

**FOURTH QUARTER 2010
GROUNDWATER MONITORING REPORT**

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

ECN PROJECT NO. 05-106



February 18, 2011



ENVIRONMENTAL COMPLIANCE NORTHWEST

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February 18, 2011
ECN Project No. 05-106

Mr. Jason Powell
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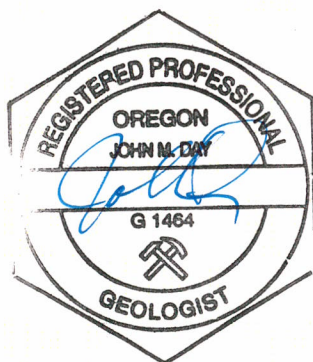
**SUBJECT: Fourth Quarter 2010
Groundwater Monitoring Report
Former Molalla Kwik Gas
305 West Main Street
Molalla, Oregon
DEQ LUST File No.: 03-05-461**

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 fourth quarter 2010 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

building. Grab groundwater samples were collected from four of the borings. Petroleum hydrocarbons were detected in each grab groundwater sample collected.

Between September and October 2006, the UST system (consisting of four USTs and underground product piping) were decommissioned by removal. Two soil samples were collected from beneath each UST. In addition, one soil sample was collected from the south sidewall of the UST cavity and from beneath each of the three former fuel dispensers.

Petroleum hydrocarbons were not detected the soil samples collected from beneath the former USTs, with the exception of the southeastern portion of the former UST cavity, near the location where the product piping entered the cavity. Gasoline- and diesel-range hydrocarbons were detected in the soil samples collected from the former fuel dispensers (ECN, 2007).

A total of four monitoring wells (MW-1 through MW-4) were installed and two soil borings (B-101 and B-102) were completed in May 2007. The locations of the monitoring wells are shown on Figures 2 and 3. Borings B-101 and B-102 were drilled north and east of the existing building, respectively, to further define soil and groundwater impacts. Laboratory results indicated that the highest petroleum hydrocarbons were detected in the samples collected from MW-4, located adjacent to the former underground product piping. Lower petroleum hydrocarbon concentrations were detected in the other three monitoring wells, as well as in boring B-102 (ECN, 2010a).

Groundwater monitoring has been conducted at the site since the monitoring wells were installed.

A work plan for additional site assessment activities, including installation of two additional monitoring wells, and a proposal for risk-based corrective action plan (RBCAP) development was submitted to DEQ on December 10, 2010. In February 2011, DEQ responded, generally agreeing with the work plan and requested installation of soil gas sampling points to further assess the vapor intrusion to building exposure pathway. The additional field activities are planned for early spring 2011.

4.0 FIELD ACTIVITIES

Field procedures for the fourth quarter 2010 groundwater monitoring and sampling were performed in accordance with DEQ guidelines. On December 30, 2010, depth to groundwater was measured and groundwater samples were collected monitoring wells MW-1 through MW-4. Prior to purging and sampling, the depth to water in the wells was measured from a permanent

mark on top the well casing to the nearest 0.01-foot using an electronic water level indicator. The depth to water and top of casing elevation data were used to calculate the groundwater elevation in each well in reference to mean sea level (MSL). The survey data and historic groundwater elevation measurements collected through the fourth quarter 2010 monitoring event are presented in Table 1.

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 fourth quarter 2010 monitoring event was analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX). Groundwater samples collected from wells MW-3 and MW-4 were analyzed for DEQ risk-based decision making (RBDM) volatile organic compounds (VOCs) by EPA Method 8260B. In addition to BTEX, the RBDM VOCs include: 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, and gasoline-range hydrocarbons by Northwest Method NWTPH-Gx. The groundwater sample from MW-4 was also 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 fourth quarter 2010 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 December 30, 2010, ranged from 3.27 to 6.08 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 0.029 feet per foot. Compared to the third quarter 2010 monitoring data, groundwater elevations in the monitoring wells increased between 1.80 and 10.30 feet.

The groundwater elevation and flow direction data for the fourth quarter 2010 monitoring event are shown on Figure 2.

Chemical Results

MW-1 and MW-2: Diesel-, lube oil-, and gasoline-range hydrocarbons; and BTEX constituents were not detected at or above the corresponding laboratory reporting limits.

MW-3: Diesel-range hydrocarbons (154 micrograms per liter [$\mu\text{g/L}$]), and gasoline-range hydrocarbons (245 $\mu\text{g/L}$) were detected. RBDM VOCs were not detected at or above the laboratory reporting limits.

MW-4: Diesel-range hydrocarbons (1,760 $\mu\text{g/L}$); lube oil-range hydrocarbons (365 $\mu\text{g/L}$); gasoline-range hydrocarbons (10,200 $\mu\text{g/L}$); benzene (449 $\mu\text{g/L}$); toluene (4.26 $\mu\text{g/L}$); ethylbenzene (395 $\mu\text{g/L}$); total xylenes (127.9 $\mu\text{g/L}$); 1,2,4-TMB (142 $\mu\text{g/L}$); 1,3,5-TMB (17.7 $\mu\text{g/L}$); IPB (117 $\mu\text{g/L}$); MTBE (1.64 $\mu\text{g/L}$); NPB (372 $\mu\text{g/L}$); naphthalene (160 $\mu\text{g/L}$); and dissolved lead (1.8 $\mu\text{g/L}$) were detected. The following PAHs were also detected: acenaphthene (0.215 $\mu\text{g/L}$); acenaphthylene (0.0782 $\mu\text{g/L}$); fluorine (0.224 $\mu\text{g/L}$); naphthalene (61.7 $\mu\text{g/L}$); and phenanthrene (0.166 $\mu\text{g/L}$).

The groundwater sampling results for the fourth quarter 2010 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 fourth quarter 2010 monitoring event exceeded the potentially applicable exposure pathway RBCs.

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 elevation direction data, it appears that the generalized shallow water-bearing zone flow direction varies between west-southwest and southwest at varying gradients. The hydraulic gradient calculated for the fourth quarter 2010 monitoring event is an order of magnitude less than the third quarter 2010 monitoring event.

None of the groundwater collected during the fourth quarter 2010 groundwater sampling event exceeded the potentially complete exposure pathway RBCs.

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 3.
- ECN, 2010e. Second Quarter 2009 Groundwater Monitoring Report, Former Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. December 4.
- ECN, 2010f. Third Quarter 2009 Groundwater Monitoring Report, Former Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. December 5.
- ECN, 2010g. Fourth Quarter 2009 Groundwater Monitoring Report, Former Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. December 6.
- ECN, 2010h. First Quarter 2010 Groundwater Monitoring Report, Former Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. December 7.
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- ECN, 2010j. Third Quarter 2010 Groundwater Monitoring Report, Former Molalla Kwik Gas, 305 West Main Street, Molalla, Oregon, DEQ File No. 03-05-461. December 9.
- 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	---	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	---	SA		
	9/29/2009	94.77	20.13	74.64	-5.70	ND<249	ND<498	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	SA		
	12/26/2009	94.77	10.54	84.23	9.59	ND<243	ND<487	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	SA		
	3/30/2010	94.77	8.74	86.03	1.80	ND<77.1	ND<193	ND<100	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	---	SA		
	6/30/2010	94.77	12.83	81.94	-4.09	ND<76.1	ND<190	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	SA		
	9/28/2010	94.77	16.38	78.39	-3.55	ND<82.6	ND<210	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	SA		
	12/30/2010	94.77	6.08	88.69	10.30	ND<78.4	ND<196	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	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	---	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	7.60	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	---	SA		
	9/29/2009	93.73	14.09	79.64	-4.73	ND<485	ND<971	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	SA		
	12/26/2009	93.73	4.03	89.70	10.06	ND<275	ND<552	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	SA		
	3/30/2010	93.73	3.42	90.31	0.61	ND<77.8	ND<195	ND<100	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	---	SA		
	6/30/2010	93.73	8.12	85.61	-4.70	ND<76.6	ND<192	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	SA		
	9/28/2010	93.73	9.23	84.50	-1.11	ND<78.7	ND<197	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	SA		
	12/30/2010	93.73	3.27	90.46	5.96	ND<76.8	ND<192	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	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	---	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	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	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	ND<1.00	ND<1.00	ND<1.00	1.1	SA		
	9/29/2009	93.44	8.96	84.48	-2.17	275	ND<482	631	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	1.8	SA		
	12/26/2009	93.44	4.39	89.05	4.57	336	ND<513	245	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	0.96	SA		
	3/30/2010	93.44	4.09	89.35	0.30	216	235	477	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	1.48	SA		
	6/30/2010	93.44	6.31	87.13	-2.22	291	215	749	1.26	ND<1.00	1.70	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA		
	9/28/2010	93.44	5.71	87.73	0.60	257	ND<193	338	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	---	SA		
	12/30/2010	93.44	3.91	89.53	1.80	154	ND<195	245	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	---	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	-3.40	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	
	9/29/2009	94.10	12.75	81.35	-5.10	2,760	805	13,300	925	7.07	889	30.00	30.4	ND<1.00	ND<1.00	34.3	115	7.16	395	540	1.5	SA	
	12/26/2009	94.10	4.36	89.74	8.39	2,730	1,020	21,100	397	4.84	435	361.2	451	ND<1.00	ND<1.00	25.5	114	1.43	245	509	ND<0.10	SA	
	3/30/2010	94.10	4.55	89.55	-0.19	1,094	532	12,200	594	5.31	634	330.9	530	ND<1.00	ND<1.00	60.4	128	ND<1.00	515	274	1.8	SA	
	6/30/2010	94.10	6.49	87.61	-1.94	2,350	585	11,600	705	5.27	419	396.2	115	ND<1.00	ND<1.00	35.6	117	2.17	368	136	---	SA	
	9/28/2010	94.10	7.12	86.98	-0.63	1,410	244	18,100	470	7.34	776	432.2	65.0	ND<1.00	ND<1.00	665	153	2.80	554	756	2.4	SA	
	12/30/2010	94.10	3.82	90.28	3.30	1,760	365	10,200	449	4.26	395	127.9	142	ND<1.00	ND<1.00	17.7	117	1.64	372	160	1.8	SA	
Risk-Based Concentrations [5]																							
- Volatilization to Outdoor Air (Occupational)						>S	NE	>S	14,000	>S	41,000	>S	>S	960	9,500	6,800	>S	1,000,000	NE	16,000	NV		
- Vapor Intrusion Into Buildings (Occupational)						>S	NE	>S	2,800	>S	7,400	>S	>S	690	3,800	41,000	>S	590,000	NE	10,000	NV		
- Groundwater in an Excavation (Construction and Excavation Worker)						>S	NE	13,000	1,700	210,000	4,400	23,000	1,700	28	630	1,400	>S	62,000	NE	500	>S		

ABBREVIATIONS:
B: Benzene
T: Toluene
E: Ethylbenzene
X: Total Xylenes
MTBE: Metyl 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

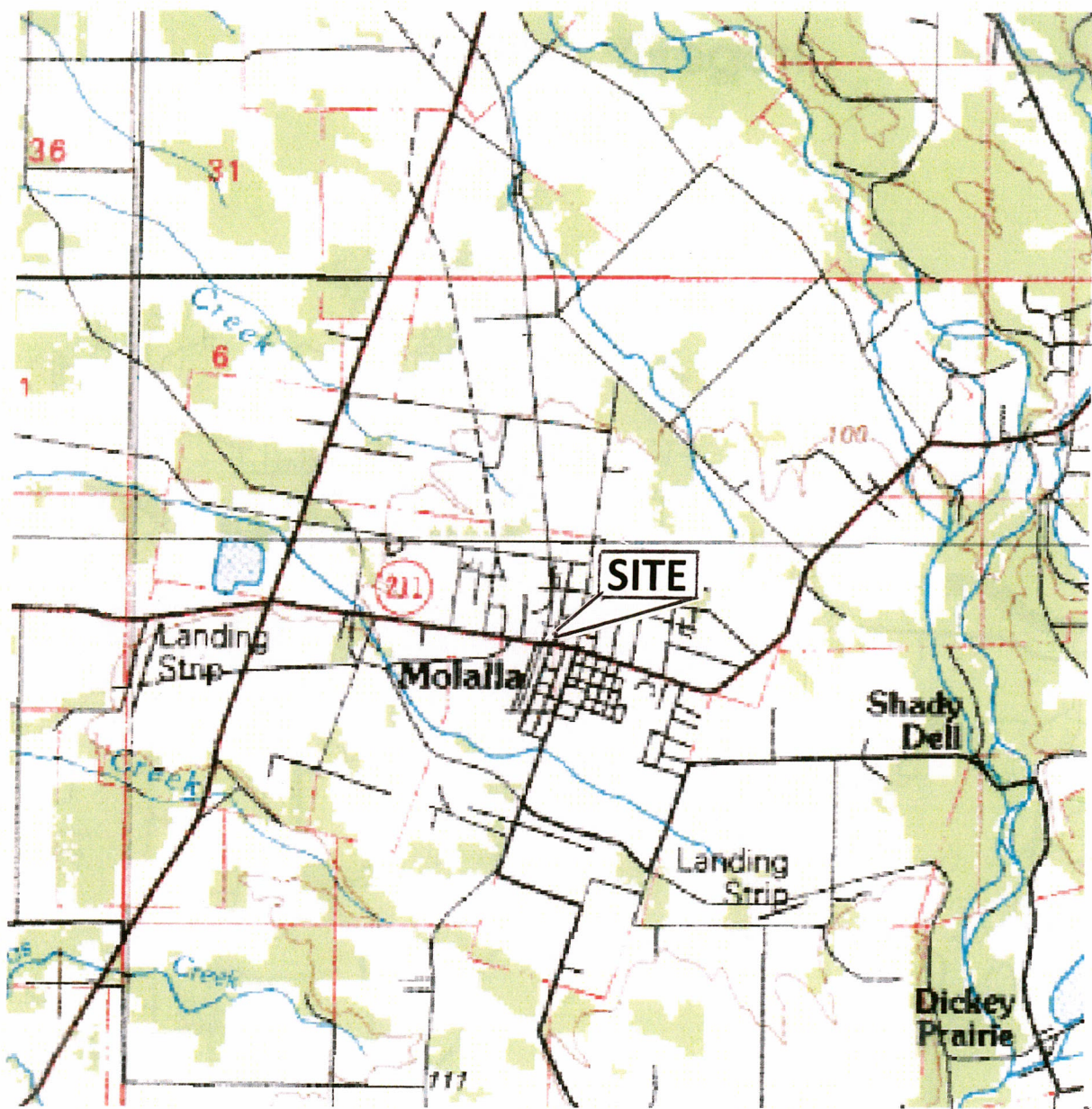


Polynuclear Aromatic Hydrocarbons (µg/L) [1]		Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoroanthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	LAB
Sample 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
	6/30/2010	0.0576	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	0.182	ND<0.0480	0.480	ND<0.0480	ND<0.0480	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
	9/29/2009	0.172	0.0858	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	0.210	ND<0.0477	145	0.0953	ND<0.0477	SA
	12/26/2009	0.282	0.126	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	0.366	ND<0.0523	200	0.209	ND<0.0523	SA
	3/30/2010	0.209	0.112	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	0.316	ND<0.0500	150	0.179	ND<0.0500	SA
	6/30/2010	0.165	0.0778	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	0.223	ND<0.0486	30.9	0.0973	ND<0.0486	SA
	9/28/2010	0.265	0.128	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	0.402	ND<0.0491	244	0.275	ND<0.0491	SA
	12/30/2010	0.215	0.0782	ND<0.0489	ND<0.0489	ND<0.0489	ND<0.0489	ND<0.0489	ND<0.0489	ND<0.0489	ND<0.0489	ND<0.0489	0.244	ND<0.0489	61.7	0.166	ND<0.0489	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																		

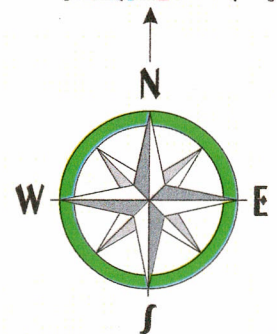
ND not detected at or above the indicated laboratory reporting limit
SA Specialty Analytical
µg/L Micrograms per Liter

[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



Reference: USGS Topographic Map
Oregon City, OR



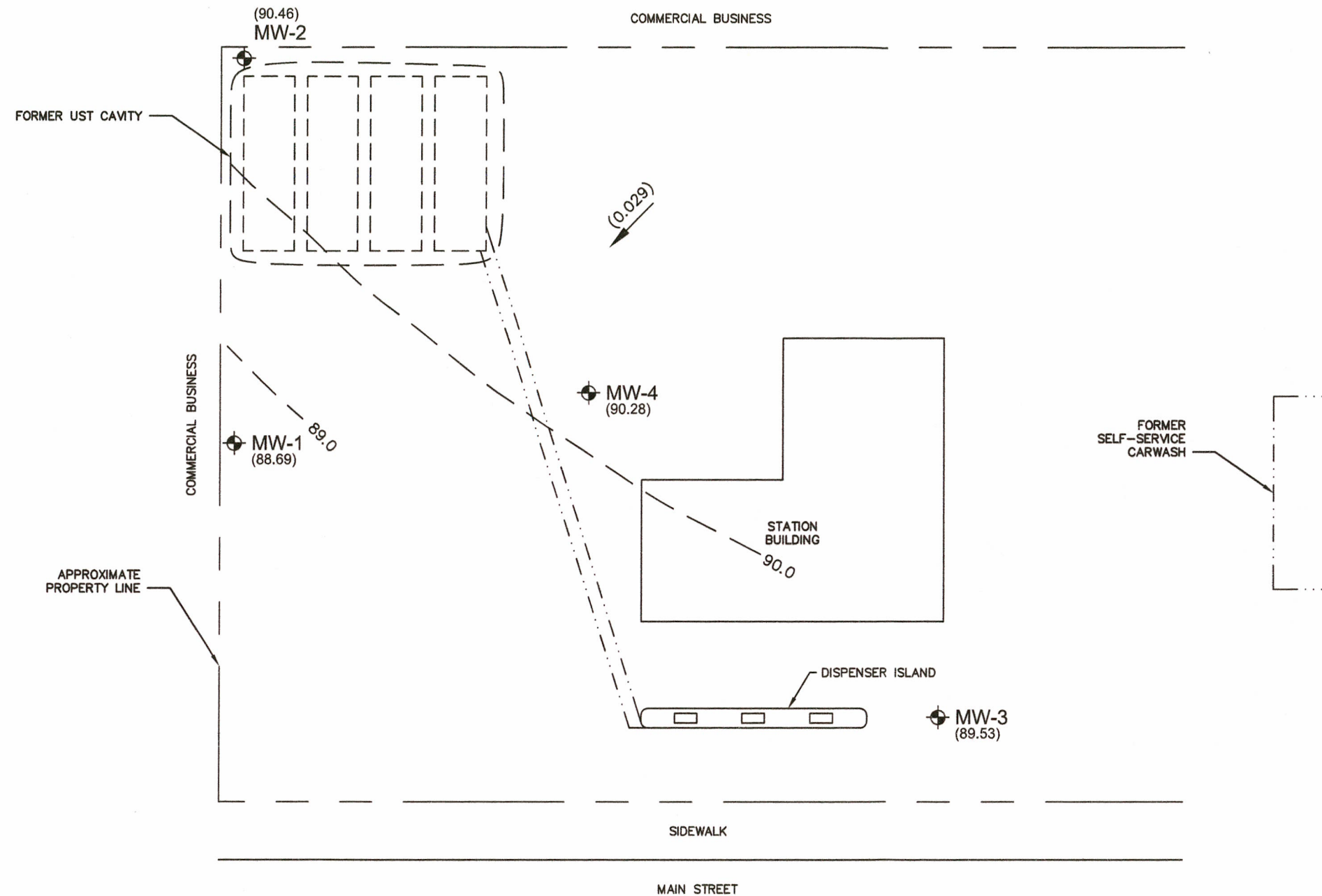
ECN

ENVIRONMENTAL
COMPLIANCE
NORTHWEST
(503) 372-9760

VICINITY MAP
Former Kwik Gas Station
305 West Main Street, Molalla, Oregon

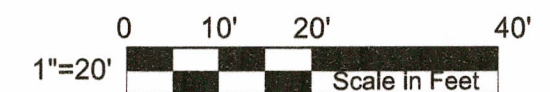
Project No. 05-106

FIGURE 1



LEGEND

UST	Underground Storage Tank
[]	Former Underground Storage Tank
- - -	Former Underground Product Piping Trench
⊕	Monitoring Well
(88.69)	Groundwater Elevation (Relative to an arbitrary benchmark)
- - - 89.0	Groundwater Elevation Contour
← (0.029)	Approximate Groundwater Flow Direction and Gradient in Feet per Foot



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

GROUNDWATER CONTOUR MAP
4TH QUARTER 2010

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 2

MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

FORMER UST CAVITY

MW-2

COMMERCIAL BUSINESS

MW-4	
D	= 1,760
O	= 365
Gx	= 10,200
B	= 449
T	= 4.26
E	= 395
X	= 127.9
1,2,4 TMB	= 142
EDB	= ND
EDC	= ND
1,3,5 TMB	= 17.7
IPB	= 117
MTBE	= 1.64
NPB	= 372
NAPH	= 160
LEAD	= 1.8
PAHs	SEE TABLE 2

MW-4

COMMERCIAL BUSINESS

MW-1

MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

APPROXIMATE PROPERTY LINE

STATION BUILDING

FORMER SELF-SERVICE CARWASH

DISPENSER ISLAND

MW-3

SIDEWALK

MAIN STREET

MW-3	
D	= 154
O	= ND
Gx	= 245
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

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

Gx

Gasoline-Range Hydrocarbons

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)



0 10' 20' 40'
1"=20' Scale in Feet

ECN

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

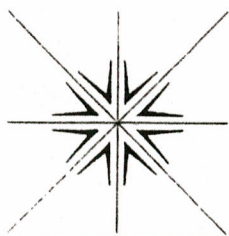
GROUNDWATER ANALYTICAL RESULTS
4TH QUARTER 2010

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

January 06, 2011

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.: 1012222

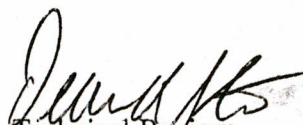
Specialty Analytical received 4 samples on 12/30/2010 for the analyses presented in the following report.

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: 06-Jan-11

CLIENT: Environmental Compliance Northwest, Inc.
Project: Powell-Molalla / 05-106**Lab Order:** 1012222**Lab ID:** 1012222-01**Collection Date:** 12/30/2010 1:00:00 PM**Client Sample ID:** MW-1**Matrix:** GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: zau
Diesel	ND	0.0784		mg/L	1	1/4/2011
Lube Oil	ND	0.196		mg/L	1	1/4/2011
Surr: o-Terphenyl	90.0	50-150		%REC	1	1/4/2011
BTEX - RBC		SW8021B				Analyst: jrj
Benzene	ND	0.300		µg/L	1	1/5/2011
Toluene	ND	0.500		µg/L	1	1/5/2011
Ethylbenzene	ND	0.500		µg/L	1	1/5/2011
Xylenes, Total	ND	1.50		µg/L	1	1/5/2011
Surr: 4-Bromofluorobenzene	77.3	74.8-126		%REC	1	1/5/2011
NWTPH-GX		NWTPH-GX				Analyst: jrj
Gasoline	ND	100		µg/L	1	1/5/2011
Surr: 4-Bromofluorobenzene	117	50-150		%REC	1	1/5/2011

Lab ID: 1012222-02**Collection Date:** 12/30/2010 12:00:00 PM**Client Sample ID:** MW-2**Matrix:** GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: zau
Diesel	ND	0.0768		mg/L	1	1/4/2011
Lube Oil	ND	0.192		mg/L	1	1/4/2011
Surr: o-Terphenyl	80.5	50-150		%REC	1	1/4/2011
BTEX - RBC		SW8021B				Analyst: jrj
Benzene	ND	0.300		µg/L	1	1/5/2011
Toluene	ND	0.500		µg/L	1	1/5/2011
Ethylbenzene	ND	0.500		µg/L	1	1/5/2011
Xylenes, Total	ND	1.50		µg/L	1	1/5/2011
Surr: 4-Bromofluorobenzene	77.0	74.8-126		%REC	1	1/5/2011
NWTPH-GX		NWTPH-GX				Analyst: jrj
Gasoline	ND	100		µg/L	1	1/5/2011
Surr: 4-Bromofluorobenzene	116	50-150		%REC	1	1/5/2011

Specialty Analytical

Date: 06-Jan-11

CLIENT: Environmental Compliance Northwest, Inc.
Project: Powell-Molalla / 05-106**Lab Order:** 1012222**Lab ID:** 1012222-03**Collection Date:** 12/30/2010 2:00:00 PM**Client Sample ID:** MW-3**Matrix:** GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX						
Diesel	0.154	0.0780	A1	mg/L	1	1/4/2011
Lube Oil	ND	0.195		mg/L	1	1/4/2011
Surr: o-Terphenyl	81.5	50-150		%REC	1	1/4/2011
NWTPH-GX						
Gasoline	245	100		µg/L	1	1/5/2011
Surr: 4-Bromofluorobenzene	117	50-150		%REC	1	1/5/2011
VOLATILE ORGANICS BY GC/MS						
SW8260B						
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
1,2-Dibromoethane	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
Benzene	ND	0.300		µg/L	1	1/3/2011 11:25:00 PM
Ethylbenzene	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
m,p-Xylene	ND	2.00		µg/L	1	1/3/2011 11:25:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
Naphthalene	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
o-Xylene	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
Toluene	ND	1.00		µg/L	1	1/3/2011 11:25:00 PM
Surr: 1,2-Dichloroethane-d4	98.7	72.2-129		%REC	1	1/3/2011 11:25:00 PM
Surr: 4-Bromofluorobenzene	107	73.5-125		%REC	1	1/3/2011 11:25:00 PM
Surr: Dibromofluoromethane	96.0	58.8-148		%REC	1	1/3/2011 11:25:00 PM
Surr: Toluene-d8	93.4	79.8-137		%REC	1	1/3/2011 11:25:00 PM

Specialty Analytical

Date: 06-Jan-11

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

Lab Order: 1012222

Lab ID: 1012222-04

Collection Date: 12/30/2010 3:00:00 PM

Client Sample ID: MW-4

Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX						
Diesel	1.76	0.0804	A1,L	mg/L	1	Analyst: zau 1/4/2011
Lube Oil	0.365	0.201	M	mg/L	1	1/4/2011
Surr: o-Terphenyl	108	50-150		%REC	1	1/4/2011
NWTPH-GX						
Gasoline	10200	1000		µg/L	10	Analyst: jrj 1/5/2011
Surr: 4-Bromofluorobenzene	111	50-150		%REC	10	1/5/2011
DISSOLVED METALS BY ICP/MS						
SW6020						
Lead	1.8	0.10		ug/L	1	Analyst: cz 1/3/2011 3:47:00 PM
LOW LEVEL PAH BY GC/MS						
8270SIM						
Acenaphthene	0.215	0.0489		µg/L	1	Analyst: bda 1/5/2011 10:36:00 AM
Acenaphthylene	0.0782	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Anthracene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Benz(a)anthracene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Benzo(a)pyrene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Benzo(b)fluoranthene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Benzo(g,h,i)perylene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Benzo(k)fluoranthene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Chrysene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Dibenz(a,h)anthracene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Fluoranthene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Fluorene	0.244	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Naphthalene	61.7	0.244		µg/L	5	1/5/2011 11:00:00 AM
Phenanthrene	0.166	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Pyrene	ND	0.0489		µg/L	1	1/5/2011 10:36:00 AM
Surr: 2-Fluorobiphenyl	68.4	18.6-106		%REC	1	1/5/2011 10:36:00 AM
Surr: Nitrobenzene-d5	50.0	17-130		%REC	1	1/5/2011 10:36:00 AM
Surr: p-Terphenyl-d14	72.0	39.6-131		%REC	1	1/5/2011 10:36:00 AM
VOLATILE ORGANICS BY GC/MS						
SW8260B						
1,2,4-Trimethylbenzene	142	1.00		µg/L	1	Analyst: kmm 1/4/2011 12:00:01 AM
1,2-Dibromoethane	ND	1.00		µg/L	1	1/4/2011 12:00:01 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	1/4/2011 12:00:01 AM
1,3,5-Trimethylbenzene	17.7	1.00		µg/L	1	1/4/2011 12:00:01 AM
Benzene	449	1.50		µg/L	5	1/4/2011 12:46:00 PM
Ethylbenzene	395	5.00		µg/L	5	1/4/2011 12:46:00 PM
Isopropylbenzene	117	1.00		µg/L	1	1/4/2011 12:00:01 AM
m,p-Xylene	95.4	2.00		µg/L	1	1/4/2011 12:00:01 AM

Specialty Analytical

Date: 06-Jan-11

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

Lab Order: 1012222

VOLATILE ORGANICS BY GC/MS

SW8260B

Analyst: kmn

Methyl tert-butyl ether	1.64	1.00	µg/L	1	1/4/2011 12:00:01 AM
n-Propylbenzene	372	5.00	µg/L	5	1/4/2011 12:46:00 PM
Naphthalene	160	1.00	µg/L	1	1/4/2011 12:00:01 AM
o-Xylene	32.5	1.00	µg/L	1	1/4/2011 12:00:01 AM
Toluene	4.26	1.00	µg/L	1	1/4/2011 12:00:01 AM
Surr: 1,2-Dichloroethane-d4	88.4	72.2-129	%REC	1	1/4/2011 12:00:01 AM
Surr: 4-Bromofluorobenzene	83.2	73.5-125	%REC	1	1/4/2011 12:00:01 AM
Surr: Dibromofluoromethane	93.6	58.8-148	%REC	1	1/4/2011 12:00:01 AM
Surr: Toluene-d8	88.1	79.8-137	%REC	1	1/4/2011 12:00:01 AM

Specialty Analytical

Date: 06-Jan-11

CLIENT: Environmental Compliance Northwest, Inc.

Work Order: 1012222

Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WDISS

Sample ID: 1012222-04CMS	SampType: MS	TestCode: 6020_WDISS	Units: ug/L	Prep Date: 1/3/2011	Run ID: ICPMS_110103B						
Client ID: MW-4	Batch ID: 27420	TestNo: SW6020		Analysis Date: 1/3/2011	SeqNo: 721750						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	44.85	0.10	50	0.03768	89.6	70	130	0	0		
Chromium	44.63	0.10	50	0.1202	89	70	130	0	0		
Lead	52.27	0.10	50	1.84	101	70	130	0	0		

Sample ID: 1012222-04CMSD	SampType: MSD	TestCode: 6020_WDISS	Units: ug/L	Prep Date: 1/3/2011	Run ID: ICPMS_110103B						
Client ID: MW-4	Batch ID: 27420	TestNo: SW6020		Analysis Date: 1/3/2011	SeqNo: 721751						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	45.87	0.10	50	0.03768	91.7	70	130	44.85	2.25	20	
Chromium	46.5	0.10	50	0.1202	92.8	70	130	44.63	4.10	20	
Lead	53.25	0.10	50	1.84	103	70	130	52.27	1.86	20	

Sample ID: 1012222-04CDUP	SampType: DUP	TestCode: 6020_WDISS	Units: ug/L	Prep Date: 1/3/2011	Run ID: ICPMS_110103B						
Client ID: MW-4	Batch ID: 27420	TestNo: SW6020		Analysis Date: 1/3/2011	SeqNo: 721749						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.02827	0.10	0	0	0	0	0	0.03768	0	20	J
Chromium	0.1058	0.10	0	0	0	0	0	0.1202	12.7	20	
Lead	1.827	0.10	0	0	0	0	0	1.84	0.709	20	

Sample ID: CCV	SampType: CCV	TestCode: 6020_WDISS	Units: ug/L	Prep Date:	Run ID: ICPMS_110103B						
Client ID: ZZZZZ	Batch ID: 27420	TestNo: SW6020		Analysis Date: 1/3/2011	SeqNo: 721746						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	49.61	0.10	50	0	99.2	90	110	0	0		
Chromium	48.08	0.10	50	0	96.2	90	110	0	0		
Lead	50.14	0.10	50	0	100	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: 1012222

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_110103B						
Client ID: ZZZZZ	Batch ID: 27420	TestNo: SW6020		Analysis Date: 1/3/2011	SeqNo: 721753						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	48.19	0.10	50	0	96.4	90	110	0	0		
Chromium	47.64	0.10	50	0	95.3	90	110	0	0		
Lead	50.42	0.10	50	0	101	90	110	0	0		

Sample ID: ICB-27420	SampType: ICB	TestCode: 6020_WDISS	Units: ug/L	Prep Date: 1/3/2011	Run ID: ICPMS_110103B						
Client ID: ZZZZZ	Batch ID: 27420	TestNo: SW6020		Analysis Date: 1/3/2011	SeqNo: 721747						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.04	0.10	0	0	0	0	0	0	0		
Chromium	ND	0.10	0	0	0	0	0	0	0		
Lead	0.03324	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_110103B						
Client ID: ZZZZZ	Batch ID: 27420	TestNo: SW6020		Analysis Date: 1/3/2011	SeqNo: 721745						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	50.15	0.10	50	0	100	90	110	0	0		
Chromium	50.22	0.10	50	0	100	90	110	0	0		
Lead	51.03	0.10	50	0	102	90	110	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: 1012222
 Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: MB-27428	SampType: MBLK	TestCode: 8260_W	Units: µg/L	Prep Date: 1/3/2011	Run ID: 5975X_110103B						
Client ID: ZZZZZ	Batch ID: 27428	TestNo: SW8260B		Analysis Date: 1/3/2011	SeqNo: 721758						
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	0.21	1.00									J
Isopropylbenzene	ND	1.00									
m,p-Xylene	ND	2.00									
Methyl tert-butyl ether	ND	1.00									
n-Propylbenzene	ND	1.00									
Naphthalene	ND	1.00									
o-Xylene	ND	1.00									
Toluene	ND	1.00									
Surr: 1,2-Dichloroethane-d4	101.2	0	100	0	101	72.2	129	0	0		
Surr: 4-Bromofluorobenzene	102.3	0	100	0	102	73.5	125	0	0		
Surr: Dibromofluoromethane	99.84	0	100	0	99.8	58.8	148	0	0		
Surr: Toluene-d8	103.9	0	100	0	104	79.8	137	0	0		

Sample ID: LCS-27428	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date: 1/3/2011	Run ID: 5975X_110103B						
Client ID: ZZZZZ	Batch ID: 27428	TestNo: SW8260B		Analysis Date: 1/3/2011	SeqNo: 721755						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.35	0.300	40	0	106	77.9	125	0	0		
Toluene	43.3	1.00	40	0	108	74.6	119	0	0		

Sample ID: A1012220-01AMS	SampType: MS	TestCode: 8260_W	Units: µg/L	Prep Date: 1/3/2011	Run ID: 5975X_110103B						
Client ID: ZZZZZ	Batch ID: 27428	TestNo: SW8260B		Analysis Date: 1/3/2011	SeqNo: 721756						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	43.93	0.300	40	0	110	71.5	118	0	0		
Toluene	50.65	1.00	40	1.27	123	79.6	121	0	0		S

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 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 1012222
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: A1012220-01AMSD	SampType: MSD	TestCode: 8260_W	Units: µg/L	Prep Date: 1/3/2011	Run ID: 5975X_110103B						
Client ID: ZZZZZ	Batch ID: 27428	TestNo: SW8260B		Analysis Date: 1/3/2011	SeqNo: 721757						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	44.52	0.300	40	0	111	71.5	118	43.93	1.33	20	
Toluene	46.55	1.00	40	1.27	113	79.6	121	50.65	8.44	20	

Sample ID: CCB-27428	SampType: CCB	TestCode: 8260_W	Units: µg/L	Prep Date: 1/3/2011	Run ID: 5975X_110103B						
Client ID: ZZZZZ	Batch ID: 27428	TestNo: SW8260B		Analysis Date: 1/4/2011	SeqNo: 721833						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.00	0	0	0	0	0	0	0		
1,2-Dibromoethane	ND	1.00	0	0	0	0	0	0	0		
1,2-Dichloroethane	ND	1.00	0	0	0	0	0	0	0		
1,3,5-Trimethylbenzene	ND	1.00	0	0	0	0	0	0	0		
Benzene	ND	0.300	0	0	0	0	0	0	0		
Ethylbenzene	ND	1.00	0	0	0	0	0	0	0		
Isopropylbenzene	ND	1.00	0	0	0	0	0	0	0		
m,p-Xylene	ND	2.00	0	0	0	0	0	0	0		
Methyl tert-butyl ether	ND	1.00	0	0	0	0	0	0	0		
n-Propylbenzene	ND	1.00	0	0	0	0	0	0	0		
Naphthalene	ND	1.00	0	0	0	0	0	0	0		
o-Xylene	ND	1.00	0	0	0	0	0	0	0		
Toluene	ND	1.00	0	0	0	0	0	0	0		
Surr: 1,2-Dichloroethane-d4	101.1	0	100	0	101	72.2	129	0	0		
Surr: 4-Bromofluorobenzene	91.13	0	100	0	91.1	73.5	125	0	0		
Surr: Dibromofluoromethane	82.77	0	100	0	82.8	58.8	148	0	0		
Surr: Toluene-d8	95.92	0	100	0	95.9	79.8	137	0	0		

Sample ID: CCV-27428	SampType: CCV	TestCode: 8260_W	Units: µg/L	Prep Date:	Run ID: 5975X_110103B						
Client ID: ZZZZZ	Batch ID: 27428	TestNo: SW8260B		Analysis Date: 1/3/2011	SeqNo: 721754						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	61.67	1.00	60	0	103	80	120	0	0		
Toluene	68.92	1.00	60	0	115	80	120	0	0		

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CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 1012222
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: CCV-27428	SampType: CCV	TestCode: 8260_W	Units: µg/L	Prep Date:	Run ID: 5975X_110103B						
Client ID: ZZZZZ	Batch ID: 27428	TestNo: SW8260B		Analysis Date: 1/4/2011	SeqNo: 721832						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	36.8	1.00	40	0	92	80	120	0	0		
Toluene	41.07	1.00	40	0	103	80	120	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: 1012222
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEXRBC_W

Sample ID: MB-27439	SampType: MBLK	TestCode: BTEXRBC_W	Units: µg/L	Prep Date: 1/5/2011	Run ID: GC-S_110105A						
Client ID: ZZZZZ	Batch ID: 27439	TestNo: SW8021B		Analysis Date: 1/5/2011	SeqNo: 722007						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.300									
Toluene	0.21	0.500									J
Ethylbenzene	0.1	0.500									J
Xylenes, Total	0.5	1.50									J
Surr: 4-Bromofluorobenzene	90.08	0	100	0	90.1	74.8	126	0	0		

Sample ID: LCS-27439	SampType: LCS	TestCode: BTEXRBC_W	Units: µg/L	Prep Date: 1/5/2011	Run ID: GC-S_110105A						
Client ID: ZZZZZ	Batch ID: 27439	TestNo: SW8021B		Analysis Date: 1/5/2011	SeqNo: 722006						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	50.89	0.300	50	0	102	75.8	113	0	0		
Toluene	51.63	0.500	50	0	103	77	116	0	0		
Ethylbenzene	52.54	0.500	50	0	105	76.6	118	0	0		
Xylenes, Total	157.5	1.50	150	0	105	76.7	118	0	0		

Sample ID: 1101015-01EMS	SampType: MS	TestCode: BTEXRBC_W	Units: µg/L	Prep Date: 1/5/2011	Run ID: GC-S_110105A						
Client ID: ZZZZZ	Batch ID: 27439	TestNo: SW8021B		Analysis Date: 1/5/2011	SeqNo: 722009						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	24.4	0.300	25	0.05	97.4	67.8	118	0	0		
Toluene	24.69	0.500	25	0.21	97.9	74.7	117	0	0		
Ethylbenzene	21.79	0.500	25	0.1	86.8	74.5	115	0	0		
Xylenes, Total	63.32	1.50	75	0.57	83.7	76.8	120	0	0		

Sample ID: 1101015-01EMSD	SampType: MSD	TestCode: BTEXRBC_W	Units: µg/L	Prep Date: 1/5/2011	Run ID: GC-S_110105A						
Client ID: ZZZZZ	Batch ID: 27439	TestNo: SW8021B		Analysis Date: 1/5/2011	SeqNo: 722010						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	24.16	0.300	25	0.05	96.4	67.8	118	24.4	0.988	20	
Toluene	24.43	0.500	25	0.21	96.9	74.7	117	24.69	1.06	20	
Ethylbenzene	21.79	0.500	25	0.1	86.8	74.5	115	21.79	0	20	

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: 1012222
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEXRBC_W

Sample ID: 1101015-01EMSD	SampType: MSD	TestCode: BTEXRBC_W	Units: µg/L	Prep Date: 1/5/2011	Run ID: GC-S_110105A						
Client ID: ZZZZZ	Batch ID: 27439	TestNo: SW8021B		Analysis Date: 1/5/2011	SeqNo: 722010						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Xylenes, Total	70.76	1.50	75	0.57	93.6	76.8	120	63.32	11.1	20	

Sample ID: CCV	SampType: CCV	TestCode: BTEXRBC_W	Units: µg/L	Prep Date:	Run ID: GC-S_110105A						
Client ID: ZZZZZ	Batch ID: 27439	TestNo: SW8021B		Analysis Date: 1/5/2011	SeqNo: 722005						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	50.89	0.300	50	0	102	85	115	0	0		
Toluene	51.63	0.500	50	0	103	85	115	0	0		
Ethylbenzene	52.54	0.500	50	0	105	85	115	0	0		
Xylenes, Total	157.5	1.50	150	0	105	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 1012222
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHDXLL_W

Sample ID: MBLK-27430	SampType: MBLK	TestCode: NWTPHDXLL	Units: mg/L	Prep Date: 1/4/2011	Run ID: GC-M_110104B						
Client ID: ZZZZZ	Batch ID: 27430	TestNo: NWTPH-Dx		Analysis Date: 1/4/2011	SeqNo: 721925						
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	0.1753	0	0.2	0	87.7	50	150	0	0		

Sample ID: LCS-27430	SampType: LCS	TestCode: NWTPHDXLL	Units: mg/L	Prep Date: 1/4/2011	Run ID: GC-M_110104B						
Client ID: ZZZZZ	Batch ID: 27430	TestNo: NWTPH-Dx		Analysis Date: 1/4/2011	SeqNo: 721926						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.8316	0.0800	1	0	83.2	60.7	121	0	0		
Lube Oil	0.7837	0.200	1	0	78.4	64	126	0	0		

Sample ID: LCSD-27430	SampType: LCSD	TestCode: NWTPHDXLL	Units: mg/L	Prep Date: 1/4/2011	Run ID: GC-M_110104B						
Client ID: ZZZZZ	Batch ID: 27430	TestNo: NWTPH-Dx		Analysis Date: 1/4/2011	SeqNo: 721927						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.9167	0.0800	1	0	91.7	60.7	121	0.8316	9.73	20	
Lube Oil	0.9424	0.200	1	0	94.2	64	126	0.7837	18.4	20	

Sample ID: CCV	SampType: CCV	TestCode: NWTPHDXLL	Units: mg/L	Prep Date:	Run ID: GC-M_110104B						
Client ID: ZZZZZ	Batch ID: 27430	TestNo: NWTPH-Dx		Analysis Date: 1/4/2011	SeqNo: 721921						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	7.938	0.0800	8.155	0	97.3	85	115	0	0		
Lube Oil	3.712	0.200	4.011	0	92.5	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: 1012222
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHGX_W

Sample ID: MB-27438	SampType: MBLK	TestCode: NWTPHGX_	Units: µg/L	Prep Date: 1/5/2011	Run ID: GC-S_110105B						
Client ID: ZZZZZ	Batch ID: 27438	TestNo: NWTPH-Gx		Analysis Date: 1/5/2011	SeqNo: 722014						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	100									
Surr: 4-Bromofluorobenzene	135.6	0	100	0	136	50	150	0	0		

Sample ID: LCS-27438	SampType: LCS	TestCode: NWTPHGX_	Units: µg/L	Prep Date: 1/5/2011	Run ID: GC-S_110105B						
Client ID: ZZZZZ	Batch ID: 27438	TestNo: NWTPH-Gx		Analysis Date: 1/5/2011	SeqNo: 722013						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	1721	100	2000	0	86	74.4	128	0	0		

Sample ID: 1012109-02CDUP	SampType: DUP	TestCode: NWTPHGX_	Units: µg/L	Prep Date: 1/5/2011	Run ID: GC-S_110105B						
Client ID: ZZZZZ	Batch ID: 27438	TestNo: NWTPH-Gx		Analysis Date: 1/5/2011	SeqNo: 722017						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	29.1	100	0	0	0	0	0	31	0	20	J

Sample ID: 1012223-01BDUP	SampType: DUP	TestCode: NWTPHGX_	Units: µg/L	Prep Date: 1/5/2011	Run ID: GC-S_110105B						
Client ID: ZZZZZ	Batch ID: 27438	TestNo: NWTPH-Gx		Analysis Date: 1/5/2011	SeqNo: 722022						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	29	100	0	0	0	0	0	25.73	0	20	J

Sample ID: CCV	SampType: CCV	TestCode: NWTPHGX_	Units: µg/L	Prep Date:	Run ID: GC-S_110105B						
Client ID: ZZZZZ	Batch ID: 27438	TestNo: NWTPH-Gx		Analysis Date: 1/5/2011	SeqNo: 722029						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	2891	100	3000	0	96.4	80	120	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
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 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 1012222
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: PAHLL_W

Sample ID: MB-27433	SampType: MBLK	TestCode: PAHLL_W	Units: µg/L	Prep Date: 1/4/2011	Run ID: 5975Q_110105A						
Client ID: ZZZZZ	Batch ID: 27433	TestNo: 8270SIM		Analysis Date: 1/5/2011	SeqNo: 721996						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.02	0.0500									J
Acenaphthylene	ND	0.0500									
Anthracene	ND	0.0500									
Benz(a)anthracene	0.02	0.0500									J
Benzo(a)pyrene	0.02	0.0500									J
Benzo(b)fluoranthene	0.02	0.0500									J
Benzo(g,h,i)perylene	ND	0.0500									
Benzo(k)fluoranthene	0.01	0.0500									J
Chrysene	0.01	0.0500									J
Dibenz(a,h)anthracene	0.01	0.0500									J
Fluoranthene	0.01	0.0500									J
Fluorene	ND	0.0500									
Indeno(1,2,3-cd)pyrene	0.01	0.0500									J
Naphthalene	ND	0.0500									
Phenanthrene	0.01	0.0500									J
Pyrene	ND	0.0500									
Surr: 2-Fluorobiphenyl	76.55	1.00	100	0	76.6	18.6	106	0	0		
Surr: Nitrobenzene-d5	59.77	1.00	100	0	59.8	17	130	0	0		
Surr: p-Terphenyl-d14	80.05	1.00	100	0	80	39.6	131	0	0		

Sample ID: LCS-27433	SampType: LCS	TestCode: PAHLL_W	Units: µg/L	Prep Date: 1/4/2011	Run ID: 5975Q_110105A						
Client ID: ZZZZZ	Batch ID: 27433	TestNo: 8270SIM		Analysis Date: 1/5/2011	SeqNo: 722003						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	3.89	0.0500	5	0	77.8	35.1	100	0	0		
Benzo(g,h,i)perylene	4.75	0.0500	5	0	95	20.8	120	0	0		
Chrysene	4.31	0.0500	5	0	86.2	39.1	119	0	0		
Naphthalene	3.57	0.0500	5	0	71.4	25.6	106	0	0		
Phenanthrene	3.73	0.0500	5	0	74.6	38.1	106	0	0		
Pyrene	4	0.0500	5	0	80	41.3	118	0	0		

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

S - Spike Recovery outside accepted recovery limits
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B - Analyte detected in the associated Method Blank

CLIENT: Environmental Compliance Northwest, Inc.
Work Order: 1012222
Project: Powell-Molalla / 05-106

ANALYTICAL QC SUMMARY REPORT

TestCode: PAHLL_W

Sample ID: LCSD-27433	SampType: LCSD	TestCode: PAHLL_W	Units: µg/L	Prep Date: 1/4/2011	Run ID: 5975Q_110105A
Client ID: ZZZZZ	Batch ID: 27433	TestNo: 8270SIM		Analysis Date: 1/5/2011	SeqNo: 722004

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	4.37	0.0500	5	0	87.4	35.1	100	3.89	11.6	20	
Benzo(g,h,i)perylene	5.47	0.0500	5	0	109	20.8	120	4.75	14.1	20	
Chrysene	5.11	0.0500	5	0	102	39.1	119	4.31	17.0	20	
Naphthalene	4.23	0.0500	5	0	84.6	25.6	106	3.57	16.9	20	
Phenanthrene	4.54	0.0500	5	0	90.8	38.1	106	3.73	19.6	20	
Pyrene	4.53	0.0500	5	0	90.6	41.3	118	4	12.4	20	

Sample ID: CCV-27433	SampType: CCV	TestCode: PAHLL_W	Units: µg/L	Prep Date:	Run ID: 5975Q_110105A
Client ID: ZZZZZ	Batch ID: 27433	TestNo: 8270SIM		Analysis Date: 1/5/2011	SeqNo: 721995

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.9	0.0500	1	0	90	70	130	0	0		
Acenaphthylene	0.87	0.0500	1	0	87	70	130	0	0		
Anthracene	0.9	0.0500	1	0	90	70	130	0	0		
Benz(a)anthracene	0.87	0.0500	1	0	87	70	130	0	0		
Benzo(a)pyrene	0.9	0.0500	1	0	90	70	130	0	0		
Benzo(b)fluoranthene	1	0.0500	1	0	100	70	130	0	0		
Benzo(g,h,i)perylene	0.9	0.0500	1	0	90	70	130	0	0		
Benzo(k)fluoranthene	0.91	0.0500	1	0	91	70	130	0	0		
Chrysene	0.87	0.0500	1	0	87	70	130	0	0		
Dibenz(a,h)anthracene	0.9	0.0500	1	0	90	70	130	0	0		
Fluoranthene	1.03	0.0500	1	0	103	70	130	0	0		
Fluorene	0.94	0.0500	1	0	94	70	130	0	0		
Indeno(1,2,3-cd)pyrene	0.91	0.0500	1	0	91	70	130	0	0		
Naphthalene	0.94	0.0500	1	0	94	70	130	0	0		
Phenanthrene	0.88	0.0500	1	0	88	70	130	0	0		
Pyrene	0.81	0.0500	1	0	81	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

Rev. May 12, 2010

- 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.
- A4 The product appears to be aged or degraded diesel.
- 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.
- G Result may be biased high due to biogenic interferences. Clean up is recommended.
- H Sample was analyzed outside recommended holding time.
- HT At clients request, samples was analyzed outside of recommended holding 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.
- 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.
- 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.

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Project No. 05-166 Project Name powell-Motellan
Project Site Location OR X WA _____ Other _____
Invoice To _____ P.O. No. _____

[illegible]

Pink-Customer Copy