3.15	1,700	893	8,010	480	4.49	356	91.4	125	ND<1.00	ND<1.00	23.7	87.6	1.80	185	119	0.82	SA
	6/30/2009	94.10	7.65	86.45	-3.11	1,460	310	---	682	7.28	769	248.2	594	ND<1.00	ND<1.00	76.7	133	2.62	438	347	1.4	SA
Risk-Based Concentrations [5]						>S	NE	>S	14,000	>S	41,000	>S	>S	960	9,500	6,800	>S	1,000,000	NE	16,000	NV	
- Volatilization to Outdoor Air (Occupational)						>S	NE	>S	2,800	>S	7,400	>S	>S	690	3,800	41,000	>S	590,000	NE	10,000	NV	
- Vapor Intrusion Into Buildings (Occupational)						>S	NE	13,000	1,700	210,000	4,400	23,000	1,700	28	630	1,400	>S	62,000	NE	500	>S	
- Groundwater in an Excavation (Construction and Excavation Worker)																						

ABBREVIATIONS:
B: Benzene
T: Toluene
E: Ethylbenzene
X: Total Xylenes
MTBE: Methyl tertiary-butyl ether
ND: Not detected at or above the indicated laboratory reporting limit
NE: Not established by DEQ
>S: The groundwater RBC exceeds the solubility limit.
NV: This chemical is considered "nonvolatile" for purposes of the exposure calculations

Results are in micrograms per liter (µg/L)
(1) Northwest Method NWTPH-Dx
(2) Northwest Method NWTPH-Gx
(3) EPA Method 8021B Or 8260B
(4) EPA Method 6011
(5) Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs)
SA Specialty Analytical
BOLD Exceeds the RBC

TABLE 2
Groundwater Analytical Results (PAHs)
Former Molalla Kwik Gas
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106

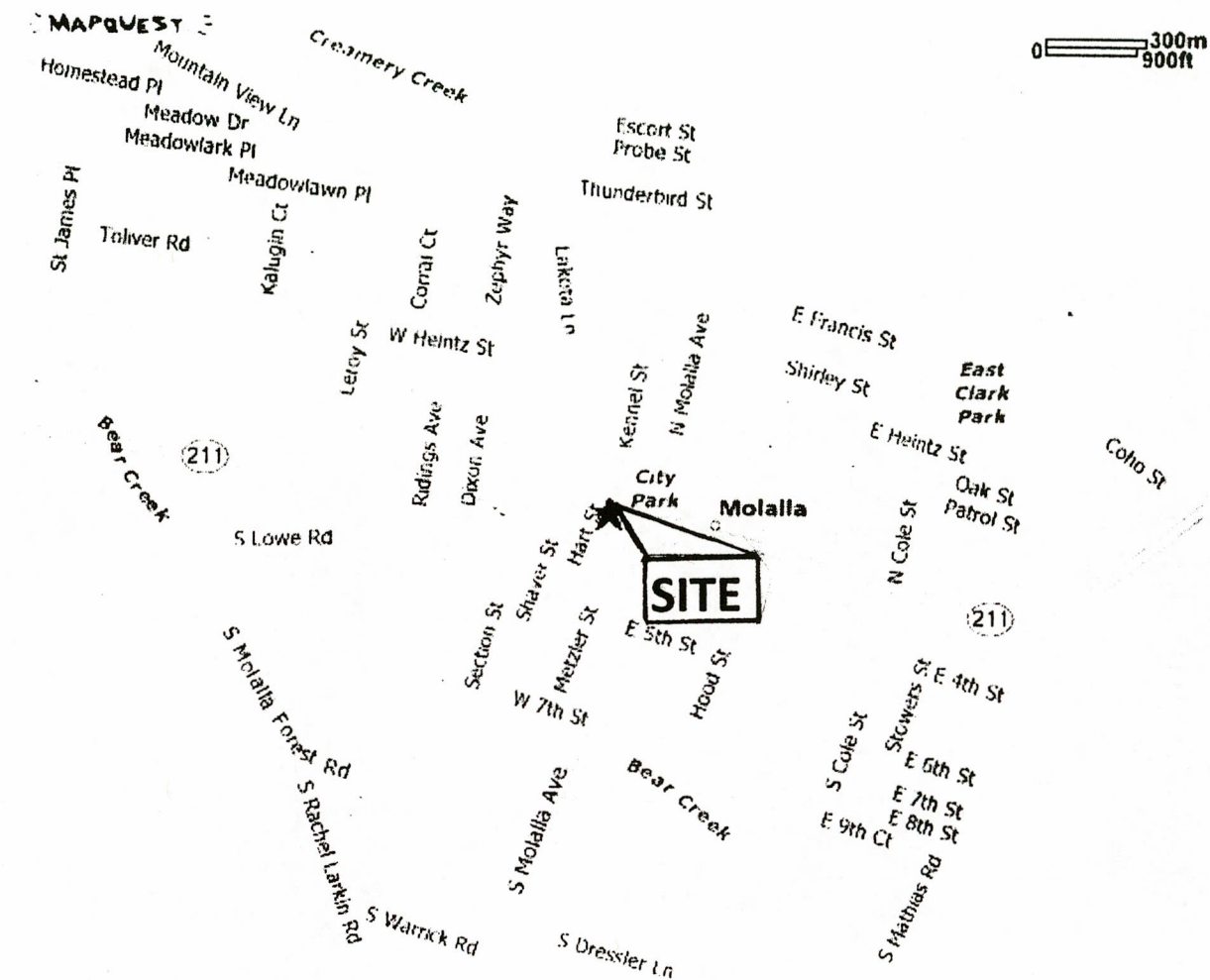


Polynuclear Aromatic Hydrocarbons (µg/L) [1]		Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoroanthrene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	LAB
Sample Identification	Sample Date																	
MW-1	6/5/2007	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	2.81	ND<0.0503	ND<0.0503	SA
MW-2	6/5/2007	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	SA
,MW-3	6/5/2007	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	0.0792	ND<0.0495	0.287	ND<0.0495	ND<0.0495	SA
	3/26/2009	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	0.211	ND<0.0479	ND<0.0479	SA
	6/30/2009	0.0572	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	0.124	ND<0.0477	0.734	ND<0.0477	ND<0.0477	SA
MW-4	6/5/2007	0.115	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	0.136	ND<0.0525	83.4	0.0630	ND<0.0525	SA
	3/30/2008	0.231	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	0.0868	0.482	ND<0.0482	115	0.415	0.0868	SA
	9/28/2008	0.203	0.0676	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	0.126	0.261	ND< 0.0483	94.7	0.300	0.126	SA
	3/26/2009	0.138	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	0.138	ND<0.0429	ND<0.0429	56.9	0.0984	0.0591	SA
	6/30/2009	0.191	0.0765	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	0.229	ND<0.0478	179	0.143	0.0478	SA
Risk-Based Concentrations [2]																		
- Occ. Volatilization to Outdoor Air		>S	NE	>S	NV	NV	NV	NE	NV	NV	NV	NV	>S	NV	16,000	NE	NV	
- Occ. Vapor Intrusion Into buildings		>S	NE	>S	NV	NV	NV	NE	NV	NV	NV	NV	>S	NV	10,000	NE	NV	
- Groundwater in an Excavation		>S	NE	>S	9.1	0.53	>S	NE	>S	>S	0.21	>S	>S	>S	500	NE	>S	
Construction and Excavation Worker																		

ND not detected at or above the indicated laboratory reporting limit
SA Specialty Analytical
µg/L Micrograms per Liter

[1] DEQ Method 8270SIM
[2] Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs) (DEQ, 2009).
NE A Risk-Based Concentration has not been determined for this constituent
NV This chemical is considered "nonvolatile" for purposes of the exposure calculation
>S This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present. If solubility is not listed, data was not listed in Appendix D of the DEQ RBDM guidance document (DEQ, 2009).

FIGURES



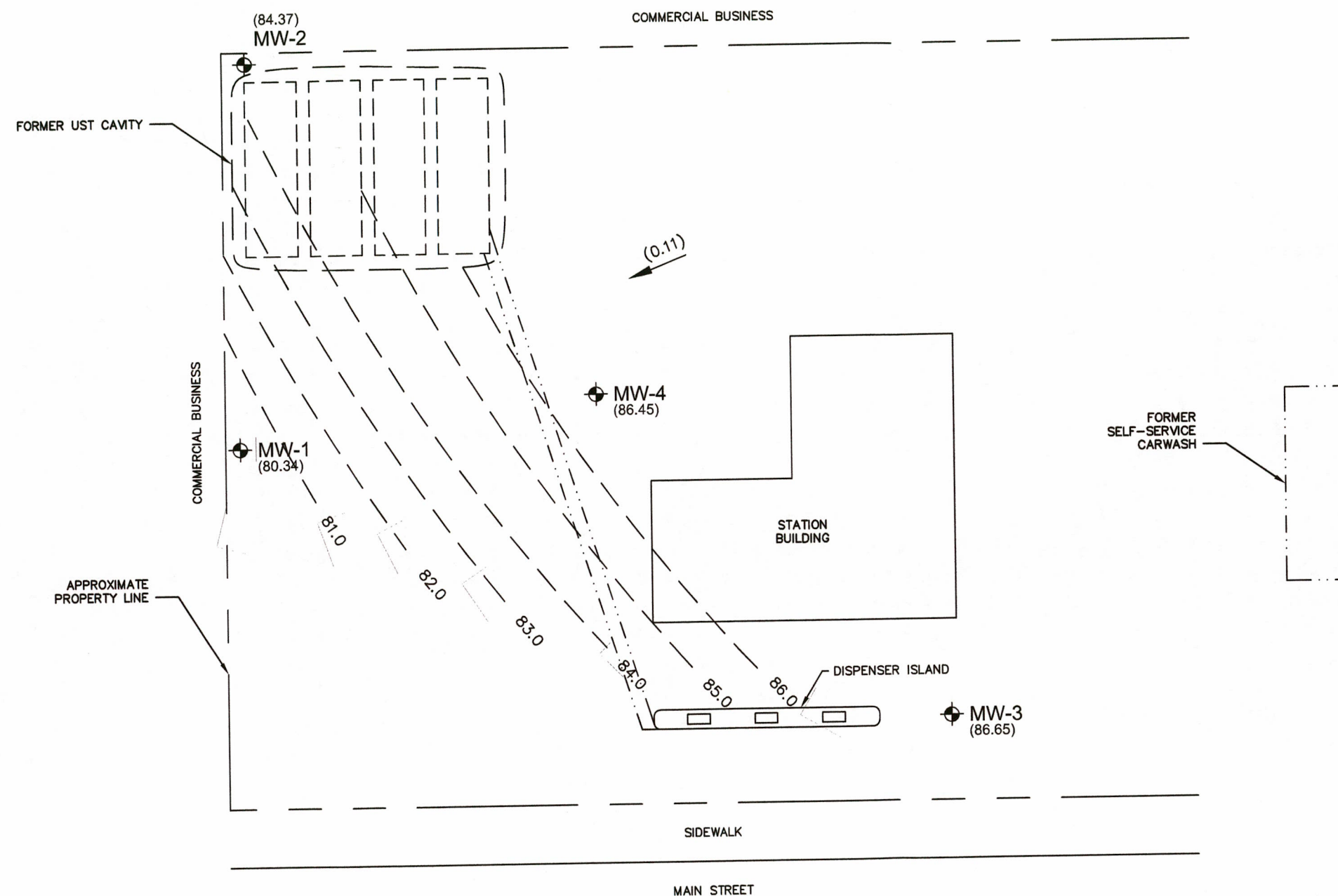
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VICINITY MAP

MOLALLA KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

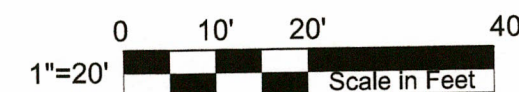
ECNW PROJ. No. 05-106

FIGURE 1



LEGEND

- UST Underground Storage Tank
- [] Former Underground Storage Tank
- - - Former Underground Product Piping Trench
- ⊕ Monitoring Well
- (86.65) Groundwater Elevation (Relative to an arbitrary benchmark)
- - - 86.0 Groundwater Elevation Contour
- (0.11) Approximate Groundwater Flow Direction and Gradient in Feet per Foot



ECN ENVIRONMENTAL
COMPLIANCE
NORTHWEST, INC.
(503) 372-9760

GROUNDWATER CONTOUR MAP
2ND QUARTER 2009

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 2

MW-2	
D	= ND
O	= ND
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= ND
MTBE	= ND
NPB	= ND
NAPH	= ND

FORMER UST CAVITY

MW-4	
D	= 1,460
O	= 310
B	= 682
T	= 7.28
E	= 769
X	= 248.2
1,2,4 TMB	= 594
EDB	= ND
EDC	= ND
1,3,5 TMB	= 76.7
IPB	= 133
MTBE	= 2.62
NPB	= 438
NAPH	= 347
LEAD	= 1.4
PAHs	SEE TABLE 2

MW-1	
D	= ND
O	= ND
B	= 0.910
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= ND
MTBE	= ND
NPB	= ND
NAPH	= ND

MW-3	
D	= 194
O	= ND
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= 1.21
MTBE	= ND
NPB	= ND
NAPH	= ND
LEAD	= 1.1

LEGEND

- UST Underground Storage Tank
- [] Former Underground Storage Tank
- - - Former Underground Product Piping Trench
- ⊕ Monitoring Well
- Dx Diesel-Range Hydrocarbons
- D Diesel
- O Lube Oil
- B Benzene
- T Toulene
- E Ethylbenzene
- X Total Xylenes
- TMB Trimethylbenzene
- EDB Ethylene Dibromide
- EDC Ethylene Dichloride
- IPB Isopropylbenzene
- MTBE Methyl-Tertiary Butyl Ether
- NPB N-Propylbenzene
- NAPH Naphthalene
- LEAD Dissolved Lead
- PAHs Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)

FORMER SELF-SERVICE CARWASH

STATION BUILDING

DISPENSER ISLAND

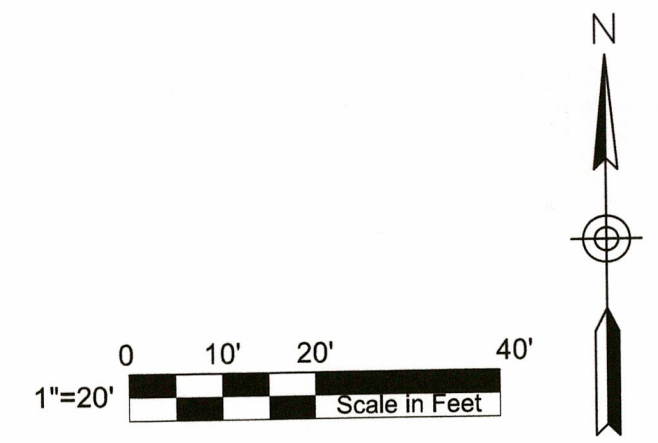
SIDEWALK

MAIN STREET

APPROXIMATE PROPERTY LINE

COMMERCIAL BUSINESS

COMMERCIAL BUSINESS



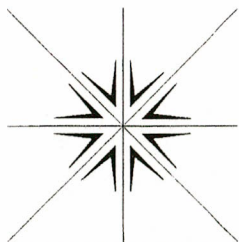
ECN ENVIRONMENTAL COMPLIANCE NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
2ND QUARTER 2009

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106 **FIGURE 3**

APPENDIX A



Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336

July 16, 2009

John Day
Environmental Compliance Northwest, Inc.
P.O. Box 230163
Portland, OR 97281
TEL: (503) 372-9760
FAX (503) 213-9980

RE: Powell-Molalla / 05-106

Dear John Day:

Order No.: 0907014

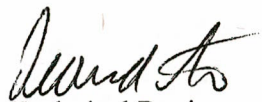
Specialty Analytical received 4 samples on 7/2/2009 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,


Cindy Hillyard
Project Manager


Technical Review

Specialty Analytical

Date: 16-Jul-09

CLIENT: Environmental Compliance Northwest, Inc.
Project: Powell-Molalla / 05-106**Lab Order:** 0907014**Lab ID:** 0907014-01**Collection Date:** 6/30/2009 8:30:00 AM**Client Sample ID:** MW-1**Matrix:** GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jrp
Diesel	ND	0.0863		mg/L	1	7/6/2009
Lube Oil	ND	0.216		mg/L	1	7/6/2009
Surr: o-Terphenyl	48.8	50-150	S,MI	%REC	1	7/6/2009
VOLATILE ORGANICS BY GC/MS		SW8260B				Analyst: bda
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
1,2-Dibromoethane	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
Benzene	0.910	0.300		µg/L	1	7/13/2009 10:45:00 AM
Ethylbenzene	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
Isopropylbenzene	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
m,p-Xylene	ND	2.00		µg/L	1	7/13/2009 10:45:00 AM
Methyl tert-butyl ether	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
n-Propylbenzene	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
Naphthalene	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
o-Xylene	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
Toluene	ND	1.00		µg/L	1	7/13/2009 10:45:00 AM
Surr: 1,2-Dichloroethane-d4	101	72.2-129		%REC	1	7/13/2009 10:45:00 AM
Surr: 4-Bromofluorobenzene	107	73.5-125		%REC	1	7/13/2009 10:45:00 AM
Surr: Dibromofluoromethane	99.0	58.8-148		%REC	1	7/13/2009 10:45:00 AM
Surr: Toluene-d8	109	79.8-137		%REC	1	7/13/2009 10:45:00 AM

Specialty Analytical

Date: 16-Jul-09

CLIENT: Environmental Compliance Northwest, Inc.
Project: Powell-Molalla / 05-106**Lab Order:** 0907014**Lab ID:** 0907014-02**Collection Date:** 6/30/2009 9:20:00 AM**Client Sample ID:** MW-2**Matrix:** GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jrp
Diesel	ND	0.0825		mg/L	1	7/6/2009
Lube Oil	ND	0.206		mg/L	1	7/6/2009
Surr: o-Terphenyl	58.1	50-150		%REC	1	7/6/2009
VOLATILE ORGANICS BY GC/MS		SW8260B				Analyst: bda
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
1,2-Dibromoethane	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
Benzene	ND	0.300		µg/L	1	7/13/2009 11:20:00 AM
Ethylbenzene	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
Isopropylbenzene	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
m,p-Xylene	ND	2.00		µg/L	1	7/13/2009 11:20:00 AM
Methyl tert-butyl ether	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
n-Propylbenzene	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
Naphthalene	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
o-Xylene	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
Toluene	ND	1.00		µg/L	1	7/13/2009 11:20:00 AM
Surr: 1,2-Dichloroethane-d4	100	72.2-129		%REC	1	7/13/2009 11:20:00 AM
Surr: 4-Bromofluorobenzene	106	73.5-125		%REC	1	7/13/2009 11:20:00 AM
Surr: Dibromofluoromethane	99.6	58.8-148		%REC	1	7/13/2009 11:20:00 AM
Surr: Toluene-d8	109	79.8-137		%REC	1	7/13/2009 11:20:00 AM

Specialty Analytical

Date: 16-Jul-09

CLIENT: Environmental Compliance Northwest, Inc.
Project: Powell-Molalla / 05-106

Lab Order: 0907014

Lab ID: 0907014-03

Collection Date: 6/30/2009 9:50:00 AM

Client Sample ID: MW-3

Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX						Analyst: jrp
Diesel	0.194	0.0814		mg/L	1	7/6/2009
Lube Oil	ND	0.203		mg/L	1	7/6/2009
Surr: o-Terphenyl	74.2	50-150		%REC	1	7/6/2009
DISSOLVED METALS BY ICP/MS						Analyst: zau
Lead	1.1	0.10		ug/L	1	7/6/2009 10:20:00 PM
LOW LEVEL PAH BY GC/MS OARSIM (8270C)						Analyst: bda
8270SIM						
Acenaphthene	0.0572	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Acenaphthylene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Anthracene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Benz(a)anthracene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Benzo(a)pyrene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Benzo(b)fluoranthene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Benzo(g,h,i)perylene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Benzo(k)fluoranthene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Chrysene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Dibenz(a,h)anthracene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Fluoranthene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Fluorene	0.124	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Naphthalene	0.734	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Phenanthrene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Pyrene	ND	0.0477		µg/L	1	7/8/2009 2:46:00 PM
Surr: 2-Fluorobiphenyl	63.3	18.6-106		%REC	1	7/8/2009 2:46:00 PM
Surr: Nitrobenzene-d5	69.1	17-130		%REC	1	7/8/2009 2:46:00 PM
Surr: p-Terphenyl-d14	69.3	39.6-131		%REC	1	7/8/2009 2:46:00 PM
VOLATILE ORGANICS BY GC/MS						Analyst: bda
SW8260B						
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/13/2009 11:54:00 AM
1,2-Dibromoethane	ND	1.00		µg/L	1	7/13/2009 11:54:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	7/13/2009 11:54:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/13/2009 11:54:00 AM
Benzene	ND	0.300		µg/L	1	7/13/2009 11:54:00 AM
Ethylbenzene	ND	1.00		µg/L	1	7/13/2009 11:54:00 AM
Isopropylbenzene	1.21	1.00		µg/L	1	7/13/2009 11:54:00 AM
m,p-Xylene	ND	2.00		µg/L	1	7/13/2009 11:54:00 AM
Methyl tert-butyl ether	ND	1.00		µg/L	1	7/13/2009 11:54:00 AM
n-Propylbenzene	ND	1.00		µg/L	1	7/13/2009 11:54:00 AM
Naphthalene	ND	1.00		µg/L	1	7/13/2009 11:54:00 AM
o-Xylene	ND	1.00		µg/L	1	7/13/2009 11:54:00 AM

Specialty Analytical

Date: 16-Jul-09

CLIENT: Environmental Compliance Northwest, Inc.
Project: Powell-Molalla / 05-106

Lab Order: 0907014

VOLATILE ORGANICS BY GC/MS

SW8260B

Analyst: bda

Toluene	ND	1.00	µg/L	1	7/13/2009 11:54:00 AM
Surr: 1,2-Dichloroethane-d4	102	72.2-129	%REC	1	7/13/2009 11:54:00 AM
Surr: 4-Bromofluorobenzene	102	73.5-125	%REC	1	7/13/2009 11:54:00 AM
Surr: Dibromofluoromethane	102	58.8-148	%REC	1	7/13/2009 11:54:00 AM
Surr: Toluene-d8	100	79.8-137	%REC	1	7/13/2009 11:54:00 AM

Specialty Analytical

Date: 16-Jul-09

CLIENT: Environmental Compliance Northwest, Inc.
Project: Powell-Molalla / 05-106

Lab Order: 0907014

Lab ID: 0907014-04

Collection Date: 6/30/2009 10:50:00 AM

Client Sample ID: MW-4

Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX						
				NWTPH-DX		
				Analyst: jrp		
Diesel	1.46	0.0832		mg/L	1	7/6/2009
Lube Oil	0.310	0.208		mg/L	1	7/6/2009
Surr: o-Terphenyl	58.6	50-150		%REC	1	7/6/2009
DISSOLVED METALS BY ICP/MS						
				SW6020		
				Analyst: zau		
Lead	1.4	0.10		ug/L	1	7/6/2009 10:27:00 PM
LOW LEVEL PAH BY GC/MS OARSIM (8270C)						
				8270SIM		
				Analyst: bda		
Acenaphthene	0.191	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Acenaphthylene	0.0765	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Anthracene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Benz(a)anthracene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Benzo(a)pyrene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Benzo(b)fluoranthene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Benzo(g,h,i)perylene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Benzo(k)fluoranthene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Chrysene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Dibenz(a,h)anthracene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Fluoranthene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Fluorene	0.229	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Naphthalene	179	0.478		µg/L	10	7/8/2009 5:28:00 PM
Phenanthrene	0.143	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Pyrene	0.0478	0.0478		µg/L	1	7/8/2009 3:18:00 PM
Surr: 2-Fluorobiphenyl	59.8	18.6-106		%REC	1	7/8/2009 3:18:00 PM
Surr: Nitrobenzene-d5	65.8	17-130		%REC	1	7/8/2009 3:18:00 PM
Surr: p-Terphenyl-d14	65.8	39.6-131		%REC	1	7/8/2009 3:18:00 PM
VOLATILE ORGANICS BY GC/MS						
				SW8260B		
				Analyst: bda		
1,2,4-Trimethylbenzene	594	10.0		µg/L	10	7/13/2009 1:38:00 PM
1,2-Dibromoethane	ND	1.00		µg/L	1	7/13/2009 12:29:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	7/13/2009 12:29:00 PM
1,3,5-Trimethylbenzene	76.7	1.00		µg/L	1	7/13/2009 12:29:00 PM
Benzene	682	3.00		µg/L	10	7/13/2009 1:38:00 PM
Ethylbenzene	769	10.0		µg/L	10	7/13/2009 1:38:00 PM
Isopropylbenzene	133	1.00		µg/L	1	7/13/2009 12:29:00 PM
m,p-Xylene	200	2.00		µg/L	1	7/13/2009 12:29:00 PM
Methyl tert-butyl ether	2.62	1.00		µg/L	1	7/13/2009 12:29:00 PM
n-Propylbenzene	438	10.0		µg/L	10	7/13/2009 1:38:00 PM
Naphthalene	347	10.0		µg/L	10	7/13/2009 1:38:00 PM
o-Xylene	48.2	1.00		µg/L	1	7/13/2009 12:29:00 PM

Specialty Analytical

Date: 16-Jul-09

CLIENT: Environmental Compliance Northwest, Inc.
Project: Powell-Molalla / 05-106

Lab Order: 0907014

VOLATILE ORGANICS BY GC/MS

SW8260B

Analyst: bda

Toluene	7.28	1.00	µg/L	1	7/13/2009 12:29:00 PM
Surr: 1,2-Dichloroethane-d4	93.8	72.2-129	%REC	1	7/13/2009 12:29:00 PM
Surr: 4-Bromofluorobenzene	92.5	73.5-125	%REC	1	7/13/2009 12:29:00 PM
Surr: Dibromofluoromethane	95.6	58.8-148	%REC	1	7/13/2009 12:29:00 PM
Surr: Toluene-d8	90.9	79.8-137	%REC	1	7/13/2009 12:29:00 PM

Specialty Analytical

Date: 16-Jul-09

CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 0907014
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WDISS

Sample ID	0907003-03GMS	SampType: MS	TestCode: 6020_WDISS	Units: ug/L	Prep Date: 7/6/2009	Run ID: ICPMS_090706D					
Client ID:	ZZZZZ	Batch ID: 23596	TestNo: SW6020		Analysis Date: 7/6/2009	SeqNo: 614345					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	47.66	0.10	50	0	95.3	70	130	0	0		

Sample ID	0907003-03GMSD	SampType: MSD	TestCode: 6020_WDISS	Units: ug/L	Prep Date: 7/6/2009	Run ID: ICPMS_090706D					
Client ID:	ZZZZZ	Batch ID: 23596	TestNo: SW6020		Analysis Date: 7/6/2009	SeqNo: 614346					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	45.95	0.10	50	0	91.9	70	130	47.66	3.65	20	

Sample ID	0907003-03GDUP	SampType: DUP	TestCode: 6020_WDISS	Units: ug/L	Prep Date: 7/6/2009	Run ID: ICPMS_090706D					
Client ID:	ZZZZZ	Batch ID: 23596	TestNo: SW6020		Analysis Date: 7/6/2009	SeqNo: 614344					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.10	0	0	0	0	0	0	0	20	

Sample ID	CCV	SampType: CCV	TestCode: 6020_WDISS	Units: ug/L	Prep Date:	Run ID: ICPMS_090706D					
Client ID:	ZZZZZ	Batch ID: 23596	TestNo: SW6020		Analysis Date: 7/6/2009	SeqNo: 614337					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	47.18	0.10	50	0	94.4	90	110	0	0		

Sample ID	CCV	SampType: CCV	TestCode: 6020_WDISS	Units: ug/L	Prep Date:	Run ID: ICPMS_090706D					
Client ID:	ZZZZZ	Batch ID: 23596	TestNo: SW6020		Analysis Date: 7/6/2009	SeqNo: 614339					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	47.77	0.10	50	0	95.5	90	110	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 0907014
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WDISS

Sample ID	CCV	SampType:	CCV	TestCode:	6020_WDISS	Units:	ug/L	Prep Date:		Run ID:	ICPMS_090706D				
Client ID:	ZZZZZ	Batch ID:	23596	TestNo:	SW6020			Analysis Date:	7/6/2009	SeqNo:	614340				
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Lead		48.33		0.10	50	0		96.7	90	110	0		0		

Sample ID	CCV	SampType:	CCV	TestCode:	6020_WDISS	Units:	ug/L	Prep Date:		Run ID:	ICPMS_090706D				
Client ID:	ZZZZZ	Batch ID:	23596	TestNo:	SW6020			Analysis Date:	7/6/2009	SeqNo:	614349				
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Lead		46.62		0.10	50	0		93.2	90	110	0		0		

Sample ID	CCV	SampType:	CCV	TestCode:	6020_WDISS	Units:	ug/L	Prep Date:		Run ID:	ICPMS_090706D				
Client ID:	ZZZZZ	Batch ID:	23596	TestNo:	SW6020			Analysis Date:	7/6/2009	SeqNo:	614356				
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Lead		47.78		0.10	50	0		95.6	90	110	0		0		

Sample ID	ICB-23596	SampType:	ICB	TestCode:	6020_WDISS	Units:	ug/L	Prep Date:	7/6/2009	Run ID:	ICPMS_090706D				
Client ID:	ZZZZZ	Batch ID:	23596	TestNo:	SW6020			Analysis Date:	7/6/2009	SeqNo:	614338				
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Lead		-0.08306		0.10	0	0		0	0	0	0		0		

Sample ID	ICV	SampType:	ICV	TestCode:	6020_WDISS	Units:	ug/L	Prep Date:		Run ID:	ICPMS_090706D				
Client ID:	ZZZZZ	Batch ID:	23596	TestNo:	SW6020			Analysis Date:	7/6/2009	SeqNo:	614336				
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Lead		48.63		0.10	50	0		97.3	90	110	0		0		

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Environmental Compliance Northwest, Inc.

Work Order: 0907014

Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID	MB-23621	SampType:	MBLK	TestCode:	8260_W	Units:	µg/L	Prep Date:	7/12/2009	Run ID:	5973J_090713A
Client ID:	ZZZZZ	Batch ID:	23621	TestNo:	SW8260B			Analysis Date:	7/13/2009	SeqNo:	615411
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.00									
1,2-Dibromoethane	ND	1.00									
1,2-Dichloroethane	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
Benzene	ND	0.300									
Ethylbenzene	0.2	1.00									J
Isopropylbenzene	ND	1.00									
m,p-Xylene	0.11	2.00									J
Methyl tert-butyl ether	ND	1.00									
n-Propylbenzene	ND	1.00									
Naphthalene	ND	1.00									
o-Xylene	ND	1.00									
Toluene	0.11	1.00									J
Surr: 1,2-Dichloroethane-d4	100.6	0	100	0	101	72.2	129	0	0		
Surr: 4-Bromofluorobenzene	106.3	0	100	0	106	73.5	125	0	0		
Surr: Dibromofluoromethane	99.49	0	100	0	99.5	58.8	148	0	0		
Surr: Toluene-d8	110.3	0	100	0	110	79.8	137	0	0		

Sample ID	LCS-23621	SampType:	LCS	TestCode:	8260_W	Units:	µg/L	Prep Date:	7/12/2009	Run ID:	5973J_090713A
Client ID:	ZZZZZ	Batch ID:	23621	TestNo:	SW8260B			Analysis Date:	7/13/2009	SeqNo:	615410
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	46.88	0.300	40	0	117	77.9	125	0	0		
Toluene	44.73	1.00	40	0.11	112	74.6	119	0	0		

Sample ID	A0907025-03BMS	SampType:	MS	TestCode:	8260_W	Units:	µg/L	Prep Date:	7/12/2009	Run ID:	5973J_090713A
Client ID:	ZZZZZ	Batch ID:	23621	TestNo:	SW8260B			Analysis Date:	7/14/2009	SeqNo:	615695
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	46.73	0.300	40	0	117	71.5	118	0	0		
Toluene	45.2	1.00	40	0	113	79.6	121	0	0		

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CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 0907014
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID	A0907025-03BMSD	SampType:	MSD	TestCode:	8260_W	Units:	µg/L	Prep Date:	7/12/2009	Run ID:	5973J_090713A	
Client ID:	ZZZZZ	Batch ID:	23621	TestNo:	SW8260B			Analysis Date:	7/14/2009	SeqNo:	615696	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		46.33	0.300	40	0	116	71.5	118	46.73	0.860	20	
Toluene		44.69	1.00	40	0	112	79.6	121	45.2	1.13	20	

Sample ID	CCV-23621	SampType:	CCV	TestCode:	8260_W	Units:	µg/L	Prep Date:		Run ID:	5973J_090713A	
Client ID:	ZZZZZ	Batch ID:	23621	TestNo:	SW8260B			Analysis Date:	7/13/2009	SeqNo:	615409	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene		38.88	1.00	40	0	97.2	80	120	0	0		
Toluene		38.99	1.00	40	0	97.5	80	120	0	0		

Sample ID	CCV-23621	SampType:	CCV	TestCode:	8260_W	Units:	µg/L	Prep Date:		Run ID:	5973J_090713A	
Client ID:	ZZZZZ	Batch ID:	23621	TestNo:	SW8260B			Analysis Date:	7/14/2009	SeqNo:	615635	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene		38.36	1.00	40	0	95.9	80	120	0	0		
Toluene		38.07	1.00	40	0	95.2	80	120	0	0		

Sample ID	CCV-23621	SampType:	CCV	TestCode:	8260_W	Units:	µg/L	Prep Date:		Run ID:	5973J_090713A	
Client ID:	ZZZZZ	Batch ID:	23621	TestNo:	SW8260B			Analysis Date:	7/15/2009	SeqNo:	615839	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene		43.76	1.00	40	0	109	80	120	0	0		
Toluene		43.74	1.00	40	0	109	80	120	0	0		

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CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 0907014
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHDXLL_W

Sample ID	MB-23586	SampType:	MBLK	TestCode:	NWTPHDXLL	Units:	mg/L	Prep Date:	7/6/2009	Run ID:	GC-M_090706B	
Client ID:	ZZZZZ	Batch ID:	23586	TestNo:	NWTPH-Dx			Analysis Date:	7/6/2009	SeqNo:	614283	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel		ND	0.0800									
Lube Oil		ND	0.200									
Surr: o-Terphenyl		0.1334	0	0.2	0	66.7	50	150	0	0		

Sample ID	LCS-23586	SampType:	LCS	TestCode:	NWTPHDXLL	Units:	mg/L	Prep Date:	7/6/2009	Run ID:	GC-M_090706B	
Client ID:	ZZZZZ	Batch ID:	23586	TestNo:	NWTPH-Dx			Analysis Date:	7/6/2009	SeqNo:	614284	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel		0.8573	0.0800	1	0	85.7	60.7	121	0	0		
Lube Oil		0.6869	0.200	1	0	68.7	64	126	0	0		

Sample ID	LCSD-23586	SampType:	LCSD	TestCode:	NWTPHDXLL	Units:	mg/L	Prep Date:	7/6/2009	Run ID:	GC-M_090706B	
Client ID:	ZZZZZ	Batch ID:	23586	TestNo:	NWTPH-Dx			Analysis Date:	7/6/2009	SeqNo:	614285	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel		0.7731	0.0800	1	0	77.3	60.7	121	0.8573	10.3	20	
Lube Oil		0.6667	0.200	1	0	66.7	64	126	0.6869	2.98	20	

Sample ID	CCV	SampType:	CCV	TestCode:	NWTPHDXLL	Units:	mg/L	Prep Date:		Run ID:	GC-M_090706B	
Client ID:	ZZZZZ	Batch ID:	23586	TestNo:	NWTPH-Dx			Analysis Date:	7/6/2009	SeqNo:	614282	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel		7.595	0.0800	8	0	94.9	85	115	0	0		
Lube Oil		3.756	0.200	4	0	93.9	85	115	0	0		

Sample ID	CCV	SampType:	CCV	TestCode:	NWTPHDXLL	Units:	mg/L	Prep Date:		Run ID:	GC-M_090706B	
Client ID:	ZZZZZ	Batch ID:	23586	TestNo:	NWTPH-Dx			Analysis Date:	7/6/2009	SeqNo:	614290	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel		5.771	0.0800	6	0	96.2	85	115	0	0		

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B - Analyte detected in the associated Method Blank

CLIENT: Environmental Compliance Northwest, Inc.

Work Order: 0907014

Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHDXLL_W

Sample ID	CCV	SampType:	CCV	TestCode:	NWTPHDXLL	Units:	mg/L	Prep Date:		Run ID:	GC-M_090706B	
Client ID:	ZZZZZ	Batch ID:	23586	TestNo:	NWTPH-Dx			Analysis Date:	7/6/2009	SeqNo:	614290	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lube Oil		2.851	0.200	3	0	95	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank

CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 0907014
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: PAHLL_W

Sample ID	MB-23605	SampType:	MBLK	TestCode:	PAHLL_W	Units:	µg/L	Prep Date:	7/8/2009	Run ID:	5975Q_090708A
Client ID:	ZZZZZ	Batch ID:	23605	TestNo:	8270SIM			Analysis Date:	7/8/2009	SeqNo:	614881
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.0500									
Acenaphthylene	ND	0.0500									
Anthracene	ND	0.0500									
Benz(a)anthracene	0.01	0.0500									J
Benzo(a)pyrene	ND	0.0500									
Benzo(b)fluoranthene	ND	0.0500									
Benzo(g,h,i)perylene	ND	0.0500									
Benzo(k)fluoranthene	ND	0.0500									
Chrysene	ND	0.0500									
Dibenz(a,h)anthracene	ND	0.0500									
Fluoranthene	0.01	0.0500									J
Fluorene	0.01	0.0500									J
Indeno(1,2,3-cd)pyrene	ND	0.0500									
Naphthalene	0.02	0.0500									J
Phenanthrene	0.01	0.0500									J
Pyrene	ND	0.0500									
Surr: 2-Fluorobiphenyl	67.29	1.00	100	0	67.3	18.6	106	0	0		
Surr: Nitrobenzene-d5	83.22	1.00	100	0	83.2	17	130	0	0		
Surr: p-Terphenyl-d14	73.28	1.00	100	0	73.3	39.6	131	0	0		

Sample ID	LCS-23605	SampType:	LCS	TestCode:	PAHLL_W	Units:	µg/L	Prep Date:	7/8/2009	Run ID:	5975Q_090708A
Client ID:	ZZZZZ	Batch ID:	23605	TestNo:	8270SIM			Analysis Date:	7/8/2009	SeqNo:	614882
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	3.39	0.0500	5	0	67.8	35.1	100	0	0		
Benzo(g,h,i)perylene	4.77	0.0500	5	0	95.4	20.8	120	0	0		
Chrysene	3.83	0.0500	5	0	76.6	39.1	119	0	0		
Naphthalene	3.46	0.0500	5	0.02	68.8	25.6	106	0	0		
Phenanthrene	3.76	0.0500	5	0.01	75	38.1	106	0	0		
Pyrene	3.96	0.0500	5	0	79.2	41.3	118	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank

CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 0907014
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: PAHLL_W

Sample ID	LCSD-23605	SampType: LCSD	TestCode: PAHLL_W	Units: µg/L	Prep Date: 7/8/2009	Run ID: 5975Q_090708A					
Client ID:	ZZZZZ	Batch ID: 23605	TestNo: 8270SIM		Analysis Date: 7/8/2009	SeqNo: 614883					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	3.52	0.0500	5	0	70.4	35.1	100	3.39	3.76	20	
Benzo(g,h,i)perylene	4.89	0.0500	5	0	97.8	20.8	120	4.77	2.48	20	
Chrysene	3.87	0.0500	5	0	77.4	39.1	119	3.83	1.04	20	
Naphthalene	3.71	0.0500	5	0.02	73.8	25.6	106	3.46	6.97	20	
Phenanthrene	3.86	0.0500	5	0.01	77	38.1	106	3.76	2.62	20	
Pyrene	4.01	0.0500	5	0	80.2	41.3	118	3.96	1.25	20	

Sample ID	CCV-23605	SampType: CCV	TestCode: PAHLL_W	Units: µg/L	Prep Date:				Run ID: 5975Q_090708A		
Client ID:	ZZZZZ	Batch ID: 23605	TestNo: 8270SIM		Analysis Date: 7/8/2009				SeqNo: 614880		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	4.76	0.0500	5	0	95.2	70	130	0	0		
Acenaphthylene	3.81	0.0500	5	0	76.2	70	130	0	0		
Anthracene	4.73	0.0500	5	0	94.6	70	130	0	0		
Benz(a)anthracene	5.12	0.0500	5	0	102	70	130	0	0		
Benzo(a)pyrene	4.75	0.0500	5	0	95	70	130	0	0		
Benzo(b)fluoranthene	4.94	0.0500	5	0	98.8	70	130	0	0		
Benzo(g,h,i)perylene	6.32	0.0500	5	0	126	70	130	0	0		
Benzo(k)fluoranthene	5.43	0.0500	5	0	109	70	130	0	0		
Chrysene	4.95	0.0500	5	0	99	70	130	0	0		
Dibenz(a,h)anthracene	4.95	0.0500	5	0	99	70	130	0	0		
Fluoranthene	5.37	0.0500	5	0	107	70	130	0	0		
Fluorene	5.11	0.0500	5	0	102	70	130	0	0		
Indeno(1,2,3-cd)pyrene	4.98	0.0500	5	0	99.6	70	130	0	0		
Naphthalene	5.01	0.0500	5	0	100	70	130	0	0		
Phenanthrene	5	0.0500	5	0	100	70	130	0	0		
Pyrene	5.12	0.0500	5	0	102	70	130	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
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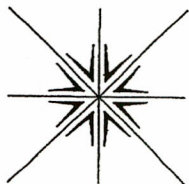
S - Spike Recovery outside accepted recovery limits
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KEY TO FLAGS

- A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards.
- A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
- A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
- A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- CN See Case Narrative.
- D Result is based from a dilution.
- E Result exceeds the calibration range for this compound. The result should be considered as estimate.
- F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
- H Sample was analyzed outside recommended hold time.
- HT At clients request, sample was analyzed outside recommended hold time.
- J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
- K Diesel result is biased high due to amount of Oil contained in the sample.
- L Diesel result is biased high due to amount of Gasoline contained in the sample.
- M Oil result is biased high due to amount of Diesel contained in the sample.
- N Gasoline result is biased high due to amount of Diesel contained in the sample.
- MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
- MI Result is outside control limits due to matrix interference.
- MSA Value determined by Method of Standard Addition.
- O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
- P Detection levels of Methylene Chloride may be laboratory contamination, due to previous analysis or background levels.
- Q Detection levels elevated due to sample matrix.
- R RPD control limits were exceeded.
- RF Duplicate failed due to result being at or near the method-reporting limit.
- RP Matrix spike values exceed established QC limits, post digestion spike is in control.
- S Recovery is outside control limits.
- SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
- * The result for this parameter was greater than the maximum contaminant level of the TCLP regulatory limit.

Page 1 of 1



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Company ECN
Address PO Box 230163
Portland, OR 97281
Phone 377-9760 Fax 213-9980
Project No. 05-106 Project Name Powell-Motalla
Project Site Location OR X WA _____ Other _____
Invoice To _____ P.O. No. _____

Collected By:

Signature

Printed

Signature.

Printed

Turn Around Time

☒ Normal 5-7 Business Days☐ Rush

Specify

Rush Analyses Must Be Scheduled With The Lab In Advance

[illegible]

Copies: White-Original

Yellow-Project File

Pink-Customer Copy