WINTER 2006 GROUNDWATER DATA SUBMITTAL
RP - PORTLAND SITE

August 7, 2006

Submitted to:

Oregon Department of Environmental Quality
Northwest Region
2020 S.W. 4th Avenue, Suite 400
Portland, Oregon 97201

Prepared for:

SLLI
One Copely Parkway, Suite 309
Morrisville, North Carolina 27709

Prepared by:

AMEC Earth & Environmental, Inc.
7376 SW Durham Road
Portland, Oregon 97224

0-61M-107030/Phase 43

August 7, 2006

0-61M-107030/Phase 43

Thomas E. Roick
Project Manager, Cleanup & Portland Harbor
Oregon Department of Environmental Quality
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97210-4987

Dear Mr. Roick:

Re: Winter 2006 Groundwater Data Submittal
RP - Portland Site

AMEC Earth & Environmental, Inc. (AMEC), on behalf of SLLI, is submitting to the Oregon Department of Environmental Quality (DEQ) analytical results collected during the Winter 2006 groundwater monitoring event at the Rhône-Poulenc (RP) Portland Site (Site). Groundwater sampling activities were completed in general accordance with the DEQ-approved Winter 2006 Groundwater Monitoring Event Work Plan dated March 10, 2006. The final list of groundwater monitoring wells and laboratory analyses proposed were approved by DEQ in a letter dated March 14, 2006. Groundwater wells sampled during the Winter 2006 groundwater monitoring event are shown in Attachment A, Figure 1.

Attached to this letter are tables summarizing validated groundwater analytical results from the Winter 2006 groundwater monitoring event (Attachment B). The attached tables are as follows:

- Table 1 - Planned Versus Actual Sampling Locations and Analyses for Groundwater Sampling, Winter 2006 Groundwater Monitoring Event;
- Table 2 - Volatile Organic Compound (VOC) Groundwater Analytical Results;
- Table 3 - Semivolatile Organic Compound (SVOC) Groundwater Analytical Results;
- Table 4 - Chlorinated Herbicide Groundwater Analytical Results;
- Table 5 - Organochlorine Insecticide Groundwater Analytical Results;
- Table 6 - Polychlorinated Dibenzo-p-dioxin and Polychlorinated Dibenzofuran (Dioxin-Furan) Groundwater Analytical Results;
- Table 7 - Total Petroleum Hydrocarbon (TPH) Groundwater Analytical Results;
- Table 8 - Total Metals Groundwater Analytical Results;
- Table 9 - Dissolved Metals Groundwater Analytical Results;
- Table 10 - Natural Attenuation Parameter Groundwater Analytical Results; and
- Table 11 - Carbon 12/13 Isotopic Ratio Analyses of VOC Groundwater Analytical Results.

A brief general discussion of the sampling results is provided below.

GROUNDWATER ANALYTICAL RESULTS

Table 1 (Attachment B) summarizes the wells sampled and analyses requested on samples from each well. Groundwater analytical results for selected constituents are presented below and tabulated in Attachment B, Tables 2 through 11. Copies of the groundwater sampling field forms are included in Attachment C. The complete data validation report is included as Attachment D.

VOCs

- 1,2-Dichlorobenzene (1,2-DCB) was detected in 23 of 33 groundwater samples collected. Concentrations ranged from 0.058 (estimated) micrograms per liter (µg/L) (W-11-S) to 3,100 µg/L (W-09-116).
- Trichloroethene (TCE) was detected in 15 of the 33 groundwater samples collected, and concentrations ranged from 0.058 (estimated) µg/L (WS-12-161) to 350 µg/L (WS-11-125).
- Thirty-six other VOCs were detected in one or more samples collected during the Winter 2006 groundwater monitoring event.

SVOCs

- Polynuclear aromatic hydrocarbons (PAHs) were detected in 7 of the 33 groundwater samples.
- Ten other SVOCs were detected in one or more samples collected during the Winter 2006 groundwater monitoring event.

Chlorinated Herbicides

- The chlorinated herbicide 2,4,5-TP (Silvex) was detected in 12 of the 33 groundwater samples at concentrations ranging from 0.64 µg/L (W-09-86) to 41 µg/L (W-11-D). Silvex was not detected in Fill/Shallow Alluvium Zone monitoring wells near the Willamette River (River).
- 2,4-D was detected in 5 of the 33 samples, with concentrations ranging from 0.190 (estimated) µg/L (RP-11-216) to 5.50 µg/L (W-12-S).
- Other chlorinated herbicides detected in one or more groundwater samples included 2,4,5-T (one occurrence at W-12-S), dicamba (one occurrence at W-09-116), dichlorprop, MCPA, MCPP, and pentachlorophenol.

Organochlorine Insecticides

- 4,4'-DDD, 4,4'-DDE, and/or 4,4'-DDT were detected in 18 of the 33 groundwater samples. The highest individual detections were 2.0 (estimated) µg/L at AL6-96, 0.390 µg/L at W-11-D, and 0.320 (estimated) µg/L at W-11-D, respectively. Fifteen other organochlorine

insecticides were detected in one or more samples collected during the Winter 2006 groundwater monitoring event, at concentrations ranging from 0.003 µg/L to 2.20 µg/L.

- Many of the Organochlorine pesticide results for samples collected during the Winter 2006 Groundwater Monitoring event were N qualified because not all criteria for positive identification were met due to apparent matrix interference. As a result, there is uncertainty as to the actual presence of these constituents in the Winter 2006 groundwater samples.

Dioxin-Furan

- Dioxin-furan congeners were detected in 14 of the 33 groundwater samples collected. 1,2,3,4,6,7,8,9-OCDD was detected in 13 of the 14 wells exhibiting dioxin-furan detections. 2,3,7,8-TCDD was detected at one location (W-09), and no detections were observed in monitoring wells near the River.

TPH

- Diesel range organics (DRO) were detected in 30 of the 33 groundwater samples, ranging from 0.035 (estimated) milligrams per liter (mg/L) (W-03-D) to 2.4 mg/L (W-09, W-09-116, and WS-11-125).
- Residual range organics (RRO) were detected in 16 of the 33 groundwater samples, at concentrations ranging from 0.061 (estimated) mg/L (RP-07-119) to 2.1 mg/L (W-09).

Metals

- Analytical results for the 13 metals analyzed indicated total and/or dissolved metals were present in most of the samples submitted, with the exception of mercury, which was not detected at any of the Winter 2006 groundwater monitoring locations.
- Total arsenic concentrations were detected at a maximum of 0.022 mg/L, and dissolved arsenic concentrations were detected at a maximum of 0.021 mg/L (in both W-09 and W-11-D).

Natural Attenuation Parameters

- Geochemical results indicated bacteria were present. The geochemical data will be used in SLLI's evaluation of bacterial activity and potential for natural attenuation.

Carbon 12/13 Isotopic Ratio

- Carbon 12/13 isotopic ratios were measured in six VOC compounds: cis-12-dichloroethene, TCE, tetrachloroethene, chlorobenzene, 1,4-dichlorobenzene, and 1,2-DCB. These results will be evaluated along with other carbon 12/13 isotopic ratio results, such as those reported to DEQ in the Stage 1 Source Control Evaluation Technical Memorandum dated May 19, 2006.

Further evaluation of the Winter 2006 groundwater data will be presented in upcoming reports, such as the forthcoming Source Control Evaluation Report, to be submitted to DEQ under separate cover.

If you should have any questions regarding this data submittal, please call Roger Gresh at (503) 639-3400.

Sincerely,

AMEC Earth & Environmental, Inc.

For

Roger T. Gresh, P.G.
Project Manager

Cindy Bartlett, R.G.
Phase Leader

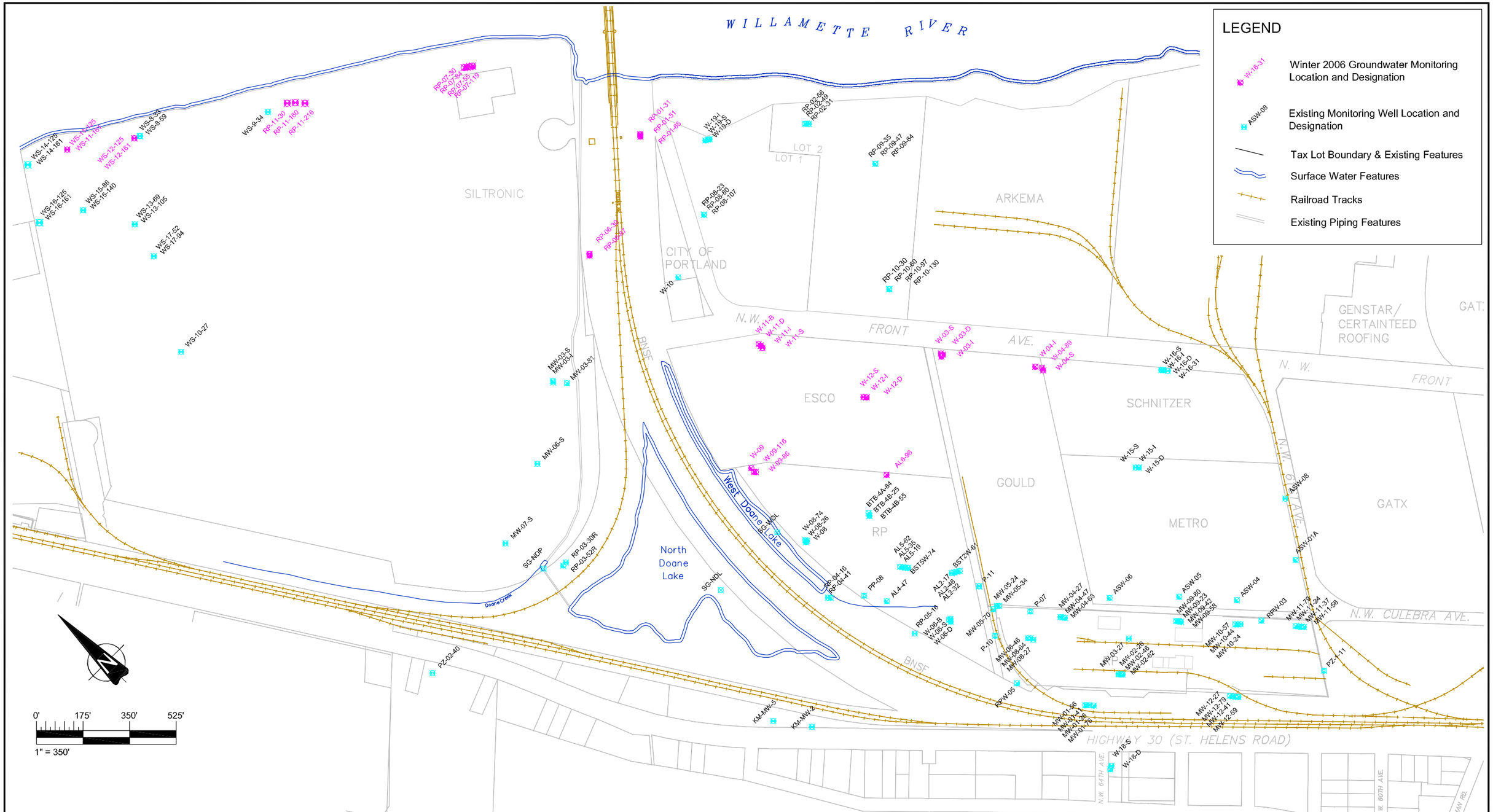
Attachments	Attachment A	Figure 1
	Attachment B	Tables
	Attachment C	Groundwater Sampling Field Forms
	Attachment D	Data Validation Reports

CB/tgh

c: S. Dearden, sanofi-aventis US, Inc.
R. Ferguson, SLLI
J. Benedict, CHBH&L

ATTACHMENT A

Figure 1



NOTE: THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC EARTH & ENVIRONMENTAL, INC. WINTER 2006 GROUNDWATER MONITORING DATA SUBMITTAL DATED _____ .

CLIENT: SLLI

AMEC Earth & Environmental
7376 S.W. Durham Road
Portland, OR. U.S.A. 97224

DWN BY:	DD/BRJ
CHK'D BY:	CB
DATUM:	NAD83
PROJECTION:	OR SP N. Int Ft.
SCALE:	1" = 350'

PROJECT: RP - PORTLAND SITE

TITLE: WINTER 2006 GROUNDWATER MONITORING LOCATIONS

DATE:	AUGUST 2006
PROJECT NO:	0-61M-10703-0 P-43
REV. NO.:	3
FIGURE No.	1

K:\10000\10700\10703\Phase 43 Groundwater Monitoring\2006 Winter Event\Tech Memo\A – Figure\Figure 1 Winter 2006 GW Monitoring Locations 0606.dwg – Layout1 – Aug. 07, 2006 2:49pm – laura.mccoy

ATTACHMENT B

Tables

TABLE 1
Planned Versus Actual Sampling Locations and Analyses for Groundwater Sampling
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Monitoring Well ID	Property Owner	Analyses									
		VOCs by EPA Method 8260B	SVOCs by EPA Method 8270C	Chlorinated Herbicides by EPA Method 8151A	Organochlorine Insecticides by EPA Method 8081A	Dioxin-Furan by EPA Method 1613	TPH Diesel Range by NWTPH-Dx	Metals by EPA Methods 6010A/6020/7470A (A)	Natural Attenuation Parameters (B)	Compound Specific Isotope Analysis (GC/C/IRMS)	Explanation for Variations From Work Plan
AL6-96	SLLI	X	X	X	X	X	X	X	X		As planned
RP-01-31	BNSF	X	X	X	X	X	X	X	X	X	Well resampled for Compound Specific Isotope analysis only, sample containers froze prior to analysis.
RP-01-51	BNSF	X	X	X	X	X	X	X	X	X	Well resampled for Compound Specific Isotope analysis only, sample containers froze prior to analysis.
RP-01-65	BNSF	X	X	X	X	X	X	X	X	X	As planned
RP-06-30	BNSF	X	X	X	X	X	X	X	X		As planned
RP-06-87	BNSF	X	X	X	X	X	X	X	X		As planned
RP-07-30	Siltronic	X	X	X	X	X	X	X	X	X	Well resampled for Compound Specific Isotope analysis only, sample containers froze prior to analysis.
RP-07-55	Siltronic	X	X	X	X	X	X	X	X	X	As planned
RP-07-84	Siltronic	X	X	X	X	X	X	X	X	X	Well resampled for Compound Specific Isotope analysis only, sample containers froze prior to analysis.
RP-07-119	Siltronic	X	X	X	X	X	X	X	X	X	As planned
RP-11-30	Siltronic	X	X	X	X	X	X	X	X	X	As planned
RP-11-160	Siltronic	X	X	X	X	X	X	X	X	X	As planned
RP-11-216	Siltronic	X	X	X	X	X	X	X	X	X	As planned
W-03-S	Gould	X	X	X	X	X	X	X	X		As planned
W-03-I	Gould	X	X	X	X	X	X	X	X		As planned
W-03-D	Gould	X	X	X	X	X	X	X	X		As planned
W-04-S	Gould	X	X	X	X	X	X	X	X		As planned
W-04-I	Gould	X	X	X	X	X	X	X	X		As planned
W-04-89	Gould	X	X	X	X	X	X	X	X		As planned
W-09	SLLI	X	X	X	X	X	X	X	X		As planned
W-09-86	SLLI	X	X	X	X	X	X	X	X		As planned
W-09-116	SLLI	X	X	X	X	X	X	X	X		As planned
W-11-B	ESCO	X	X	X	X	X	X	X	X		As planned
W-11-D	ESCO	X	X	X	X	X	X	X	X		As planned
W-11-I	ESCO	X	X	X	X	X	X	X	X		As planned
W-11-S	ESCO	X	X	X	X	X	X	X	X		As planned
W-12-S	ESCO	X	X	X	X	X	X	X	X		As planned
W-12-I	ESCO	X	X	X	X	X	X	X	X		As planned
W-12-D	ESCO	X	X	X	X	X	X	X	X		As planned
WS-11-125	Siltronic	X	X	X	X	X	X	X	X	X	As planned
WS-11-161	Siltronic	X	X	X	X	X	X	X	X	X	Well resampled for Compound Specific Isotope analysis only, sample containers froze prior to analysis.
WS-12-125	Siltronic	X	X	X	X	X	X	X	X	X	As planned
WS-12-161	Siltronic	X	X	X	X	X	X	X	X	X	As planned

Notes:

(A) Total and dissolved metals analysis for groundwater samples include: aluminum, calcium, iron, magnesium, potassium, sodium, arsenic, cadmium, chromium, copper, lead, manganese, nickel, vanadium, zinc, and mercury.

(B) Natural attenuation parameters include: ferrous iron, microbial enumerations, nutrients, total organic carbon, chemical oxygen demand, biological oxygen, sulfate, sulfide, total alkalinity, major cations/anions, and methane.

EPA = United States Environmental Protection Agency

GC/C/IRMS = Gas Chromatography/Combustion Interface/Isotope Ratio Mass Spectrometer

ID = Identification

NWTPH = Northwest Total Petroleum Hydrocarbons

SVOCs = Semivolatile Organic Compounds

VOCs = Volatile Organic Compounds

TABLE 2
Volatile Organic Compound Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

Location ID	Sample Date	Sample ID	Chemical Name / Sample Type	1,1,1,2-Tetrachloroethane (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1,2,2-Tetrachloroethane (µg/L)	1,1,2-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	1,1-Dichloroethene (µg/L)	1,1-Dichloropropene (µg/L)	1,2,3-Trichlorobenzene (µg/L)	1,2,3-Trichloropropane (µg/L)	1,2,4-Trichlorobenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	1,2-Dibromo-3-chloropropane (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichlorobenzene (µg/L)	1,2-Dichloroethane (µg/L)
AL6-96	03/31/2006	635-01	P	<3.00	<3.30	<4.10	<4.10	<3.90	<4.30	<4.00	<2.40	<5.30	**15.0 J**	<3.70	<3.70	<3.70	**900**	<2.20
AL6-96	03/31/2006	635-02	D	<3.00	<3.30	<4.10	<4.10	<3.90	<4.30	<4.00	<2.40	<5.30	**15.0 J**	<3.70	<3.70	<3.70	**880**	<2.20
RP-01-31	03/24/2006	612-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	<0.051	<0.043
RP-01-51	03/24/2006	613-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	**1.10**	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**260**	**0.049 J**
RP-01-65	03/24/2006	614-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	**2.50**	<0.080	<0.048	<0.110 UJ	**0.220 J**	<0.074 UJ	<0.074 UJ	<0.073	**560**	**0.110 J**
RP-06-30	03/27/2006	615-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	<0.086	<0.080	<0.048	<0.110	<0.095	**0.220 J**	<0.074	<0.073	**0.170 J**	<0.043
RP-06-87	03/27/2006	616-01	P	<1.20	<1.30	<1.60	<1.60	<1.60	**2.80 J**	<1.60	<0.960	<2.10	<1.90	<1.50	<1.50	<1.50	**820**	<0.860
RP-07-30	03/23/2006	611-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	<0.051	<0.043
RP-07-55	03/22/2006	608-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	<0.051	<0.043
RP-07-84	03/23/2006	609-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	**2.60**	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**730**	**0.130 J**
RP-07-84	03/23/2006	609-06	D	<0.060	<0.065	<0.081	<0.082	<0.078	**2.50**	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**750**	**0.130 J**
RP-07-119	03/23/2006	610-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	**0.410 J**	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**170**	<0.043
RP-07-119	03/23/2006	610-02	D	<0.060	<0.065	<0.081	<0.082	<0.078	**0.380 J**	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**150**	**0.048 J**
RP-11-30	03/22/2006	605-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	**0.130 J**	<0.074	<0.073	<0.051	<0.043
RP-11-160	03/22/2006	607-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	**0.076 J**	<0.073	<0.051	<0.043
RP-11-216	03/21/2006	606-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	**0.630 J**	<0.080	<0.048	<0.110	<0.095	**0.110 J**	<0.074	<0.073	**93.0**	**0.140 J**
W-03-D	03/27/2006	621-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**0.110 J**	<0.043
W-03-I	03/27/2006	620-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**9.50**	<0.043
W-03-S	03/27/2006	619-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**0.650 J**	<0.043
W-04-I	03/28/2006	623-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**0.790 J**	<0.043
W-04-S	03/28/2006	622-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**1.50**	<0.043
W-04-89	03/28/2006	624-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	<0.051	<0.043
W-09	04/03/2006	638-01	P	<0.300	<0.330	<0.410	<0.410	<0.390	<0.430	<0.400	<0.240	<0.530	<0.480	**1.60 J**	<0.370	<0.370	**21.0**	<0.220
W-09-86	04/03/2006	636-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	**0.120 J**	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**200 J**	<0.043
W-09-116	04/03/2006	637-01	P	<1.20	<1.30	<1.60	<1.60	<1.60	**2.70 J**	<1.60	<0.960	<2.10	<1.90	<1.50	<1.50	<1.50	**3,100 J**	**0.860 J**
W-11-B	03/29/2006	628-01	P	<0.600	<0.650	<0.810	<0.820	<0.780	**2.20 J**	<0.800	<0.480	<1.10	<0.950	<0.740	<0.740	<0.730	**560**	**0.480 J**
W-11-D	03/29/2006	627-01	P	<0.600	<0.650	<0.810	<0.820	<0.780 UJ	<0.860	<0.800	<0.480	<1.10	<0.950	<0.740	<0.740	<0.730	**680**	<0.430
W-11-I	03/29/2006	626-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	**0.210 J**	<0.074	<0.073	<0.051	<0.043
W-11-S	03/29/2006	625-01	P	<0.060	<0.065	<0.081	<0.082	**0.170 J**	<0.086	<0.080	<0.048 UJ	<0.110	<0.095	**0.430 J**	<0.074	<0.073	**0.058 J**	<0.043
W-12-D	03/30/2006	631-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	<0.051	<0.043
W-12-I	03/30/2006	630-01	P	<0.060 UJ	<0.065 UJ	<0.081 UJ	<0.082 UJ	<0.078 UJ	<0.086 UJ	<0.080 UJ	<0.048 UJ	<0.110 UJ	<0.095 UJ	<0.074 UJ	<0.074 UJ	<0.073 UJ	**0.063 J**	<0.043 UJ
W-12-S	03/30/2006	629-01	P	<0.060	<0.065	<0.081	<0.082	<0.078	<0.086	<0.080	<0.048	<0.110	<0.095	**1.30**	<0.074	<0.073	<0.051	<0.043
WS-11-125	03/20/2006	601-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	**29.0**	<0.080	<0.048	<0.110	<0.095	**12.0**	<0.074	<0.073	<0.051	<0.043
WS-11-161	03/20/2006	602-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**0.095 J**	<0.043
WS-12-125	03/20/2006	603-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**0.130 J**	<0.043
WS-12-161	03/21/2006	604-01	P	<0.060	<0.065	<0.081	<0.082	<0.078 UJ	<0.086	<0.080	<0.048	<0.110	<0.095	<0.074	<0.074	<0.073	**2.70**	**0.160 J**

Notes:

BOLD = detection

< = not detected at or below reported method detection limit

P = primary sample, D = field duplicate

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 2
Volatile Organic Compound Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	2-Ethyl-1-hexanol	4-Chlorotoluene	4-Isopropyltoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**
AL6-96	03/31/2006	635-01	P	<3.90	<3.90	**63.0**	<3.40	**970**	<8.00	<4.20	<130 UJ	<4.30	<3.30	**24.0 J**	<5.30	<4.30	<2.50	<5.00	<16.0
AL6-96	03/31/2006	635-02	D	<3.90	<3.90	**61.0**	<3.40	**950**	<8.00	<4.20	<130	<4.30	<3.30	**24.0 J**	<5.30	<4.30	<2.50	<5.00	<16.0
RP-01-31	03/24/2006	612-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160 UJ	<0.084	<2.50 UJ	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320 UJ
RP-01-51	03/24/2006	613-01	P	<0.078	<0.077	**7.70**	<0.067	**75.0**	<0.160 UJ	<0.084	<2.50 UJ	<0.085	<0.065	**0.790 J**	<0.110	<0.086	<0.050	<0.099	<0.320
RP-01-65	03/24/2006	614-01	P	<0.078	<0.077 UJ	**18.0 J**	<0.067	**160**	<0.160 UJ	<0.084 UJ	**3.60 J**	<0.085 UJ	<0.065 UJ	**2.80**	<0.110 UJ	<0.086	<0.050	<0.099 UJ	<0.320
RP-06-30	03/27/2006	615-01	P	<0.078	<0.077	**0.091 J**	<0.067	<0.053	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
RP-06-87	03/27/2006	616-01	P	<1.60	<1.50	**18.0 J**	<1.30	**220**	<3.20	<1.70	<50.0 UJ	<1.70	<1.30	**2.70 J**	<2.10	<1.70	<1.00	<2.00	<6.30
RP-07-30	03/23/2006	611-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160	<0.084	<2.50	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
RP-07-55	03/22/2006	608-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160	<0.084	<2.50 J	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
RP-07-84	03/23/2006	609-01	P	<0.078	<0.077	**22.0**	<0.067	**210**	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	**1.70**	<0.110	<0.086	<0.050	<0.099	<0.320
RP-07-84	03/23/2006	609-06	D	<0.078	<0.077	**23.0**	<0.067	**240**	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	**1.70**	<0.110	<0.086	<0.050	<0.099	<0.320
RP-07-119	03/23/2006	610-01	P	<0.078	<0.077	**6.40**	<0.067	**54.0**	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	**0.170 J**	<0.110	<0.086	<0.050	<0.099	<0.320
RP-07-119	03/23/2006	610-02	D	<0.078	<0.077	**5.90**	<0.067	**47.0**	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	**0.160 J**	<0.110	<0.086	<0.050	<0.099	<0.320
RP-11-30	03/22/2006	605-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160 UJ	<0.084	<2.50 UJ	<0.085	**0.940 J**	<0.051	<0.110	<0.086 UJ	<0.050	<0.099	<0.320 UJ
RP-11-160	03/22/2006	607-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
RP-11-216	03/21/2006	606-01	P	<0.078	<0.077	**2.60**	<0.067	**25.0**	<0.160 UJ	<0.084	**1,200 J**	<0.085	<0.065	**0.540 J**	<0.110	<0.086 UJ	<0.050	<0.099	<0.320 UJ
W-03-D	03/27/2006	621-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
W-03-I	03/27/2006	620-01	P	<0.078	<0.077	**0.130 J**	<0.067	**0.440 J**	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
W-03-S	03/27/2006	619-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
W-04-I	03/28/2006	623-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
W-04-S	03/28/2006	622-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	**0.140 J**	<0.110	<0.086	<0.050	<0.099	<0.320
W-04-89	03/28/2006	624-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
W-09	04/03/2006	638-01	P	<0.390	**1.00 J**	**9.50**	<0.340	**9.40**	<0.800	<0.420	<13.0	<0.430	**0.630 J**	**21.0**	<0.530	<0.430	<0.250	<0.500 UJ	<1.60
W-09-86	04/03/2006	636-01	P	<0.078	<0.077	**3.20**	<0.067	**42.0**	<0.160	<0.084	<2.50	<0.085	<0.065	**0.130 J**	<0.110	<0.086	<0.050	<0.099 UJ	<0.320
W-09-116	04/03/2006	637-01	P	<1.60	<1.50	**100**	<1.30	**1,100**	<3.20	<1.70	<50.0	<1.70	<1.30	**43.0**	<2.10	<1.70	<1.00	<2.00 UJ	<6.30
W-11-B	03/29/2006	628-01	P	<0.780	<0.770	**15.0**	<0.670	**170**	<1.60	<0.840	<25.0	<0.850	<0.650	**13.0**	<1.10	<0.860	<0.500	<0.990	<3.20
W-11-D	03/29/2006	627-01	P	<0.780	<0.770	**24.0**	<0.670	**330**	<1.60	<0.840	<25.0 UJ	<0.850	<0.650	**6.80 J**	<1.10	<0.860	<0.500	<0.990	<3.20
W-11-I	03/29/2006	626-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160	<0.084	<2.50 UJ	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
W-11-S	03/29/2006	625-01	P	<0.078	**0.400 J**	<0.066	<0.067	<0.053	<0.160	<0.084	**5.30**	<0.085	**0.280 J**	**0.770 J**	<0.110	<0.086	<0.050	<0.099	<0.320
W-12-D	03/30/2006	631-01	P	<0.078	<0.077	**0.095 J**	<0.067	<0.053	<0.160	<0.084	<2.50	<0.085	<0.065	<0.051	<0.110	<0.086	<0.050	<0.099	<0.320
W-12-I	03/30/2006	630-01	P	<0.078 UJ	<0.077 UJ	<0.066 UJ	<0.067 UJ	<0.053 UJ	<0.160 UJ	<0.084 UJ	**3.80 J**	<0.085 UJ	<0.065 UJ	**0.120 J**	<0.110 UJ	<0.086 UJ	<0.050 UJ	<0.099 UJ	<0.320 UJ
W-12-S	03/30/2006	629-01	P	<0.078	**0.820 J**	**0.080 J**	<0.067	<0.053	<0.160	<0.084	<2.50	<0.085	<0.065	**1.50**	<0.110	<0.086	<0.050	<0.099	<0.320
WS-11-125	03/20/2006	601-01	P	<0.078	**4.30**	<0.066	<0.067	**0.220 J**	<0.160 UJ	**0.420 J**	<2.50 UJ	**0.300 J**	**0.370 J**	**330**	<0.110	<0.086 UJ	<0.050	<0.099	<0.320 UJ
WS-11-161	03/20/2006	602-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160 UJ	<0.084	<2.50 UJ	<0.085	<0.065	**0.067 J**	<0.110	<0.086 UJ	<0.050	<0.099	<0.320 UJ
WS-12-125	03/20/2006	603-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160 UJ	<0.084	<2.50 UJ	<0.085	<0.065	**6.60**	<0.110	<0.086 UJ	<0.050	<0.099	<0.320 UJ
WS-12-161	03/21/2006	604-01	P	<0.078	<0.077	<0.066	<0.067	<0.053	<0.160 UJ	<0.084	<2.50 UJ	<0.085	<0.065	**0.071 J**	<0.110	<0.086 UJ	<0.050	<0.099	<0.320 UJ

Notes:

BOLD = detection

< = not detected at or below reported

P = primary sample; D = field duplicate

method detection limit

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 2
Volatile Organic Compound Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

Location ID	Sample Date	Sample ID	Chemical Name / Sample Type	Carbon tetrachloride (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	Chloromethane (µg/L)	cis-1,2-Dichloroethene (µg/L)	cis-1,3-Dichloropropene (µg/L)	Dibromochloromethane (µg/L)	Dibromomethane (µg/L)	Dichlorodifluoromethane (µg/L)	Ethylbenzene (µg/L)	Hexachlorobutadiene (µg/L)	Isobutylalcohol (µg/L)	Isopropylbenzene (µg/L)	m,p-Xylene (µg/L)	Methylene chloride (µg/L)
AL6-96	03/31/2006	635-01	P	<4.10	**2,300**	<6.30	<3.50	<6.00	<3.10	<3.40	<2.60	<3.80	<3.90	**7.00 J**	<3.40	<1,400	<3.30	<4.90	<15.0
AL6-96	03/31/2006	635-02	D	<4.10	**2,300**	<6.30	<3.50	<6.00	<3.10	<3.40	<2.60	<3.80	<3.90	<3.20	<3.40	<1,400	<3.30	<4.90	<15.0
RP-01-31	03/24/2006	612-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0 R	<0.065	<0.098	<0.310
RP-01-51	03/24/2006	613-01	P	<0.082	**46.0**	<0.130	**0.150 J**	<0.120	**4.70**	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0 R	**0.072 J**	<0.098	<0.310
RP-01-65	03/24/2006	614-01	P	<0.082	**99.0**	<0.130	**0.360 J**	<0.120	**10.0**	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067 UJ	<28.0 R	**0.160 J**	**0.130 J**	<0.310
RP-06-30	03/27/2006	615-01	P	<0.082	<0.077	<0.130	<0.070	**0.220 J**	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0	<0.065	<0.098	<0.310
RP-06-87	03/27/2006	616-01	P	<1.60	**120**	<2.50	<1.40	**2.90 J**	**13.0 J**	<1.30	<1.00	<1.50	<1.50	<1.30	<1.30	<560	<1.30	<2.00	<6.20
RP-07-30	03/23/2006	611-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0 R	<0.065	<0.098	<0.310
RP-07-55	03/22/2006	608-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0 R	<0.065	<0.098	<0.310
RP-07-84	03/23/2006	609-01	P	<0.082	**120**	<0.130	**0.120 J**	**0.240 J**	**16.0**	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0 R	**0.200 J**	**0.130 J**	<0.310
RP-07-84	03/23/2006	609-06	D	<0.082	**140**	<0.130	**0.140 J**	**0.360 J**	**17.0**	<0.067	<0.052	<0.075	<0.077	**0.240 J**	<0.067	<28.0 R	**0.190 J**	**0.120 J**	<0.310
RP-07-119	03/23/2006	610-01	P	<0.082	**13.0**	<0.130	**0.690 J**	<0.120	**5.80**	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0 R	<0.065	**0.110 J**	<0.310
RP-07-119	03/23/2006	610-02	D	<0.082	**13.0**	<0.130	**0.700 J**	<0.120	**5.90**	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0 R	<0.065	**0.120 J**	<0.310
RP-11-30	03/22/2006	605-01	P	<0.082 UJ	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077 UJ	**0.085 J**	<0.067	<28.0 R	**0.380 J**	**0.200 J**	<0.310
RP-11-160	03/22/2006	607-01	P	**0.110 J**	<0.077	<0.130	**0.490 J**	**0.190 J**	<0.062	<0.067	<0.052	<0.075	<0.077	**0.072 J**	<0.067	<28.0 R	<0.065	**0.150 J**	<0.310
RP-11-216	03/21/2006	606-01	P	<0.082 UJ	**17.0**	<0.130	**0.740 J**	<0.120	**6.00**	<0.067	<0.052	<0.075	<0.077 UJ	**0.140 J**	<0.067	<28.0 R	<0.065	**0.380 J**	<0.310
W-03-D	03/27/2006	621-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0	<0.065	<0.098	<0.310
W-03-I	03/27/2006	620-01	P	<0.082	**0.830 J**	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0	<0.065	**0.260 J**	<0.310
W-03-S	03/27/2006	619-01	P	<0.082	**0.190 J**	<0.130	<0.070	**0.200 J**	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0	<0.065	<0.098	<0.310
W-04-I	03/28/2006	623-01	P	<0.082	<0.077	<0.130	<0.070	**0.150 J**	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0	<0.065	<0.098	<0.310
W-04-S	03/28/2006	622-01	P	<0.082	**0.690 J**	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	**0.160 J**	<0.067	<28.0	<0.065	**0.270 J**	<0.310
W-04-89	03/28/2006	624-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	**0.120 J**	<0.067	<28.0	<0.065	**0.260 J**	<0.310
W-09	04/03/2006	638-01	P	<0.410	**15.0**	<0.630	<0.350	<0.600	<0.310	<0.340	<0.260	<0.380	<0.390	**6.00**	<0.340	<140 R	**2.20 J**	**11.0**	<1.50
W-09-86	04/03/2006	636-01	P	<0.082	**37.0**	<0.130	<0.070	<0.120	**0.470 J**	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0 R	<0.065	<0.098	<0.310
W-09-116	04/03/2006	637-01	P	<1.60	**270**	<2.50	<1.40	<2.40	**8.70 J**	<1.30	<1.00	<1.50	<1.50	<1.30	<1.30	<560 R	**4.00 J**	<2.00	<6.20
W-11-B	03/29/2006	628-01	P	<0.820	**110**	<1.30	<0.700	<1.20	**23.0**	<0.670	<0.520	<0.750	<0.770	<0.640	<0.670	<280	<0.650	<0.980	<3.10
W-11-D	03/29/2006	627-01	P	<0.820	**640**	<1.30	<0.700	<1.20	**2.00 J**	<0.670	<0.520	<0.750	<0.770	<0.640	<0.670	<280	**2.10 J**	**2.80 J**	<3.10
W-11-I	03/29/2006	626-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0	<0.065	<0.098	<0.310
W-11-S	03/29/2006	625-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	**0.500 J**	<28.0	**0.210 J**	**0.900 J**	<0.310
W-12-D	03/30/2006	631-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077	<0.064	<0.067	<28.0	<0.065	<0.098	<0.310
W-12-I	03/30/2006	630-01	P	<0.082 UJ	<0.077 UJ	<0.130 UJ	<0.070 UJ	<0.120 UJ	**0.160 J**	<0.067 UJ	<0.052 UJ	<0.075 UJ	<0.077 UJ	<0.064 UJ	<0.067 UJ	<28.0 UJ	<0.065 UJ	<0.098 UJ	<0.310 UJ
W-12-S	03/30/2006	629-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	**5.00**	<0.067	<0.052	<0.075	<0.077	**0.470 J**	<0.067	<28.0	**0.230 J**	**2.00**	<0.310
WS-11-125	03/20/2006	601-01	P	<0.082	<0.077	**2.20 J**	<0.070	<0.120	**17,000**	<0.067	<0.052	<0.075	<0.077 UJ	**56.0**	<0.067	<28.0 R	**1.80**	**28.0**	<0.310
WS-11-161	03/20/2006	602-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077 UJ	<0.064	<0.067	<28.0 R	<0.065	<0.098	<0.310
WS-12-125	03/20/2006	603-01	P	<0.082	<0.077	<0.130	<0.070	<0.120	**2.10**	<0.067	<0.052	<0.075	<0.077 UJ	<0.064	<0.067	<28.0 R	**0.210 J**	<0.098	<0.310
WS-12-161	03/21/2006	604-01	P	<0.082 UJ	**3.10**	<0.130	<0.070	<0.120	<0.062	<0.067	<0.052	<0.075	<0.077 UJ	<0.064	<0.067	<28.0 R	<0.065	<0.098	<0.310

Notes:

BOLD = detection

< = not detected at or below reported method detection limit

P = primary sample; D = field duplicate

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 2
Volatile Organic Compound Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

Location ID	Sample Date	Sample ID	Sample Type	Methyl-t-Butyl Ether (MTBE) (µg/L)	Naphthalene (µg/L)	n-Butylbenzene (µg/L)	n-Propylbenzene (µg/L)	o-Xylene (µg/L)	sec-Butylbenzene (µg/L)	Styrene (µg/L)	tert-Butylbenzene (µg/L)	Tetrachloroethene (µg/L)	Toluene (µg/L)	trans-1,2-Dichloroethene (µg/L)	trans-1,3-Dichloropropene (µg/L)	Trichloroethene (µg/L)	Trichlorofluoromethane (µg/L)	Vinyl chloride (ug/L)
AL6-96	03/31/2006	635-01	P	<2.70	<3.50	<4.40	<2.90	<3.70	<4.20	<3.30	<3.50	<3.30	**4.70 J**	<4.60	<3.00	<2.80	<4.90	<6.90
AL6-96	03/31/2006	635-02	D	<2.70	<3.50	<4.40	<2.90	<3.70	<4.20	<3.30	<3.50	<3.30	<3.10	<4.60	<3.00	<2.80	<4.90	<6.90
RP-01-31	03/24/2006	612-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
RP-01-51	03/24/2006	613-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	**0.230 J**	**0.510 J**	<0.060	**4.50**	<0.097	**11.0**
RP-01-65	03/24/2006	614-01	P	<0.054	<0.071 UJ	<0.087 UJ	<0.057 UJ	<0.073	<0.084 UJ	<0.066	<0.069 UJ	**0.100 J**	**0.300 J**	**1.10**	<0.060	**11.0**	<0.097	**21.0**
RP-06-30	03/27/2006	615-01	P	<0.054	**0.480 J**	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
RP-06-87	03/27/2006	616-01	P	<1.10	<1.40	<1.70	<1.10	<1.50	<1.70	<1.30	<1.40	<1.30	<1.20	<1.80	<1.20	**23.0**	<1.90	**16.0 J**
RP-07-30	03/23/2006	611-01	P	<0.054	<0.071	**0.100 J**	<0.057	**0.074 J**	<0.084	<0.066	<0.069	<0.066	**0.140 J**	<0.091	<0.060	<0.055	<0.097	<0.140
RP-07-55	03/22/2006	608-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	**0.140 J**	<0.091	<0.060	<0.055	<0.097	<0.140
RP-07-84	03/23/2006	609-01	P	**1.40**	<0.071	<0.087	<0.057	**0.097 J**	<0.084	<0.066	<0.069	**0.180 J**	**0.540 J**	**1.30**	<0.060	**16.0**	<0.097	**16.0**
RP-07-84	03/23/2006	609-06	D	**1.50**	<0.071	<0.087	<0.057	**0.085 J**	<0.084	<0.066	<0.069	**0.170 J**	**0.510 J**	**1.30**	<0.060	**17.0**	<0.097	**16.0**
RP-07-119	03/23/2006	610-01	P	<0.054	<0.071	<0.087	<0.057	**0.085 J**	<0.084	<0.066	<0.069	**0.097 J**	**0.440 J**	<0.091	<0.060	**8.50**	<0.097	**0.170 J**
RP-07-119	03/23/2006	610-02	D	<0.054	<0.071	<0.087	<0.057	**0.083 J**	<0.084	<0.066	<0.069	**0.070 J**	**0.420 J**	<0.091	<0.060	**8.70**	<0.097	**0.200 J**
RP-11-30	03/22/2006	605-01	P	<0.054	<0.071	**0.780 J**	<0.057	**0.750 J**	<0.084	<0.066	<0.069	<0.066	**4.50**	<0.091	<0.060	<0.055	<0.097	<0.140
RP-11-160	03/22/2006	607-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	**0.480 J**	<0.091	<0.060	<0.055	<0.097	<0.140
RP-11-216	03/21/2006	606-01	P	**3.30**	<0.071	<0.087	<0.057	**0.200 J**	<0.084	<0.066	<0.069	<0.066	**1.90**	**0.120 J**	**0.068 J**	**2.30**	<0.097	**2.60**
W-03-D	03/27/2006	621-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
W-03-I	03/27/2006	620-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
W-03-S	03/27/2006	619-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
W-04-I	03/28/2006	623-01	P	<0.054	<0.071 UJ	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
W-04-S	03/28/2006	622-01	P	<0.054	<0.071 UJ	<0.087	<0.057	**0.140 J**	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
W-04-89	03/28/2006	624-01	P	<0.054	<0.071 UJ	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
W-09	04/03/2006	638-01	P	<0.270	**0.740 J**	<0.440	**1.80 J**	**13.0**	<0.420	<0.330	<0.350	<0.330	**4.70 J**	<0.460	<0.300	<0.280	<0.490	<0.690
W-09-86	04/03/2006	636-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	**0.580 J**	<0.097	**0.380 J**
W-09-116	04/03/2006	637-01	P	<1.10	<1.40	<1.70	<1.10	<1.50	<1.70	<1.30	<1.40	<1.30	<1.20	<1.80	<1.20	**10.0 J**	<1.90	**6.90 J**
W-11-B	03/29/2006	628-01	P	<0.540	<0.710	<0.870	<0.570	<0.730	<0.840	<0.660	<0.690	<0.660	**0.680 J**	**1.00 J**	<0.600	**1.70 J**	<0.970	**10.0**
W-11-D	03/29/2006	627-01	P	<0.540	<0.710 UJ	<0.870	<0.570	**1.50 J**	<0.840	<0.660	<0.690	<0.660	<0.620	**0.960 J**	<0.600	**0.710 J**	<0.970	**8.90 J**
W-11-I	03/29/2006	626-01	P	<0.054	<0.071 UJ	<0.087	<0.057	**0.140 J**	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
W-11-S	03/29/2006	625-01	P	<0.054	**0.740 J**	<0.087	**0.200 J**	**0.530 J**	<0.084	<0.066	**0.230 J**	<0.066	**0.750 J**	<0.091	<0.060	<0.055	<0.097	<0.140
W-12-D	03/30/2006	631-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	<0.062	<0.091	<0.060	<0.055	<0.097	<0.140
W-12-I	03/30/2006	630-01	P	<0.054 UJ	<0.071 UJ	<0.087 UJ	<0.057 UJ	<0.073 UJ	<0.084 UJ	<0.066 UJ	<0.069 UJ	<0.066 UJ	<0.062 UJ	<0.091 UJ	<0.060 UJ	<0.055 UJ	<0.097 UJ	<0.140 UJ
W-12-S	03/30/2006	629-01	P	<0.054	<0.071	<0.087	<0.057	**2.00**	<0.084	<0.066	<0.069	<0.066	**0.760 J**	<0.091	<0.060	**0.086 J**	<0.097	<0.140
WS-11-125	03/20/2006	601-01	P	<0.054	**780**	**12.0**	**0.980 J**	**26.0**	<0.084	<0.066	<0.069	<0.066	**36.0**	**250 J**	<0.060	**350**	<0.097	**2,200**
WS-11-161	03/20/2006	602-01	P	<0.054	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	**0.081 J**	<0.091	<0.060	**0.150 J**	<0.097	<0.140
WS-12-125	03/20/2006	603-01	P	<0.054	<0.071	<0.087	<0.057	**0.110 J**	<0.084	<0.066	<0.069	<0.066	**0.150 J**	<0.091	<0.060	**0.330 J**	<0.097	**5.20**
WS-12-161	03/21/2006	604-01	P	**7.30**	<0.071	<0.087	<0.057	<0.073	<0.084	<0.066	<0.069	<0.066	**0.170 J**	<0.091	<0.060	**0.058 J**	<0.097	<0.140

Notes:

BOLD = detection

< = not detected at or below reported method detection limit

P = primary sample; D = field duplicate

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 3
Semivolatile Organic Compound Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1-Methylnaphthalene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronapthalene	2-Chlorophenol	2-Methyl-4,6-dinitrophenol	2-Methylnaphthalene	2-Methylphenol
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**
AL6-96	03/31/2006	635-01	P	**1.10 J**	**700**	**55.0**	**740**	<0.093	<0.540 UJ	<0.870 UJ	**3.10 J**	<1.50 UJ	<7.70 UJ	<0.370	<0.210	<0.079	<0.240 UJ	<6.70 UJ	<0.180	**2.00 J**
AL6-96	03/31/2006	635-02	D	**1.10 J**	**660**	**50.0**	**680**	<0.091	<0.530 R	<0.850 R	**2.50 J**	<1.50 R	<7.50 R	<0.360	<0.210	<0.077	<0.240 R	<6.60 R	<0.180	**0.880 J**
RP-01-31	03/24/2006	612-01	P	<0.560	<0.490	<0.540	<0.610	<0.087	<0.510 UJ	<0.810 UJ	<0.290 UJ	<1.40 UJ	<7.20 UJ	<0.340	<0.200	<0.074	<0.230 UJ	<6.30 UJ	<0.170	<0.600 UJ
RP-01-51	03/24/2006	613-01	P	<0.550	**570**	**19.0**	**180**	<0.086	<0.500 UJ	<0.810 UJ	<0.280 UJ	<1.40 UJ	<7.10 UJ	<0.340	<0.200	<0.073	<0.230 UJ	<6.30 UJ	<0.170	<0.600 UJ
RP-01-65	03/24/2006	614-01	P	<0.550	**260**	**9.10**	**77.0**	<0.086	<0.500 UJ	<0.810 UJ	**0.640 J**	<1.40 UJ	<7.10 UJ	<0.340	<0.200	<0.073	<0.230 UJ	<6.30 UJ	<0.170	<0.600 UJ
RP-06-30	03/27/2006	615-01	P	<0.580	<0.510	<0.560	<0.640	<0.091	<0.530	<0.850	<0.300	<1.50	<7.50	<0.360	<0.210	<0.077	<0.240	<6.60	<0.180	<0.630
RP-06-87	03/27/2006	616-01	P	<0.580	**640**	**18.0**	**160**	<0.091	<0.530	<0.850	<0.300	<1.50	<7.50	<0.360	<0.210	<0.077	<0.240	<6.60	<0.180	<0.630
RP-07-30	03/23/2006	611-01	P	<0.610	<0.540	<0.590	<0.670	<0.096	<0.560 UJ	<0.890 UJ	<0.320 UJ	<1.60 UJ	<7.90 UJ	<0.380	<0.220	<0.081	<0.250 UJ	<6.90 UJ	<0.190	<0.660 UJ
RP-07-55	03/22/2006	608-01	P	<0.590	<0.520	<0.570	<0.650	<0.093	<0.540 R	<0.870 R	<0.310 R	<1.50 R	<7.70 R	<0.370	<0.210	<0.079	<0.240 R	<6.70 R	<0.180	<0.640 R
RP-07-84	03/23/2006	609-01	P	<0.590	**670**	**26.0**	**220**	<0.092	<0.540 UJ	<0.860 UJ	**2.10 J**	<1.50 UJ	<7.60 UJ	<0.360	<0.210	<0.078	<0.240 UJ	<6.70 UJ	<0.180	<0.640 UJ
RP-07-84	03/23/2006	609-06	D	<0.590	**620**	**24.0**	**220**	<0.092	<0.540 UJ	<0.860 UJ	**1.80 J**	<1.50 UJ	<7.60 UJ	<0.360	<0.210	<0.078	<0.240 UJ	<6.70 UJ	<0.180	<0.640 UJ
RP-07-119	03/23/2006	610-01	P	<0.550	**130**	**6.00**	**41.0**	<0.086	<0.500 UJ	<0.810 UJ	**1.50 J**	<1.40 UJ	<7.10 UJ	<0.340	<0.200	<0.073	<0.230 UJ	<6.30 UJ	<0.170	<0.600 UJ
RP-07-119	03/23/2006	610-02	D	<0.550	**140**	**5.50**	**46.0**	<0.086	<0.500 UJ	<0.810 UJ	**1.30 J**	<1.40 UJ	<7.10 UJ	<0.340	<0.200	<0.073	<0.230 UJ	<6.30 UJ	<0.170	<0.600 UJ
RP-11-30	03/22/2006	605-01	P	<0.600	<0.530	<0.580	<0.660	**0.450**	<0.550 R	<0.880 R	<0.310 R	<1.60 R	<7.80 R	<0.370	<0.220	<0.080	<0.250 R	<6.80 R	<0.190	<0.650 R
RP-11-160	03/22/2006	607-01	P	<0.600	<0.530	<0.580	<0.660	<0.094	<0.550 UJ	<0.880 UJ	<0.310 UJ	<1.60 UJ	<7.80 UJ	<0.370	<0.220	<0.080	<0.250 UJ	<6.80 UJ	<0.190	<0.650 UJ
RP-11-216	03/21/2006	606-01	P	<0.570	**82.0**	**2.30**	**20.0**	<0.090	<0.520 UJ	<0.840 UJ	<0.300 UJ	<1.50 UJ	<7.40 UJ	<0.360	<0.210	<0.076	<0.240 UJ	<6.50 UJ	<0.180	<0.620 UJ
W-03-D	03/27/2006	621-01	P	<0.550	<0.490	<0.530	<0.610	<0.087	<0.500	<0.810	<0.290	<1.40	<7.10	<0.340	<0.200	<0.073	<0.230	<6.30	<0.170	<0.600
W-03-I	03/27/2006	620-01	P	<0.590	**8.70**	<0.570	<0.650	<0.093	<0.540	<0.870	<0.310	<1.50	<7.70	<0.370	<0.210	<0.079	<0.240	<6.70	<0.180	<0.640
W-03-S	03/27/2006	619-01	P	<0.550	**1.10 J**	<0.530	<0.610	<0.087	<0.500	<0.810	**0.410 J**	<1.40	<7.10	<0.340	<0.200	<0.073	<0.230	<6.30	<0.170	<0.600
W-04-I	03/28/2006	623-01	P	<0.550	**0.810 J**	<0.530	<0.610	<0.086	<0.500 UJ	<0.810 UJ	<0.280 UJ	<1.40 UJ	<7.10 UJ	<0.340	<0.200	<0.073	<0.230 UJ	<6.30 UJ	<0.170	<0.600 UJ
W-04-S	03/28/2006	622-01	P	<0.550	**1.40 J**	<0.530	<0.610	<0.087	<0.500 UJ	<0.810 UJ	<0.290 UJ	<1.40 UJ	<7.10 UJ	<0.340	<0.200	<0.073	<0.230 UJ	<6.30 UJ	<0.170	**3.20 J**
W-04-89	03/28/2006	624-01	P	<0.590	<0.520	<0.570	<0.660	<0.093	<0.540 UJ	<0.870 UJ	<0.310 UJ	<1.50 UJ	<7.70 UJ	<0.370	<0.220	<0.079	<0.250 UJ	<6.80 UJ	<0.180	<0.650 UJ
W-09	04/03/2006	638-01	P	<0.550	**13.0**	**0.740 J**	**6.10**	**0.660**	<0.500 UJ	<0.810 UJ	<0.290 UJ	**3.70 J**	<7.10 UJ	<0.340	<0.200	<0.073	<0.230 UJ	<6.30 UJ	**0.180 J**	**39.0 J**
W-09-86	04/03/2006	636-01	P	<0.560	**150**	**2.70**	**35.0**	<0.088	<0.510 R	<0.820 R	<0.290 R	<1.40 R	<7.20 R	<0.350	<0.200	<0.074	<0.230 R	<6.30 R	<0.170	<0.610 R
W-09-116	04/03/2006	637-01	P	**0.760 J**	**2,300**	**80.0**	**790**	<0.087	<0.510 R	**0.820 J**	**2.80 J**	<1.40 R	<7.20 R	<0.340	<0.200	<0.074	<0.230 R	<6.30 R	<0.170	<0.600 R
W-11-B	03/29/2006	628-01	P	<0.600	**380**	**13.0**	**120**	<0.094	<0.550 UJ	<0.880 UJ	**1.70 J**	<1.60 UJ	<7.80 UJ	<0.370	<0.220	<0.080	**1.20 J**	<6.80 UJ	<0.190	<0.650 UJ
W-11-D	03/29/2006	627-01	P	<0.580	**540**	**24.0**	**250**	<0.091	<0.530 R	<0.850 R	**1.60 J**	<1.50 R	<7.50 R	<0.360	<0.210	<0.077	<0.240 R	<6.60 R	<0.180	<0.630 R
W-11-I	03/29/2006	626-01	P	<0.640	<0.560	<0.620	<0.700	<0.100	<0.580 UJ	<0.930 UJ	<0.330 UJ	<1.60 UJ	<8.20 UJ	<0.400	<0.230	<0.085	<0.260 UJ	<7.30 UJ	<0.200	<0.690 UJ
W-11-S	03/29/2006	625-01	P	<0.560	<0.490	<0.540	<0.610	**0.280 J**	<0.510 UJ	<0.810 UJ	<0.290 UJ	**5.20 J**	<7.20 UJ	<0.340	<0.200	<0.074	<0.230 UJ	<6.30 UJ	<0.170	**0.880 J**
W-12-D	03/30/2006	631-01	P	<0.590	<0.520	<0.570	<0.650	<0.093	<0.540 UJ	<0.870 UJ	<0.310 UJ	<1.50 UJ	<7.70 UJ	<0.370	<0.210	<0.079	<0.240 UJ	<6.70 UJ	<0.180	<0.640 UJ
W-12-I	03/30/2006	630-01	P	<0.580	<0.510	<0.560	<0.640	<0.091	<0.530 R	<0.850 R	<0.300 R	<1.50 R	<7.50 R	<0.360	<0.210	<0.077	<0.240 R	<6.60 R	<0.180	<0.630 R
W-12-S	03/30/2006	629-01	P	<0.550	<0.490	<0.530	<0.610	**0.100 J**	**1.40 J**	**1.40 J**	**12.0 J**	**4.30 J**	<7.10 UJ	<0.340	<0.200	<0.073	**1.70 J**	<6.30 UJ	<0.170	**7.10 J**
WS-11-125	03/20/2006	601-01	P	<0.590	<0.520	<0.570	<0.650	**43.0**	<0.540 UJ	<0.870 UJ	<0.310 UJ	<1.50 UJ	<7.70 UJ	<0.370	<0.210	<0.079	<0.240 UJ	<6.70 UJ	**19.0**	<0.640 UJ
WS-11-161	03/20/2006	602-01	P	<0.640	<0.560	<0.620	<0.700	<0.100	<0.580 R	<0.930 R	<0.330 R	<1.60 R	<8.20 R	<0.400	<0.230	<0.085	<0.260 R	<7.30 R	<0.200	<0.690 R
WS-12-125	03/20/2006	603-01	P	<0.590	<0.520	<0.570	<0.650	<0.092	<0.540 R	<0.860 R	<0.300 R	<1.50 R	<7.60 R	<0.370	<0.210	<0.078	**0.680 R**	<6.70 R	<0.180	<0.640 R
WS-12-161	03/21/2006	604-01	P	<0.610	**2.10**	<0.590	<0.670	<0.095	<0.550 R	<0.890 R	<0.310 R	<1.60 R	<7.90 R	<0.380	<0.220	<0.081	<0.250 R	<6.90 R	<0.190	<0.660 R

Notes:

BOLD = detection

< = not detected at or below reported

P = primary sample, D = field duplicate

method detection limit

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 3
Semivolatile Organic Compound Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	2-Nitroaniline	2-Nitrophenol	3,3'-Dichlorobenzidine	3/4-Cresol	3-Nitroaniline	4-Bromophenylphenyl ether	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenylphenyl ether	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(ghi)perylene
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**
AL6-96	03/31/2006	635-01	P	<0.290	<0.570 UJ	<1.40	<0.480 UJ	<0.290 UJ	<0.290	**12.0 J**	<0.490	<0.360	<0.830	<1.70 UJ	<0.150	<0.110	<0.067	<0.100	<0.049	<0.070
AL6-96	03/31/2006	635-02	D	<0.280	<0.560 R	<1.40	<0.470 R	<0.280 UJ	<0.280	**9.00 J**	<0.480	<0.350	<0.810	<1.70 R	<0.140	<0.110	<0.066	<0.100	<0.048	<0.069
RP-01-31	03/24/2006	612-01	P	<0.270	<0.540 UJ	<1.30	<0.450 UJ	<0.270 UJ	<0.270	<0.380 UJ	<0.460	<0.330	<0.780	<1.60 UJ	<0.140	<0.110	<0.063	<0.097	<0.046	<0.066
RP-01-51	03/24/2006	613-01	P	<0.270	<0.530 UJ	<1.30	<0.450 UJ	<0.270 UJ	<0.270	<0.380 UJ	<0.450	<0.330	<0.770	<1.60 UJ	<0.140	<0.110	<0.063	<0.096	<0.045	<0.065
RP-01-65	03/24/2006	614-01	P	<0.270	<0.530 UJ	<1.30	<0.450 UJ	<0.270 UJ	<0.270	<0.380 UJ	<0.450	<0.330	<0.770	<1.60 UJ	<0.140	<0.110	<0.063	<0.096	<0.045	<0.065
RP-06-30	03/27/2006	615-01	P	<0.280	<0.560	<1.40	<0.470 UJ	<0.280	<0.280	<0.400	<0.480	<0.350	<0.810	<1.70	**0.180 J**	<0.110	<0.066	<0.100	<0.048	<0.069
RP-06-87	03/27/2006	616-01	P	<0.280	<0.560	<1.40	<0.470 UJ	<0.280	<0.280	**1.40 J**	<0.480	<0.350	<0.810	<1.70	<0.140	<0.110	<0.066	<0.100	<0.048	<0.069
RP-07-30	03/23/2006	611-01	P	<0.290	<0.590 UJ	<1.50	<0.490 UJ	<0.290 UJ	<0.290	<0.420 UJ	<0.510	<0.370	<0.850	<1.80 UJ	**8.70**	<0.120	**0.150 J**	<0.110	**0.390**	<0.073
RP-07-55	03/22/2006	608-01	P	<0.290	<0.570 R	<1.40	<0.480 R	<0.290 UJ	<0.290	<0.410 R	<0.490	<0.360	<0.830	<1.70 R	<0.150	<0.110	<0.067	<0.100	<0.049	<0.070
RP-07-84	03/23/2006	609-01	P	<0.280	<0.570 UJ	<1.40	<0.470 UJ	<0.280 UJ	<0.280	<0.400 UJ	<0.480	<0.350	<0.820	<1.70 UJ	<0.150	<0.110	<0.067	<0.100	<0.048	<0.070
RP-07-84	03/23/2006	609-06	D	<0.280	<0.570 UJ	<1.40	<0.470 UJ	<0.280 UJ	<0.280	<0.400 UJ	<0.480	<0.350	<0.820	<1.70 UJ	<0.150	<0.110	<0.067	<0.100	<0.048	<0.070
RP-07-119	03/23/2006	610-01	P	<0.270	<0.530 UJ	<1.30	<0.450 UJ	<0.270 UJ	<0.270	<0.380 UJ	<0.450	<0.330	<0.770	<1.60 UJ	<0.140	<0.110	<0.063	<0.096	<0.045	<0.065
RP-07-119	03/23/2006	610-02	D	<0.270	<0.530 UJ	<1.30	<0.450 UJ	<0.270 UJ	<0.270	<0.380 UJ	<0.450	<0.330	<0.770	<1.60 UJ	<0.140	<0.110	<0.063	<0.096	**0.350**	<0.065
RP-11-30	03/22/2006	605-01	P	<0.290	<0.580 R	<1.40	<0.490 R	<0.290 UJ	<0.290	<0.410 R	<0.500	<0.360	<0.840	<1.80 R	**3.30**	<0.120	**0.100 J**	<0.100	<0.050	<0.072
RP-11-160	03/22/2006	607-01	P	<0.290	<0.580 UJ	<1.40	**0.500 J**	<0.290 UJ	<0.290	<0.410 UJ	<0.500	<0.360	<0.840	<1.80 UJ	<0.150	<0.120	<0.068	<0.100	<0.050	<0.072
RP-11-216	03/21/2006	606-01	P	<0.280	<0.550 UJ	<1.40	<0.470 UJ	<0.280 UJ	<0.280	<0.400 UJ	<0.480	<0.350	<0.800	<1.70 UJ	<0.140	<0.110	<0.065	<0.100	<0.048	<0.068
W-03-D	03/27/2006	621-01	P	<0.270	<0.530	<1.30	<0.450 UJ	<0.270	<0.270	<0.380	<0.460	<0.330	<0.770	<1.60	<0.140	<0.110	<0.063	<0.096	<0.046	<0.066
W-03-I	03/27/2006	620-01	P	<0.290	<0.570	<1.40	<0.480 UJ	<0.290	<0.290	**22.0**	<0.490	<0.360	<0.830	<1.70	<0.150	<0.110	<0.067	<0.100	<0.049	<0.070
W-03-S	03/27/2006	619-01	P	<0.270	<0.530	<1.30	<0.450 UJ	<0.270	<0.270	<0.380	<0.460	<0.330	<0.770	<1.60	<0.140	<0.110	<0.063	<0.096	<0.046	<0.066
W-04-I	03/28/2006	623-01	P	<0.270	<0.530 UJ	<1.30	<0.450 UJ	<0.270 UJ	<0.270	<0.380 UJ	<0.450	<0.330	<0.770	<1.60 UJ	<0.140	**0.120 J**	<0.063	<0.096	<0.045	<0.065
W-04-S	03/28/2006	622-01	P	<0.270	<0.530 UJ	<1.30	**6.80 J**	<0.270 UJ	<0.270	<0.380 UJ	<0.460	<0.330	<0.770	<1.60 UJ	<0.140	<0.110	<0.063	<0.096	<0.046	<0.066
W-04-89	03/28/2006	624-01	P	<0.290	<0.570 UJ	<1.40	<0.480 UJ	<0.290 UJ	<0.290	<0.410 UJ	<0.490	<0.360	<0.830	<1.70 UJ	<0.150	<0.110	<0.068	<0.100	<0.049	<0.071
W-09	04/03/2006	638-01	P	<0.270	<0.530 UJ	<1.30	<0.450 UJ	<0.270 UJ	<0.270	<0.380 UJ	<0.460	<0.330	<0.770	<1.60 UJ	**0.200 J**	<0.110	<0.063	<0.096	<0.046	<0.066
W-09-86	04/03/2006	636-01	P	<0.270	<0.540 R	<1.30	<0.450 R	<0.270 UJ	<0.270	<0.380 R	<0.460	<0.340	<0.780	<1.60 R	<0.140	<0.110	<0.063	<0.097	<0.046	<0.066
W-09-116	04/03/2006	637-01	P	<0.270	<0.540 R	<1.30	<0.450 R	<0.270 UJ	<0.270	**0.640 J**	<0.460	<0.330	<0.780	<1.60 R	<0.140	<0.110	<0.063	<0.097	<0.046	<0.066
W-11-B	03/29/2006	628-01	P	<0.290	<0.580 UJ	<1.40	<0.490 UJ	<0.290 UJ	<0.290	<0.410 UJ	<0.500	<0.360	<0.840	<1.80 UJ	<0.150	<0.120	<0.068	<0.100	<0.050	<0.072
W-11-D	03/29/2006	627-01	P	<0.280	<0.560 R	<1.40	<0.470 R	<0.280 UJ	<0.280	<0.400 R	<0.480	<0.350	<0.810	<1.70 R	<0.140	<0.110	<0.066	<0.100	<0.048	<0.069
W-11-I	03/29/2006	626-01	P	<0.310	<0.620 UJ	<1.50	<0.520 UJ	<0.310 UJ	<0.310	<0.440 UJ	<0.530	<0.380	<0.890	<1.90 UJ	<0.160	<0.120	<0.073	<0.110	<0.053	<0.076
W-11-S	03/29/2006	625-01	P	<0.270	<0.540	<1.30	**1.40 J**	<0.270 UJ	<0.270	<0.380 UJ	<0.460	<0.330	<0.780	<1.60 UJ	<0.140	<0.110	<0.063	<0.097	<0.046	<0.066
W-12-D	03/30/2006	631-01	P	<0.290	<0.570 UJ	<1.40	<0.480 UJ	<0.290 UJ	<0.290	<0.410 UJ	<0.490	<0.360	<0.830	<1.70 UJ	<0.150	<0.110	<0.067	<0.100	<0.049	<0.070
W-12-I	03/30/2006	630-01	P	<0.280	<0.560 R	<1.40	**0.540 J**	<0.280 UJ	<0.280	<0.400 R	<0.480	<0.350	<0.810	<1.70 R	<0.140	<0.110	<0.066	<0.100	<0.048	<0.069
W-12-S	03/30/2006	629-01	P	<0.270	<0.530 UJ	<1.30	**4.40 J**	<0.270 UJ	<0.270	<0.380 UJ	<0.460	<0.330	<0.770	<1.60 UJ	<0.140	<0.110	<0.063	<0.096	<0.046	<0.066
WS-11-125	03/20/2006	601-01	P	<0.290 UJ	<0.570 UJ	**2.80 J**	<0.480 UJ	<0.290	<0.290	<0.410 UJ	<0.490 UJ	<0.360	<0.830	<1.70 UJ	**25.0**	**6.70**	**4.10**	**0.610**	**0.520**	**0.420**
WS-11-161	03/20/2006	602-01	P	<0.310 UJ	<0.620 R	<1.50	<0.520 R	<0.310 UJ	<0.310	<0.440 R	<0.530 UJ	<0.380	<0.890	<1.90 R	<0.160	<0.120	<0.073	<0.110	<0.053	<0.076
WS-12-125	03/20/2006	603-01	P	<0.280 UJ	<0.570 R	**16.0**	<0.480 UJ	<0.280 UJ	<0.280	<0.410 R	<0.490 UJ	<0.360	<0.820	<1.70 R	**0.330 J**	<0.110	**0.092 J**	<0.100	<0.049	<0.070
WS-12-161	03/21/2006	604-01	P	<0.290	<0.590 R	<1.50	<0.490 R	<0.290 UJ	<0.290	<0.420 R	<0.500	<0.370	<0.850	<1.80 R	<0.150	<0.120	<0.069	<0.110	**0.390**	<0.072

Notes:

BOLD = detection

< = not detected at or below reported

P = primary sample; D = field duplicate

method detection limit

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 3
Semivolatile Organic Compound Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	Benzofluoranthenes	Benzoic acid	Benzyl alcohol	Bis(2-Chloroethoxy) methane	Bis(2-Chloroethyl) ether	Bis(2-chloroisopropyl) Ether	bis(2-Ethylhexyl) phthalate	Butylbenzylphthalate	Carbazole	Chrysene	Dibenzo(a,h)anthracene	Dibenzofuran	Diethylphthalate	Dimethylphthalate	Di-n-butylphthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**
AL6-96	03/31/2006	635-01	P	<0.120	<1.10 UJ	<0.380	<0.320	<0.300	<0.280	<0.610	<0.190	<0.220	<0.053	<0.100	<0.280	<0.220	<0.290	**0.500 J**	<0.440	<0.076	<0.093	<0.390
AL6-96	03/31/2006	635-02	D	<0.120	<1.00 R	**0.460 J**	<0.310	<0.290	<0.270	<0.600	<0.190	<0.220	<0.052	<0.099	<0.270	<0.220	<0.280	**0.500 J**	<0.430	<0.074	<0.091	<0.380
RP-01-31	03/24/2006	612-01	P	<0.110	<0.990	<0.350	<0.300	<0.280	<0.260	<0.570	<0.180	<0.210	<0.050	<0.095	<0.260	<0.210	<0.270	**0.310 J**	<0.410	<0.071	<0.087	<0.360
RP-01-51	03/24/2006	613-01	P	<0.110	<0.980	<0.350	<0.290	<0.270	<0.260	<0.570	<0.180	<0.210	<0.049	<0.094	<0.260	<0.210	<0.270	**0.360 J**	<0.410	<0.070	<0.086	<0.360
RP-01-65	03/24/2006	614-01	P	<0.110	<0.980 UJ	<0.350	<0.290	<0.270	<0.260	<0.570	**0.200 J**	<0.210	<0.049	<0.094	<0.260	<0.210	<0.270	**0.520 J**	<0.410	<0.070	<0.086	<0.360
RP-06-30	03/27/2006	615-01	P	<0.120	<1.00	<0.370	<0.310	<0.290	<0.270	<0.600	**0.190 J**	<0.220	<0.052	<0.099	<0.270	<0.220	<0.280	**0.430 J**	<0.430	<0.074	<0.091	<0.380
RP-06-87	03/27/2006	616-01	P	<0.120	<1.00	<0.370	<0.310	<0.290	<0.270	**0.780 J**	<0.190	<0.220	<0.052	<0.099	<0.270	<0.220	<0.280	**0.510 J**	<0.430	<0.074	<0.091	<0.380
RP-07-30	03/23/2006	611-01	P	<0.120	<1.10	<0.390	<0.330	<0.310	<0.280	<0.630	**0.210 J**	<0.230	<0.055	<0.100	<0.280	<0.230	<0.290	**0.570 J**	<0.450	**0.830**	**2.30**	<0.400
RP-07-55	03/22/2006	608-01	P	<0.120	<1.10	<0.380	<0.320	<0.300	<0.280	<0.610	<0.190	<0.220	<0.053	<0.100	<0.280	<0.220	<0.290	**0.350 J**	<0.440	<0.076	<0.093	<0.390
RP-07-84	03/23/2006	609-01	P	<0.120	<1.00	<0.370	<0.310	<0.290	<0.270	<0.610	<0.190	<0.220	<0.053	<0.100	<0.270	<0.220	<0.280	**0.550 J**	<0.430	<0.075	<0.092	<0.380
RP-07-84	03/23/2006	609-06	D	<0.120	<1.00	<0.370	<0.310	<0.290	<0.270	<0.610	**0.320 J**	<0.220	<0.053	<0.100	<0.270	<0.220	<0.280	**1.00 J**	<0.430	<0.075	<0.092	<0.380
RP-07-119	03/23/2006	610-01	P	<0.110	<0.980	<0.350	<0.290	<0.270	<0.260	<0.570	**0.330 J**	<0.210	<0.049	<0.094	<0.260	**0.310 J**	<0.270	**1.10 J**	<0.410	<0.070	<0.086	<0.360
RP-07-119	03/23/2006	610-02	D	<0.110	<0.980	<0.350	<0.290	<0.270	<0.260	<0.570	<0.180	<0.210	<0.049	<0.094	<0.260	**0.230 J**	<0.270	**0.450 J**	<0.410	<0.070	<0.086	<0.360
RP-11-30	03/22/2006	605-01	P	<0.120	<1.10	<0.380	<0.320	<0.300	<0.280	<0.620	<0.200	<0.230	<0.054	<0.100	<0.280	<0.230	<0.290	**0.420 J**	<0.450	**0.580**	**0.600**	<0.390
RP-11-160	03/22/2006	607-01	P	<0.120	<1.10	<0.380	<0.320	<0.300	<0.280	<0.620	<0.200	<0.230	<0.054	<0.100	<0.280	<0.230	<0.290	<0.330	<0.450	<0.077	<0.094	<0.390
RP-11-216	03/21/2006	606-01	P	<0.120	<1.00 UJ	<0.370 UJ	<0.310	<0.290	<0.270	<0.590	**0.390 J**	<0.220	<0.051	<0.098	<0.270	<0.220	<0.280	**1.40**	<0.430	<0.073	<0.090	<0.380
W-03-D	03/27/2006	621-01	P	<0.110	<0.980	<0.350	<0.300	<0.280	<0.260	<0.570	<0.180	<0.210	<0.050	<0.094	<0.260	<0.210	<0.270	**0.470 J**	<0.410	<0.070	<0.087	<0.360
W-03-I	03/27/2006	620-01	P	<0.120	<1.10	<0.380	<0.320	<0.300	<0.280	<0.610	**0.380 J**	<0.220	<0.053	<0.100	<0.280	<0.220	<0.290	**0.890 J**	<0.440	<0.076	<0.093	<0.390
W-03-S	03/27/2006	619-01	P	<0.110	<0.980	<0.350	<0.300	<0.280	<0.260	<0.570	**0.260 J**	<0.210	<0.050	<0.094	<0.260	<0.210	<0.270	**0.570 J**	<0.410	<0.070	<0.087	<0.360
W-04-I	03/28/2006	623-01	P	<0.110	<0.980 UJ	<0.350	<0.290	<0.270	<0.260	<0.570	<0.180	<0.210	<0.049	<0.094	<0.260	<0.210	<0.270	**0.430 J**	<0.410	<0.070	<0.086	<0.360
W-04-S	03/28/2006	622-01	P	<0.110	<0.980 UJ	<0.350	<0.300	<0.280	<0.260	<0.570	<0.180	<0.210	<0.050	<0.094	<0.260	<0.210	<0.270	**0.380 J**	<0.410	<0.070	<0.087	<0.360
W-04-89	03/28/2006	624-01	P	<0.120	<1.10 UJ	<0.380	<0.320	<0.300	<0.280	<0.620	<0.190	<0.230	<0.053	<0.100	<0.280	<0.230	<0.290	<0.330	<0.440	<0.076	<0.093	<0.390
W-09	04/03/2006	638-01	P	<0.110	<0.980 UJ	<0.350 UJ	<0.300	<0.280	<0.260	**2.20 J**	<0.180	<0.210	<0.050	<0.094	<0.260	**5.60**	<0.270	**2.80**	**0.600 J**	<0.070	<0.087	<0.360
W-09-86	04/03/2006	636-01	P	<0.110	<0.990 R	<0.360 UJ	<0.300	<0.280	<0.260	<0.580	<0.180	<0.210	<0.050	<0.095	<0.260	**2.20**	<0.270	**1.30**	<0.410	<0.071	<0.088	<0.370
W-09-116	04/03/2006	637-01	P	<0.110	<0.990 R	<0.350 UJ	<0.300	<0.280	<0.260	**0.590 J**	<0.180	<0.210	<0.050	<0.095	<0.260	**2.20**	<0.270	**1.40**	<0.410	<0.071	<0.087	<0.360
W-11-B	03/29/2006	628-01	P	<0.120	<1.10 UJ	<0.380	<0.320	<0.300	<0.280	<0.620	<0.200	<0.230	<0.054	<0.100	<0.280	<0.230	<0.290	<0.330	<0.450	<0.077	<0.094	<0.390
W-11-D	03/29/2006	627-01	P	<0.120	<1.00 R	<0.370	<0.310	<0.290	<0.270	<0.600	<0.190	<0.220	<0.052	<0.099	<0.270	<0.220	<0.280	**0.360 J**	<0.430	<0.074	<0.091	<0.380
W-11-I	03/29/2006	626-01	P	<0.130	<1.10 UJ	<0.410	<0.340	<0.320	<0.300	<0.660	<0.210	<0.240	<0.057	<0.110	<0.300	<0.240	<0.310	<0.350	<0.470	<0.081	<0.100	<0.420
W-11-S	03/29/2006	625-01	P	<0.110	<0.990	<0.350	<0.300	<0.280	<0.260	<0.570	<0.180	<0.210	<0.050	<0.095	<0.260	<0.210	<0.270	**0.330 J**	<0.410	**0.300**	<0.087	<0.360
W-12-D	03/30/2006	631-01	P	<0.120	<1.10 UJ	<0.380	<0.320	<0.300	<0.280	<0.610	<0.190	<0.220	<0.053	<0.100	<0.280	<0.220	<0.290	<0.330	<0.440	<0.076	<0.093	<0.390
W-12-I	03/30/2006	630-01	P	<0.120	<1.00 R	<0.370	<0.310	<0.290	<0.270	<0.600	<0.190	<0.220	<0.052	<0.099	<0.270	<0.220	<0.280	**0.380 J**	<0.430	<0.074	<0.091	<0.380
W-12-S	03/30/2006	629-01	P	<0.110	<0.980 UJ	<0.350	<0.300	<0.280	<0.260	**0.620 J**	<0.180	<0.210	<0.050	<0.094	<0.260	<0.210	<0.270	**0.580 J**	<0.410	**0.140 J**	<0.087	<0.360
WS-11-125	03/20/2006	601-01	P	**0.660**	<1.10 UJ	<0.380	<0.320	<0.300	<0.280	<0.610	**0.500 J**	**24.0**	**0.670**	<0.100	**1.90 J**	<0.220	<0.290	**1.20 J**	<0.440	**5.00**	**11.0**	<0.390
WS-11-161	03/20/2006	602-01	P	<0.130	<1.10 UJ	<0.410	<0.340	<0.320	<0.300	**8.90 J**	**0.830 J**	<0.240	<0.057	<0.110	<0.300	**0.480 J**	<0.310	**2.10 J**	<0.470	<0.081	<0.100	<0.420
WS-12-125	03/20/2006	603-01	P	<0.120	<1.00 UJ	<0.380	<0.310	<0.290	<0.270	**2.50 J**	**0.390 J**	<0.220	<0.053	<0.100	<0.270	**0.350 J**	<0.280	**1.10 J**	<0.440	<0.075	**0.110 J**	<0.390
WS-12-161	03/21/2006	604-01	P	<0.120	<1.10 R	<0.390 UJ	<0.320	<0.300	<0.280	<0.630	**0.200 J**	<0.230	<0.054	<0.100	<0.280	<0.230	<0.290	**0.660**	<0.450	<0.077	<0.095	<0.400

Notes:

BOLD = detection

< = not detected at or below reported

P = primary sample; D = field duplicate

method detection limit

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 3
Semivolatile Organic Compound Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	Hexachlorobutadiene	Hexachlorocyclo-pentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	N-Nitrosodi-n-propyl amine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**
AL6-96	03/31/2006	635-01	P	<0.800	<0.530	<0.770	<0.077	<0.230	**1.90 J**	<0.170	<0.300	<0.280	<1.10 UJ	<0.130	<0.900 UJ	<0.086
AL6-96	03/31/2006	635-02	D	<0.780	<0.520	<0.750	<0.075	<0.230	**1.10 J**	<0.170	<0.290	<0.270	<1.10 R	<0.130	<0.880 R	<0.084
RP-01-31	03/24/2006	612-01	P	<0.750	<0.500	<0.720	<0.072	<0.220	<0.590	<0.160	<0.280	<0.260	<1.00 UJ	<0.120	<0.840 UJ	<0.080
RP-01-51	03/24/2006	613-01	P	<0.740	<0.490	<0.710	<0.071	<0.220	<0.590	<0.160	<0.270	**0.280 J**	<1.00 UJ	<0.120	<0.830 UJ	<0.080
RP-01-65	03/24/2006	614-01	P	<0.740	<0.490	<0.710	<0.071	<0.220	<0.590	<0.160	<0.270	<0.260	<1.00 UJ	<0.120	<0.830 UJ	<0.080
RP-06-30	03/27/2006	615-01	P	<0.780	<0.520	<0.750	<0.075	<0.230	<0.620	<0.170	<0.290	<0.270	<1.10	<0.130	<0.880	**0.170 J**
RP-06-87	03/27/2006	616-01	P	<0.780	<0.520	<0.750	<0.075	<0.230	<0.620	<0.170	<0.290	<0.270	<1.10	<0.130	<0.880	<0.084
RP-07-30	03/23/2006	611-01	P	<0.820	<0.550	<0.790	<0.079	<0.240	<0.650	<0.180	<0.310	<0.280	<1.10 UJ	**1.50**	<0.930 UJ	**0.630**
RP-07-55	03/22/2006	608-01	P	<0.800	<0.530	<0.770	<0.077	<0.230	<0.630	<0.170	<0.300	<0.280	<1.10 R	<0.130	<0.900 R	<0.086
RP-07-84	03/23/2006	609-01	P	<0.790	<0.530	<0.760	<0.076	<0.230	<0.630	<0.170	<0.290	<0.270	<1.10 UJ	<0.130	<0.890 UJ	<0.085
RP-07-84	03/23/2006	609-06	D	<0.790	<0.530	<0.760	<0.076	<0.230	<0.630	<0.170	<0.290	<0.270	<1.10 UJ	<0.130	<0.890 UJ	<0.085
RP-07-119	03/23/2006	610-01	P	<0.740	<0.490	<0.710	<0.071	<0.220	<0.590	<0.160	<0.270	<0.260	<1.00 UJ	<0.120	<0.830 UJ	<0.080
RP-07-119	03/23/2006	610-02	D	<0.740	<0.490	<0.710	<0.071	<0.220	<0.590	<0.160	<0.270	<0.260	<1.00 UJ	<0.120	<0.830 UJ	<0.080
RP-11-30	03/22/2006	605-01	P	<0.810	<0.540	<0.780	<0.078	<0.240	**0.770 J**	<0.180	<0.300	<0.280	<1.10 R	**0.660**	<0.910 R	**0.620**
RP-11-160	03/22/2006	607-01	P	<0.810	<0.540	<0.780	<0.078	<0.240	<0.640	<0.180	<0.300	<0.280	<1.10 UJ	<0.130	<0.910 UJ	<0.087
RP-11-216	03/21/2006	606-01	P	<0.770	<0.510	<0.740	<0.074	<0.230	<0.610	<0.170	<0.290	<0.270	<1.10 UJ	<0.130	<0.870 UJ	<0.083
W-03-D	03/27/2006	621-01	P	<0.740	<0.500	<0.710	<0.071	<0.220	<0.590	<0.160	<0.280	<0.260	<1.00	<0.120	<0.840	<0.080
W-03-I	03/27/2006	620-01	P	<0.800	<0.530	<0.770	<0.077	<0.230	<0.630	<0.170	<0.300	<0.280	<1.10	<0.130	<0.900	<0.086
W-03-S	03/27/2006	619-01	P	<0.740	<0.500	<0.710	<0.071	<0.220	<0.590	<0.160	<0.280	<0.260	<1.00	<0.120	<0.840	<0.080
W-04-I	03/28/2006	623-01	P	<0.740	<0.490	<0.710	<0.071	<0.220	<0.590	<0.160	<0.270	<0.260	<1.00 UJ	<0.120	<0.830 UJ	<0.080
W-04-S	03/28/2006	622-01	P	<0.740	<0.500	<0.710	<0.071	<0.220	<0.590	<0.160	<0.280	<0.260	<1.00 UJ	<0.120	<0.840 UJ	<0.080
W-04-89	03/28/2006	624-01	P	<0.800	<0.530	<0.770	<0.077	<0.240	<0.640	<0.170	<0.300	<0.280	<1.10 UJ	<0.130	<0.900 UJ	<0.086
W-09	04/03/2006	638-01	P	<0.740	<0.500 UJ	<0.710	<0.071	<0.220	<0.590	<0.160	<0.280 UJ	<0.260	<1.00 UJ	<0.120	<0.840 UJ	<0.080
W-09-86	04/03/2006	636-01	P	<0.750	<0.500 UJ	<0.720	<0.072	<0.220	<0.600	<0.160	<0.280 UJ	<0.260	<1.00 R	<0.130	<0.850 R	<0.081
W-09-116	04/03/2006	637-01	P	<0.750	<0.500 UJ	<0.720	<0.072	<0.220	<0.590	<0.160	<0.280 UJ	<0.260	<1.00 R	<0.120	<0.840 R	<0.080
W-11-B	03/29/2006	628-01	P	<0.810	<0.540	<0.780	<0.078	<0.240	**0.880 J**	<0.180	<0.300	<0.280	<1.10 UJ	<0.130	<0.910 UJ	<0.087
W-11-D	03/29/2006	627-01	P	<0.780	<0.520	<0.750	<0.075	<0.230	<0.620	<0.170	<0.290	<0.270	<1.10 R	<0.130	<0.880 R	<0.084
W-11-I	03/29/2006	626-01	P	<0.860	<0.570	<0.820	<0.082	<0.250	<0.680	<0.190	<0.320	<0.300	<1.20 UJ	<0.140	<0.970 UJ	<0.092
W-11-S	03/29/2006	625-01	P	<0.750	<0.500	<0.720	<0.072	<0.220	<0.590	<0.160	<0.280	<0.260	<1.00 UJ	<0.120	<0.840 UJ	**0.310**
W-12-D	03/30/2006	631-01	P	<0.800	<0.530	<0.770	<0.077	<0.230	<0.630	<0.170	<0.300	<0.280	<1.10 UJ	<0.130	<0.900 UJ	<0.086
W-12-I	03/30/2006	630-01	P	<0.780	<0.520	<0.750	<0.075	<0.230	<0.620	<0.170	<0.290	<0.270	<1.10 R	<0.130	<0.880 R	<0.084
W-12-S	03/30/2006	629-01	P	<0.740	<0.500	<0.710	<0.071	<0.220	**3.10**	<0.160	<0.280	<0.260	<1.00 UJ	<0.120	<0.840 UJ	**0.150 J**
WS-11-125	03/20/2006	601-01	P	<0.800	<0.530	<0.770	**0.470**	<0.230 UJ	**630**	<0.170	<0.300	<0.280	<1.10 UJ	**23.0**	<0.900 UJ	**4.90**
WS-11-161	03/20/2006	602-01	P	<0.860	<0.570	<0.820	<0.082	<0.250 UJ	<0.680	<0.190	<0.320	<0.300	<1.20 R	<0.140	<0.970 R	<0.092
WS-12-125	03/20/2006	603-01	P	<0.790	<0.530	<0.760	<0.076	<0.230 UJ	<0.630	<0.170	<0.290	<0.270	<1.10 R	<0.130	<0.890 R	<0.085
WS-12-161	03/21/2006	604-01	P	<0.820	<0.540	<0.790	<0.079	<0.240	<0.650	<0.180	<0.300	<0.280	<1.10 R	<0.140	<0.920 R	<0.088

Notes:

BOLD = detection

< = not detected at or below reported method detection limit

P = primary sample; D = field duplicate

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 4
Chlorinated Herbicide Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	2,4-DB	4-Nitrophenol	Bromoxynil	Dalapon	Dicamba	Dichlorprop	Dinoseb	MCPA	MCPP	Pentachlorophenol
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**
AL6-96	03/31/2006	635-01	P	<0.014	**11.0**	<0.011	<0.020	<0.023	<0.095	<0.041	<0.021	**3.10**	<0.053	<0.018	**12.0**	<0.018
AL6-96	03/31/2006	635-02	D	<0.014	**15**	<0.011	<0.020	<0.023	<0.095	<0.041	<0.021	**4.3**	<0.053	<0.018	**15**	<0.018
RP-01-31	03/24/2006	612-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039	<0.029	<0.049	<0.025 UJ	<0.018	<0.019	<0.030
RP-01-51	03/24/2006	613-01	P	<0.039	**19.0**	<0.017	<0.028	<0.027	<0.096	<0.040	<0.029	**2.30**	<0.025 UJ	<0.018	**6.20**	**0.200 J**
RP-01-65	03/24/2006	614-01	P	<0.038	**32.0**	<0.017	<0.028	<0.026	<0.095	<0.039	<0.029	**4.10**	<0.025 UJ	<0.018	**10.0**	**0.340**
RP-06-30	03/27/2006	615-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	<0.049	<0.025	<0.018	<0.019	<0.030
RP-06-87	03/27/2006	616-01	P	<0.038	**30.0**	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	**5.10**	<0.025	**0.060 J**	**8.90**	<0.030
RP-07-30	03/23/2006	611-01	P	<0.039	<0.023	<0.017	<0.028	<0.027	<0.096	<0.040 UJ	<0.029	<0.050	<0.025	<0.018	<0.019	<0.030
RP-07-55	03/22/2006	608-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	<0.049	<0.025	<0.018	<0.019	<0.030
RP-07-84	03/23/2006	609-01	P	<0.039	**19.0**	**0.220 J**	<0.028	<0.027	<0.096	<0.040 UJ	<0.029	**3.00**	<0.025	<0.018	**7.40**	**0.270**
RP-07-84	03/23/2006	609-06	D	<0.038 UJ	**16.0 J**	<0.017 UJ	<0.028 UJ	<0.026 UJ	<0.095 UJ	<0.039 UJ	<0.029 UJ	**2.40 J**	<0.025 UJ	<0.018 UJ	**5.90 J**	**0.210 J**
RP-07-119	03/23/2006	610-01	P	<0.039	**8.90**	**0.330**	<0.028	<0.027	<0.096	<0.040 UJ	<0.029	**1.40**	<0.025	<0.018	**2.20**	<0.030
RP-07-119	03/23/2006	610-02	D	<0.038 UJ	**5.90 J**	**0.230 J**	<0.028 UJ	<0.026 UJ	<0.095 UJ	<0.039 UJ	<0.029 UJ	**0.930 J**	<0.025 UJ	<0.018 UJ	**1.40 J**	**0.083 J**
RP-11-30	03/22/2006	605-01	P	<0.039	<0.023	<0.017	<0.029	<0.027	<0.097	<0.040 UJ	<0.029	<0.050	<0.026	<0.018	<0.020	<0.030
RP-11-160	03/22/2006	607-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	<0.049	<0.025	<0.018	<0.019	<0.030
RP-11-216	03/21/2006	606-01	P	<0.038	**8.80**	**0.190 J**	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	**0.430**	<0.025	**0.100 J**	**2.80**	<0.030
W-03-D	03/27/2006	621-01	P	<0.039	<0.023	<0.017	<0.028	<0.027	<0.096	<0.040 UJ	<0.029	<0.050	<0.025	<0.018	<0.019	<0.030
W-03-I	03/27/2006	620-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	**0.180 J**	<0.025	<0.018	**1.50**	<0.030
W-03-S	03/27/2006	619-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	<0.049	<0.025	<0.018	<0.019	<0.030
W-04-I	03/28/2006	623-01	P	<0.014	<0.020	<0.011	<0.020	<0.023	<0.095 UJ	<0.041	<0.021	<0.022	<0.053	<0.018	<0.013	<0.018
W-04-S	03/28/2006	622-01	P	<0.014	<0.020	<0.011	<0.020	<0.023	<0.095 UJ	<0.041	<0.021	<0.022	<0.053	<0.018	<0.013	<0.018
W-04-89	03/28/2006	624-01	P	<0.014	<0.020	<0.011	<0.020	<0.023	<0.095 UJ	<0.041 UJ	<0.021	<0.022	<0.053 UJ	<0.018	<0.013	<0.018
W-09	04/03/2006	638-01	P	<0.014	**4.50**	<0.011 UJ	<0.020	<0.023	<0.095	<0.041	<0.021	<0.022	<0.053	<0.018	**1.70**	<0.018
W-09-86	04/03/2006	636-01	P	<0.014	**0.640**	<0.011 UJ	<0.020	<0.023	<0.095	<0.041	<0.021	**0.170 J**	<0.053	<0.018	**0.410**	<0.018
W-09-116	04/03/2006	637-01	P	<0.014	**12.0**	<0.011 UJ	<0.020	<0.023	<0.095	<0.041	**0.950**	**3.00**	<0.053	**0.450**	**5.30**	**0.480**
W-11-B	03/29/2006	628-01	P	<0.014	**12.0**	<0.011	<0.020	<0.023	<0.095	<0.041	<0.021	**0.450**	<0.053	<0.018	**6.80**	<0.018
W-11-D	03/29/2006	627-01	P	<0.014	**41.0**	**0.590**	<0.020	<0.023	<0.095	<0.041	<0.021	**2.70**	<0.053	<0.018	**14.0**	<0.018
W-11-I	03/29/2006	626-01	P	<0.014	<0.020	<0.011	<0.020	<0.023	<0.095	<0.041	<0.021	<0.022	<0.053	<0.018	<0.013	<0.018
W-11-S	03/29/2006	625-01	P	<0.014	<0.020	<0.011	<0.020	<0.023	<0.095	<0.041	<0.021	<0.022	<0.053	<0.018	<0.013	**0.490**
W-12-D	03/30/2006	631-01	P	<0.014	<0.020	<0.011	<0.020	<0.023	<0.095	<0.041	<0.021	<0.022	<0.053	<0.018	<0.013	<0.018
W-12-I	03/30/2006	630-01	P	<0.014	<0.020	<0.011	<0.020	<0.023	<0.095	<0.041	<0.021	<0.022	<0.053	<0.018	<0.013	<0.018
W-12-S	03/30/2006	629-01	P	**0.830**	<0.020	**5.50**	<0.020	<0.023	<0.095 UJ	<0.041 UJ	<0.021	<0.022	<0.053	**2.70**	<0.013	**0.460**
WS-11-125	03/20/2006	601-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	<0.049	<0.025	<0.018	<0.019	<0.030
WS-11-161	03/20/2006	602-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	<0.049	<0.025	<0.018	<0.019	<0.030
WS-12-125	03/20/2006	603-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	<0.049	<0.025	<0.018	<0.019	<0.030
WS-12-161	03/21/2006	604-01	P	<0.038	<0.022	<0.017	<0.028	<0.026	<0.095	<0.039 UJ	<0.029	<0.049	<0.025	<0.018	<0.019	<0.030

Notes:

BOLD = detection

< = not detected at or below reported

P = primary sample; D = field duplicate

Method detection limit

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 5
Organochlorine Insecticide Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**
AL6-96	03/31/2006	635-01	P	**2.00 J**	**0.095 NJ**	**0.120 J**	<0.007	**0.031 NJ**	**0.870 NJ**	<0.010	**0.015 NJ**	<0.006	<0.005	**0.088 J**	<0.008
AL6-96	03/31/2006	635-02	D	**2.00 J**	<0.005	**0.160 J**	**0.028 NJ**	**0.037 NJ**	**0.930 NJ**	<0.010	<0.005	<0.006	<0.005	<0.006	<0.008
RP-01-31	03/24/2006	612-01	P	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	<0.0009 UJ	<0.001	<0.001	<0.001	<0.002
RP-01-51	03/24/2006	613-01	P	<0.0010	<0.001	**0.007 J**	<0.001	**0.009 NJ**	<0.001	<0.002	<0.0009 UJ	<0.001	<0.001	<0.001	<0.002
RP-01-65	03/24/2006	614-01	P	<0.0010	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	<0.0009 UJ	<0.001	<0.001	<0.001	<0.002
RP-06-30	03/27/2006	615-01	P	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	**0.009 NJ**	<0.0010	<0.001	<0.001	**0.007 NJ**	<0.002
RP-06-87	03/27/2006	616-01	P	<0.0010	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	**0.013**	<0.001	<0.001	<0.001	<0.002
RP-07-30	03/23/2006	611-01	P	<0.001	**0.015 J**	**0.011 NJ**	<0.001	<0.001 UJ	<0.001	**0.007 J**	**0.004 J**	<0.001	<0.001	**0.019 J**	<0.002 UJ
RP-07-55	03/22/2006	608-01	P	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	<0.0009	<0.001	<0.001	**0.011 NJ**	<0.002
RP-07-84	03/23/2006	609-01	P	**0.005 NJ**	**0.003 NJ**	<0.002	**0.005 NJ**	**0.050 NJ**	**0.008 J**	<0.002	**0.021 NJ**	<0.001	<0.001	<0.001	<0.002 UJ
RP-07-84	03/23/2006	609-06	D	**0.004 NJ**	**0.004 NJ**	**0.012 NJ**	<0.001	**0.058 NJ**	**0.007 J**	<0.002	**0.011 NJ**	<0.001	**0.042 N**	<0.001	<0.002 UJ
RP-07-119	03/23/2006	610-01	P	<0.0010	<0.001	**0.006**	<0.001	**0.003 NJ**	**0.010**	<0.002	**0.009 NJ**	<0.001	<0.001	<0.001	<0.002 UJ
RP-07-119	03/23/2006	610-02	D	<0.00097	<0.001	<0.002	<0.001	**0.007 NJ**	**0.006 J**	<0.002	**0.011 NJ**	<0.001	<0.001	<0.001	<0.002 UJ
RP-11-30	03/22/2006	605-01	P	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	**0.015 J**	<0.002
RP-11-160	03/22/2006	607-01	P	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	<0.0010	<0.001	<0.001	<0.001	<0.002
RP-11-216	03/21/2006	606-01	P	<0.001	**0.009 J**	<0.002	<0.001	**0.005 NJ**	**0.004 NJ**	<0.002	**0.046**	<0.001	<0.001	<0.001	<0.002
W-03-D	03/27/2006	621-01	P	<0.0010	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	<0.0009	<0.001	<0.001	<0.001	<0.002
W-03-I	03/27/2006	620-01	P	**0.011 J**	<0.001	<0.002	<0.001	**0.003 J**	<0.001	<0.002	**0.010**	**0.014 NJ**	<0.001	<0.001	<0.002
W-03-S	03/27/2006	619-01	P	<0.0010	<0.001	<0.002	<0.001	<0.001	<0.001	**0.015 NJ**	<0.0009	<0.001	<0.001	<0.001	<0.002
W-04-I	03/28/2006	623-01	P	**0.008 J**	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	**0.004 NJ**	<0.001 UJ	<0.001 UJ	**0.011 NJ**	<0.002 UJ
W-04-S	03/28/2006	622-01	P	**0.010 NJ**	**0.017 NJ**	<0.002	<0.001	<0.001	**0.007 NJ**	<0.002	<0.0009	<0.001	<0.001	**0.035 NJ**	<0.002
W-04-89	03/28/2006	624-01	P	<0.001	<0.001	<0.002	<0.001	<0.001 UJ	<0.001	<0.002 N	<0.001 R	<0.001	<0.001	<0.001	<0.002 UJ
W-09	04/03/2006	638-01	P	**0.310 J**	<0.001 UJ	**0.200 NJ**	<0.001 UJ	<0.001 UJ	**0.130 NJ**	<0.002 UJ	<0.0009 UJ	<0.001 UJ	<0.001 UJ	**0.061 NJ**	**0.130 NJ**
W-09-86	04/03/2006	636-01	P	<0.0010	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	<0.0009	<0.001	<0.001	<0.001	<0.002
W-09-116	04/03/2006	637-01	P	**0.150**	**0.043 N**	<0.002	<0.001	<0.001	**0.042**	**0.043 N**	**0.007 NJ**	<0.001	**0.062**	**0.042 N**	**0.036**
W-11-B	03/29/2006	628-01	P	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	<0.0010	<0.001	<0.001	<0.001	<0.002
W-11-D	03/29/2006	627-01	P	**0.990 NJ**	**0.390**	**0.320 J**	<0.001	**0.041 NJ**	**2.20 N**	<0.002	<0.0010	<0.001	<0.001	<0.001	<0.002
W-11-I	03/29/2006	626-01	P	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.0010 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ
W-11-S	03/29/2006	625-01	P	<0.0010 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.0009 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ
W-12-D	03/30/2006	631-01	P	<0.0010	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	<0.0009	<0.001	<0.001	<0.001	<0.002
W-12-I	03/30/2006	630-01	P	**0.003 J**	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002	<0.0009	<0.001	<0.001	**0.009 NJ**	<0.002
W-12-S	03/30/2006	629-01	P	**0.058 J**	**0.006 NJ**	**0.011 NJ**	<0.001 UJ	<0.001 UJ	**0.023 NJ**	<0.002 UJ	<0.0009 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ
WS-11-125	03/20/2006	601-01	P	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	**0.018 J**	<0.0010 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ
WS-11-161	03/20/2006	602-01	P	<0.001	<0.001	**0.018 NJ**	<0.001	<0.001 UJ	<0.001	<0.002	<0.0010 R	<0.001	<0.001	**0.017 NJ**	<0.002 UJ
WS-12-125	03/20/2006	603-01	P	<0.001	<0.001	<0.002	<0.001	**0.005 NJ**	**0.018**	<0.002	<0.001	<0.001	<0.001	<0.001	<0.002
WS-12-161	03/21/2006	604-01	P	**0.091 N**	**0.014 NJ**	<0.002	<0.001	<0.001	**0.042**	**0.004 J**	<0.001	**0.017 NJ**	**0.110 N**	<0.001	<0.002

Notes:

BOLD = detection
< = not detected at or below reported
t
method detection limit
P = primary sample; D = field duplicate
µg/L = micrograms per liter

J = estimated result
NJ = result is for a tentatively identified analyte
R = rejected result
UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 5
Organochlorine Insecticide Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

Location ID	Sample Date	Sample ID	Endrin (µg/L)	Endrin aldehyde (µg/L)	Endrin Ketone (µg/L)	gamma-BHC (Lindane) (µg/L)	gamma-Chlordane (µg/L)	Heptachlor (µg/L)	Heptachlor epoxide (µg/L)	Methoxychlor (µg/L)	Toxaphene (µg/L)
AL6-96	03/31/2006	635-01	<0.015	<0.055	**0.048 NJ**	<0.006	<0.006	**0.170 NJ**	**0.140 J**	<0.019	<1.30
AL6-96	03/31/2006	635-02	<0.015	<0.054	<0.006	<0.006	<0.006	**0.180 NJ**	**0.160 J**	<0.018	<1.20
RP-01-31	03/24/2006	612-01	<0.003	<0.011	<0.001	<0.001	<0.001	<0.002	<0.001	<0.004	<0.260
RP-01-51	03/24/2006	613-01	**0.015 NJ**	<0.011	**0.003 J**	<0.001	<0.001	**0.005 NJ**	<0.0010	<0.004	<0.250
RP-01-65	03/24/2006	614-01	<0.003	<0.011	<0.001	<0.001	<0.001	**0.008 J**	<0.0010	<0.004	<0.250
RP-06-30	03/27/2006	615-01	<0.003	<0.011	**0.011 J**	<0.001	<0.001	**0.004 NJ**	<0.001	<0.004	<0.260
RP-06-87	03/27/2006	616-01	<0.003	<0.011	<0.001	<0.001	<0.001	<0.002	<0.0010	<0.004	<0.250
RP-07-30	03/23/2006	611-01	**0.034**	<0.012	<0.001	<0.001	<0.001	<0.002	<0.001	<0.004	<0.260
RP-07-55	03/22/2006	608-01	<0.003	<0.011	<0.001	<0.001	<0.001	<0.002	**0.002 J**	<0.004	<0.260
RP-07-84	03/23/2006	609-01	**0.012 J**	<0.011	<0.001	<0.001	<0.001	**0.004 J**	**0.005 NJ**	<0.004	<0.250
RP-07-84	03/23/2006	609-06	**0.011 J**	<0.011	<0.001	**0.002 NJ**	<0.001	**0.004 J**	**0.005 NJ**	<0.004	<0.250
RP-07-119	03/23/2006	610-01	**0.028**	<0.011	<0.001	<0.001	<0.001	<0.002	<0.0010	<0.004	<0.250
RP-07-119	03/23/2006	610-02	**0.006 J**	<0.011	<0.001	<0.001	<0.001	<0.002	<0.00097	<0.004	<0.250
RP-11-30	03/22/2006	605-01	<0.004	<0.013	<0.001	**0.002 J**	<0.001	<0.002	<0.001	<0.004	<0.290
RP-11-160	03/22/2006	607-01	<0.003	<0.011	<0.001	<0.001	<0.001	<0.002	<0.001	<0.004	<0.260
RP-11-216	03/21/2006	606-01	<0.003	<0.012	<0.001	<0.001	<0.001	<0.002	<0.001	<0.004	<0.260
W-03-D	03/27/2006	621-01	<0.003	<0.011	<0.001	<0.001	<0.001	**0.002 J**	<0.0010	<0.004	<0.250
W-03-I	03/27/2006	620-01	<0.003	<0.011	**0.007 NJ**	**0.008 NJ**	<0.001	<0.002	<0.0010	<0.004	<0.250
W-03-S	03/27/2006	619-01	<0.003	<0.011	<0.001	<0.001	<0.001	<0.002	<0.0010	<0.004	<0.250
W-04-I	03/28/2006	623-01	**0.051 J**	<0.012 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	**0.006 NJ**	<0.004 UJ	<0.280 UJ
W-04-S	03/28/2006	622-01	**0.053 J**	<0.011	<0.001	<0.001	<0.001	**0.003 NJ**	**0.003 NJ**	<0.004	<0.250
W-04-89	03/28/2006	624-01	<0.003 UJ	<0.012	<0.001 UJ	<0.001	<0.001	<0.002	<0.001	<0.004	<0.280
W-09	04/03/2006	638-01	**0.180 NJ**	<0.011 UJ	**0.039 NJ**	<0.001 UJ	**0.230 NJ**	**0.072 J**	<0.0010 UJ	<0.004 UJ	<0.250 UJ
W-09-86	04/03/2006	636-01	**0.006 J**	<0.011	<0.001	<0.001	<0.001	<0.002	<0.0010	<0.004	<0.250
W-09-116	04/03/2006	637-01	**0.010 NJ**	<0.011	<0.001	<0.001	**0.085 NJ**	**0.052 N**	<0.0010	<0.004	<0.250
W-11-B	03/29/2006	628-01	<0.003	<0.011	<0.001	<0.001	<0.001	<0.002	<0.001	<0.004	<0.260
W-11-D	03/29/2006	627-01	**0.570 N**	<0.011	<0.001	<0.001	<0.001	<0.002	<0.001	<0.004	<0.260
W-11-I	03/29/2006	626-01	**0.050 J**	<0.011 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.004 UJ	<0.260 UJ
W-11-S	03/29/2006	625-01	**0.065 J**	<0.011 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.0010 UJ	<0.004 UJ	<0.250 UJ
W-12-D	03/30/2006	631-01	<0.003	<0.011	<0.001	<0.001	<0.001	<0.002	<0.0010	<0.004	<0.250
W-12-I	03/30/2006	630-01	<0.003	<0.011	<0.001	<0.001	<0.001	<0.002	<0.0010	<0.004	<0.250
W-12-S	03/30/2006	629-01	<0.003 UJ	<0.011 UJ	<0.001 UJ	<0.001 UJ	**0.003 NJ**	<0.002 UJ	<0.0010 UJ	<0.004 UJ	<0.250 UJ
WS-11-125	03/20/2006	601-01	<0.003 UJ	<0.012 UJ	<0.001 UJ	**0.024 NJ**	<0.001 UJ	**0.005 J**	<0.001 UJ	<0.004 UJ	<0.270 UJ
WS-11-161	03/20/2006	602-01	**0.009 J**	<0.012	<0.001	<0.001	<0.001	<0.002	<0.001	<0.004	<0.260
WS-12-125	03/20/2006	603-01	<0.003	<0.012	<0.001	<0.001	<0.001	<0.002	**0.003 NJ**	<0.004	<0.280
WS-12-161	03/21/2006	604-01	<0.003	<0.012	<0.001	<0.001	<0.001	<0.002	<0.001	<0.004	<0.270

Notes:

BOLD = detection

< = not detected at or below reported method detection limit

P = primary sample; D = field duplicate

µg/L = micrograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 6
Polychlorinated Dibenzo-p-dioxin and Polychlorinated Dibenzofuran (Dioxin-Furan) Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

Location ID	Sample Date	Sample ID	Sample Type	1,2,3,4,6,7,8,9-OCDD (pg/l)	1,2,3,4,6,7,8,9-OCDF (pg/l)	1,2,3,4,6,7,8-HpCDD (pg/l)	1,2,3,4,6,7,8-HpCDF (pg/l)	1,2,3,4,7,8,9-HpCDF (pg/l)	1,2,3,4,7,8-HxCDD (pg/l)	1,2,3,4,7,8-HxCDF (pg/l)	1,2,3,6,7,8-HxCDD (pg/l)	1,2,3,6,7,8-HxCDF (pg/l)	1,2,3,7,8,9-HxCDD (pg/l)	1,2,3,7,8,9-HxCDF (pg/l)	1,2,3,7,8-PeCDD (pg/l)	1,2,3,7,8-PeCDF (pg/l)	2,3,4,6,7,8-HxCDF (pg/l)	2,3,4,7,8-PeCDF (pg/l)	2,3,7,8-TCDD (pg/l)
AL6-96	03/31/2006	635-01	P	<5.40	<3.50	<1.90	<2.40	<2.90	<3.20	<4.20	<3.30	<3.40	<3.00	<2.40	<3.20	<2.20	<2.50	<2.00	<2.10
AL6-96	03/31/2006	635-02	D	<5.20	<2.80	<1.60	<2.10	<2.20	<2.80	<3.90	<3.00	<3.10	<2.70	<2.20	<3.30	<2.20	<2.20	<2.30	<2.00
RP-01-31	03/24/2006	612-01	P	<6.20	<6.00	<3.10	<2.10	<3.30	<3.20	<1.90	<3.20	<1.60	<3.00	<2.20	<4.90	<2.40	<1.50	<2.40	<2.40
RP-01-51	03/24/2006	613-01	P	<6.60	<6.40	<3.60	<1.90	<2.90	<3.90	<2.10	<3.70	<1.80	<3.50	<2.40	<5.20	<2.50	<1.60	<2.60	<2.70
RP-01-65	03/24/2006	614-01	P	<6.80	<7.40	<4.00	<2.30	<3.20	<3.90	<3.00	<3.90	<2.30	<3.60	<2.80	<5.50	<3.00	<2.00	<2.10	<2.60
RP-06-30	03/27/2006	615-01	P	<12.0	<4.50	<2.80	<1.70	<2.50	<2.80	<2.00	<2.90	<1.70	<2.70	<1.80	<4.90	<2.40	<1.60	<2.40	<2.40
RP-06-87	03/27/2006	616-01	P	<13.0	<5.90	<3.00	<2.20	<3.30	<3.20	<2.60	<3.10	<2.00	<2.90	<2.50	<5.70	<2.80	<1.80	<2.80	<2.60
RP-07-30	03/23/2006	611-01	P	<100	<7.40	<5.10	<2.80	<3.60	<4.10	<3.60	<4.00	<2.80	<3.80	<2.80	<5.40	<3.60	<2.50	<1.70	<3.10
RP-07-55	03/22/2006	608-01	P	<7.60	<9.60	<6.00	<3.00	<4.50	<5.40	<3.80	<5.10	<3.20	<4.90	<3.60	<3.70	<2.90	<3.00	<2.80	<1.60
RP-07-84	03/23/2006	609-01	P	<7.40	<6.10	<5.20	<2.60	<4.00	<3.80	<3.20	<3.90	<2.80	<3.60	<3.00	<6.30	<3.70	<2.60	<2.00	<1.30
RP-07-84	03/23/2006	609-06	D	<9.50	<7.20	<4.90	<2.80	<3.70	<5.80	<4.20	<5.30	<3.20	<5.20	<2.80	<6.40	<4.10	<2.60	<1.40	<1.50
RP-07-119	03/23/2006	610-01	P	<9.10	<9.50	<5.20	<3.70	<4.10	<6.00	<5.10	<5.80	<3.90	<5.50	<3.30	<6.80	<4.00	<3.00	<3.20	<1.20
RP-07-119	03/23/2006	610-02	D	<8.80	<7.60	<5.10	<3.20	<4.30	<5.00	<4.20	<4.60	<3.50	<4.50	<3.50	<6.30	<3.50	<3.00	<2.70	<3.00
RP-11-30	03/22/2006	605-01	P	**170**	**18.0 J**	**38.0**	**13.0 J**	<4.00	<4.70	**11.0 J**	<4.80	<3.40	<4.40	<3.40	<3.80	<4.70	<3.00	<3.20	<1.70
RP-11-160	03/22/2006	607-01	P	**9.10**	<6.90	<5.30	<3.00	<4.20	<4.80	<3.80	<5.00	<3.10	<4.60	<3.30	<3.70	<2.90	<2.90	<2.80	<1.60
RP-11-216	03/21/2006	606-01	P	<7.80	<10.0 J	<5.50	<4.00	<5.60	<6.60	<4.10	<6.30	<3.40	<6.00	<3.70	<5.20	<1.90	<3.40	<1.80	<2.00
W-03-D	03/27/2006	621-01	P	<7.60	<5.70	<3.00	<1.80	<2.60	<3.10	<2.00	<3.00	<1.70	<2.80	<2.10	<4.80	<2.50	<1.60	<2.50	<2.70
W-03-I	03/27/2006	620-01	P	<6.60	<7.10	<3.10	<2.30	<3.30	<3.20	<2.40	<3.00	<2.10	<2.90	<2.70	<5.50	<2.90	<1.90	<2.90	<2.70
W-03-S	03/27/2006	619-01	P	<9.90	<8.80	<4.80	<3.00	<4.50	<4.00	<3.30	<3.70	<2.80	<3.60	<3.60	<7.80	<4.20	<2.60	<4.00	<3.60
W-04-I	03/28/2006	623-01	P	**22.0 J**	<6.50	<3.60	<4.00	<4.40	<5.80	<3.90	<5.80	**3.10 J**	<5.40	<3.20	<4.00	<1.90	<2.90	<2.00	<1.60
W-04-S	03/28/2006	622-01	P	**19.0 J**	<5.30	<5.60	<3.50	<4.50	<5.60	<3.80	<5.40	<3.10	<5.10	<3.10	<3.80	<3.00	<2.90	<2.70	<1.80
W-04-89	03/28/2006	624-01	P	<14.0	<7.20	<4.40	<3.30	<4.20	<4.60	<3.50	<4.80	<2.90	<4.40	<2.90	<7.30	<4.20	<2.70	<2.50	<1.70
W-09	04/03/2006	638-01	P	<100	<10.0	<6.60	<6.20	<4.80	<5.50	<3.20	<5.60	<2.60	<5.30	<2.60	<5.70	<4.10	<2.50	<4.00	**10.0**
W-09-86	04/03/2006	636-01	P	<100	<7.60	<5.70	<4.00	<4.80	<4.00	<3.00	<3.80	<2.60	<3.70	<2.30	<6.60	<4.00	<2.20	<1.80	<3.60
W-09-116	04/03/2006	637-01	P	<8.40	<5.70	<5.60	<3.20	<3.80	<3.80	<2.40	<4.30	<2.10	<3.80	<2.10	<6.50	<3.50	<2.00	<1.70	<3.00
W-11-B	03/29/2006	628-01	P	**18.0 J**	<6.70	<6.20	<3.80	<4.80	<5.60	<4.10	<5.50	<3.40	<5.20	<3.40	<3.40	<4.40	<3.10	<2.90	<1.20
W-11-D	03/29/2006	627-01	P	**24.0 J**	<7.70	<5.50	<3.60	<4.80	<6.10	<4.30	<6.40	<3.70	<5.80	<4.00	<3.50	<3.20	<3.50	<3.00	<1.80
W-11-I	03/29/2006	626-01	P	**180**	**35.0 J**	**31.0 J**	<7.50	<5.90	<6.60	<4.90	<6.60	<4.10	<6.20	<4.60	<4.70	<1.40	<4.00	<1.40	<2.20
W-11-S	03/29/2006	625-01	P	<13.0	<5.30	<5.40	<3.20	<4.20	<4.20	<3.40	<4.20	<2.90	<3.90	<3.20	<6.70	<4.20	<2.90	<2.40	<1.30
W-12-D	03/30/2006	631-01	P	<100	<100	<50.0	<2.90	<1.70	<2.20	<3.30	<2.20	<2.60	<2.10	<1.80	<3.00	<1.70	<1.90	<1.60	<1.40
W-12-I	03/30/2006	630-01	P	<100	<2.80	<2.10	<1.70	<2.10	<2.60	<3.70	<2.80	<2.80	<2.50	<2.00	<2.90	<1.90	<2.10	<1.90	<1.70
W-12-S	03/30/2006	629-01	P	<16.0	<3.40	**2.80 J**	<1.70	<1.50	<2.50	<2.90	<2.50	<2.40	<2.30	<1.60	<2.90	<1.90	<1.70	<2.00	<1.40
WS-11-125	03/20/2006	601-01	P	**260**	<9.10	**37.0 J**	<3.10	<3.10	<3.60	<3.20	<3.60	<2.70	<3.40	<2.60	<7.00	<3.60	<2.40	<2.10	<3.00
WS-11-161	03/20/2006	602-01	P	<7.60	<7.50	<4.70	<2.70	<3.60	<4.50	<3.10	<4.30	<2.60	<4.10	<2.90	<7.40	<4.00	<2.40	<1.00	<1.60
WS-12-125	03/20/2006	603-01	P	<6.20	<6.00	<5.40	<2.90	<4.20	<4.50	<2.90	<4.40	<2.40	<4.10	<2.60	<6.70	<4.30	<2.30	<2.30	<1.40
WS-12-161	03/21/2006	604-01	P	<7.00	<7.30	<5.10	<3.00	<4.20	<5.00	<3.30	<4.70	<2.90	<4.50	<3.10	<3.60	<4.40	<2.70	<2.20	<1.70

Notes:

BOLD = detection

< = not detected at or below reported

P = primary sample; D = field duplicate

Method detection limit

pg/l = picograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 6
Polychlorinated Dibenzo-p-dioxin and Polychlorinated Dibenzofuran (Dioxin-Furan) Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	2,3,7,8-TCDF	Total HpCDD	Total HpCDF	Total HxCDD	Total HxCDF	Total PeCDD	Total PeCDF	Total TCDD	Total TCDF
Location ID	Sample Date	Sample ID	Sample Type	(pg/l)	(pg/l)	(pg/l)	(pg/l)	(pg/l)	(pg/l)	(pg/l)	(pg/l)	(pg/l)
AL6-96	03/31/2006	635-01	P	**2.30 NJ**	<1.90	<2.60	<3.10	<3.10	<3.20	<3.10	<6.00	**19.0**
AL6-96	03/31/2006	635-02	D	<2.40	<1.60	<2.20	<2.90	<2.80	<3.30	<3.10	**2.50 J**	<2.40
RP-01-31	03/24/2006	612-01	P	<1.80	<3.10	<2.60	<3.20	<1.80	<4.90	<2.40	<2.40	<1.80
RP-01-51	03/24/2006	613-01	P	<1.70	<3.60	<2.30	<3.70	<1.90	<5.20	<2.60	<2.70	<1.70
RP-01-65	03/24/2006	614-01	P	<1.60	<4.00	<2.70	<3.80	<2.50	<5.50	<3.20	<2.60	<1.60
RP-06-30	03/27/2006	615-01	P	<1.70	<2.80	<2.00	<2.80	<1.80	<4.90	<2.40	<2.40	<1.70
RP-06-87	03/27/2006	616-01	P	<1.80	<3.00	<2.70	<5.10	<2.20	<5.70	<2.80	<2.60	<1.80
RP-07-30	03/23/2006	611-01	P	<2.20	<5.10	<3.20	<4.00	<2.90	<10.0	<3.70	<3.10	<2.20
RP-07-55	03/22/2006	608-01	P	<3.00	<6.00	<3.60	<5.10	<3.40	<3.70	<4.90	<1.60	<3.00
RP-07-84	03/23/2006	609-01	P	<2.70	<5.20	<3.20	<3.80	<2.90	<6.30	<3.80	<1.30	<2.70
RP-07-84	03/23/2006	609-06	D	<2.50	<4.90	<3.30	<5.40	<3.10	<9.00	<4.30	<1.50	<2.50
RP-07-119	03/23/2006	610-01	P	<2.40	<5.20	<3.90	<5.80	<3.70	<6.80	<4.60	<1.20	<2.40
RP-07-119	03/23/2006	610-02	D	<2.10	<5.10	<3.70	<4.70	<3.50	8.00	<4.00	<3.00	<2.10
RP-11-30	03/22/2006	605-01	P	**4.70 NJ**	<20.0	**24.0 J**	<4.60	**11.0 J**	<3.80	<4.70	<1.70	**4.70 J**
RP-11-160	03/22/2006	607-01	P	<3.00	<5.30	<3.50	<4.80	<3.20	<3.70	<4.60	<1.60	<3.00
RP-11-216	03/21/2006	606-01	P	<3.70	<5.50	<5.60	<6.60	<3.60	<5.20	<5.70	<2.00	<5.30
W-03-D	03/27/2006	621-01	P	<1.80	<3.00	<2.20	<3.00	<1.80	<5.40	<2.50	<2.70	<1.80
W-03-I	03/27/2006	620-01	P	<1.80	<3.10	<2.70	<3.00	<2.30	<5.50	<2.90	<2.70	<1.80
W-03-S	03/27/2006	619-01	P	<2.70	<4.80	<3.60	<3.80	<3.00	<7.80	<4.10	<4.00	<2.70
W-04-I	03/28/2006	623-01	P	<2.60	<3.60	<4.20	<5.70	<3.20	<20.0	<4.70	<1.60	<4.10 J
W-04-S	03/28/2006	622-01	P	<3.10	<5.60	<4.00	<5.40	<3.20	<12.0	<4.80	<1.80	**4.40**
W-04-89	03/28/2006	624-01	P	<2.70	<4.40	<3.70	<4.60	<3.00	<7.30	<4.20	<1.70	<2.70
W-09	04/03/2006	638-01	P	<4.20	<5.90	**5.80 J**	<5.50	<2.70	<5.70	**120**	**10.0**	**150**
W-09-86	04/03/2006	636-01	P	<2.80	<5.70	<4.40	<3.80	<2.50	<6.60	<4.40	<3.60	<2.80
W-09-116	04/03/2006	637-01	P	<2.10	<5.60	<3.50	<4.00	<2.10	<7.00	<3.50	<3.00	<3.10
W-11-B	03/29/2006	628-01	P	<2.60	<6.20	<4.30	<5.40	<3.50	<7.10	<4.60	<1.20	<2.60
W-11-D	03/29/2006	627-01	P	<2.80	<5.50	<4.10	<6.10	<3.90	<5.60	<5.00	<1.80	<7.30
W-11-I	03/29/2006	626-01	P	<3.20	**48.0 J**	**14.0 J**	<6.50	<4.40	<4.70	<5.90	<2.20	<3.20
W-11-S	03/29/2006	625-01	P	<2.60	<5.40	<3.60	<4.10	<3.10	<7.30	<4.20	<1.30	<3.10
W-12-D	03/30/2006	631-01	P	<1.70	<50.0	<50.0	<2.20	<2.40	<3.00	<2.20	<2.30	<1.70
W-12-I	03/30/2006	630-01	P	<2.70	<2.10	<1.90	<2.60	<2.60	<2.90	<2.60	<1.70	<2.70
W-12-S	03/30/2006	629-01	P	<1.90	<50.0	<1.40	<2.40	<2.10	<2.90	<2.30	<1.40	<1.90
WS-11-125	03/20/2006	601-01	P	<2.40	**91.0**	**7.20 J**	<3.50	<2.70	<7.00	<3.70	<3.00	<2.40
WS-11-161	03/20/2006	602-01	P	<2.80	<4.70	<3.10	<4.50	<2.80	<7.40	<4.00	<1.60	<2.80
WS-12-125	03/20/2006	603-01	P	<2.80	<5.40	<3.50	<4.30	<2.50	<6.70	<4.20	<1.40	<2.80
WS-12-161	03/21/2006	604-01	P	<2.80	<5.10	<3.60	<4.70	<3.00	<3.60	<4.40	<1.70	<2.80

Notes:

BOLD = detection

< = not detected at or below reported

P = primary sample; D = field duplicate

method detection limit

pg/l = picograms per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 7
Total Petroleum Hydrocarbon Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

Location ID	Sample Date	Sample ID	Chemical Name Sample Type	Diesel Range Organics (mg/L)	Residual Range Organics (mg/L)
AL6-96	03/31/2006	635-01	P	**1.20**	**0.160 J**
AL6-96	03/31/2006	635-02	D	**0.57**	**0.068 J**
RP-01-31	03/24/2006	612-01	P	<0.031	<0.057
RP-01-51	03/24/2006	613-01	P	**0.440**	**0.240 J**
RP-01-65	03/24/2006	614-01	P	**0.510**	**0.091 J**
RP-06-30	03/27/2006	615-01	P	**0.180 J**	**0.097 J**
RP-06-87	03/27/2006	616-01	P	**0.540**	<0.057
RP-07-30	03/23/2006	611-01	P	**0.280**	<0.057
RP-07-55	03/22/2006	608-01	P	**0.170 J**	**0.089 J**
RP-07-84	03/23/2006	609-01	P	**0.510**	<0.057
RP-07-119	03/23/2006	610-01	P	**0.150 J**	**0.061 J**
RP-11-30	03/22/2006	605-01	P	**0.130 J**	<0.059
RP-11-160	03/22/2006	607-01	P	**0.260**	<0.058
RP-11-216	03/21/2006	606-01	P	**0.580**	<0.057
W-03-D	03/27/2006	621-01	P	**0.035 J**	<0.057
W-03-I	03/27/2006	620-01	P	**0.360**	**0.120 J**
W-03-S	03/27/2006	619-01	P	**0.210 J**	**0.110 J**
W-04-I	03/28/2006	623-01	P	**0.120 J**	**0.140 J**
W-04-S	03/28/2006	622-01	P	**0.250**	**0.330 J**
W-04-89	03/28/2006	624-01	P	<0.030	<0.057
W-09	04/03/2006	638-01	P	**2.40**	**2.10**
W-09-86	04/03/2006	636-01	P	**0.130 J**	<0.057
W-09-116	04/03/2006	637-01	P	**2.40**	**0.150 J**
W-11-B	03/29/2006	628-01	P	**0.350**	<0.057
W-11-D	03/29/2006	627-01	P	**0.630**	**0.063 J**
W-11-I	03/29/2006	626-01	P	**0.094 J**	<0.057
W-11-S	03/29/2006	625-01	P	**0.540**	**0.380 J**
W-12-D	03/30/2006	631-01	P	<0.032 UJ	<0.059 UJ
W-12-I	03/30/2006	630-01	P	**0.130 J**	**0.160 J**
W-12-S	03/30/2006	629-01	P	**1.60**	**1.90**
WS-11-125	03/20/2006	601-01	P	**2.40**	<0.057
WS-11-161	03/20/2006	602-01	P	**0.083 J**	<0.057
WS-12-125	03/20/2006	603-01	P	**0.460**	<0.057
WS-12-161	03/21/2006	604-01	P	**0.045 J**	<0.057

Notes:

BOLD = detection

< = not detected at or below reported method detection limit

P = primary sample; D = field duplicate

mg/L = milligrams per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit

TABLE 8
Total Metals Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	Aluminum	Arsenic	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Sodium	Vanadium	Zinc
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**
AL6-96	03/31/2006	635-01	P	<0.034	**0.008**	<0.00004	**120**	**0.004**	**0.003**	**1.50**	**0.00009**	**57.0**	**9.40**	<0.00006	**0.020**	**9.00**	**430**	**0.0006**	<0.003
AL6-96	03/31/2006	635-01	D	<0.034	**0.006**	<0.00004	**120**	**0.004**	**0.003**	**1.6**	**0.00009 J**	**56**	**9.4**	<0.00006	**0.019**	**7.8**	**430**	<0.00034	<0.003
RP-01-31	03/24/2006	612-01	P	**1.20**	**0.003**	<0.00004	**5.90**	**0.007**	**0.004**	**2.30**	**0.001**	**2.30**	**0.031**	<0.00006	**0.003**	**2.20**	**87.0**	**0.034**	<0.003
RP-01-51	03/24/2006	613-01	P	<0.034	**0.006**	**0.0004**	**100**	**0.002**	**0.012**	**0.053**	**0.0001**	**41.0**	**2.80**	<0.00006	**0.028**	**10.0**	**820**	**0.032**	<0.003
RP-01-65	03/24/2006	614-01	P	**0.049**	**0.006**	**0.0008**	**260**	**0.004**	**0.005**	<0.015	**0.0001**	**110**	**3.50**	<0.00006	**0.037**	**15.0**	**730**	**0.022**	<0.003
RP-06-30	03/27/2006	615-01	P	**0.064**	**0.003**	<0.00004	**27.0**	**0.002**	**0.002**	**30.0**	**0.00009**	**10.0**	**2.00**	<0.00006	**0.002**	**2.80**	**44.0**	**0.004**	<0.003
RP-06-87	03/27/2006	616-01	P	**0.120**	**0.011**	**0.0003**	**500**	**0.002**	**0.006**	**6.40**	**0.0001**	**170**	**31.0**	<0.00006	**0.030**	**12.0**	**100**	**0.003**	<0.003
RP-07-30	03/23/2006	611-01	P	<0.034	**0.003**	<0.00004	**58.0**	**0.004**	**0.0007**	**21.0**	<0.00002	**21.0**	**3.20**	<0.00006	**0.002**	**5.50**	**14.0**	**0.0009**	<0.003
RP-07-55	03/22/2006	608-01	P	<0.034	**0.013**	<0.00004	**95.0**	**0.004**	**0.002**	**9.90**	<0.00002	**53.0**	**4.20**	<0.00006	**0.007**	**4.50**	**70.0**	**0.004**	**0.008**
RP-07-84	03/23/2006	609-01	P	**0.086**	**0.002**	<0.00004	**470**	**0.005**	**0.003**	**0.890**	<0.00002	**110**	**0.390**	<0.00006	**0.018**	**13.0**	**61.0**	**0.002**	<0.003
RP-07-84	03/23/2006	609-06	D	**0.099 J**	**0.001 J**	<0.00004	**460**	**0.005**	**0.007**	**0.86**	<0.00002	**110**	**0.38**	<0.00006	**0.018**	**14**	**62**	**0.00095 J**	<0.003
RP-07-119	03/23/2006	610-01	P	**0.081**	<0.0004	<0.00004	**230**	**0.006**	**0.002**	**0.240**	<0.00002	**58.0**	**0.180**	<0.00006	**0.007**	**9.70**	**19.0**	**0.0006**	<0.003
RP-07-119	03/23/2006	610-02	D	**0.044 J**	<0.00037	<0.00004	**230**	**0.006**	**0.001 J**	**0.24**	<0.00002	**59**	**0.17**	<0.00006	**0.007**	**9.5**	**18**	**0.001 J**	<0.003
RP-11-30	03/22/2006	605-01	P	<0.034	<0.0004	<0.00004	<0.021	**0.006**	**0.003**	<0.015	**0.002**	<0.021	<0.0002	<0.00006	**0.003**	<0.027	**0.480**	**0.004**	<0.003
RP-11-160	03/22/2006	607-01	P	**0.170**	**0.004**	<0.00004	**44.0**	**0.004**	**0.001**	**17.0**	<0.00002	**19.0**	**1.50**	<0.00006	**0.002**	**2.90**	**11.0**	**0.0004**	**1.20**
RP-11-216	03/21/2006	606-01	P	**0.037**	<0.0004	<0.00004	**210**	**0.003**	**0.001**	**2.20**	**0.0001**	**54.0**	**2.30**	<0.00006	**0.007**	**8.90**	**39.0**	**0.001**	**2.50**
W-03-D	03/27/2006	621-01	P	**0.041**	**0.021**	<0.00004	**47.0**	**0.0009**	**0.001**	**0.420**	**0.0001**	**15.0**	**0.940**	<0.00006	**0.002**	**5.30**	**18.0**	**0.002**	<0.003
W-03-I	03/27/2006	620-01	P	<0.034	**0.014**	<0.00004	**280**	<0.0001	**0.034**	**460**	**0.0002**	**110**	**15.0**	<0.00006	**0.012**	**13.0**	**750**	**0.003**	<0.003
W-03-S	03/27/2006	619-01	P	**0.042**	**0.003**	<0.00004	**60.0**	**0.003**	**0.002**	**0.420**	**0.0003**	**12.0**	**0.330**	<0.00006	**0.004**	**3.70**	**33.0**	**0.0004**	<0.003
W-04-I	03/28/2006	623-01	P	**0.038**	**0.002**	<0.00004	**330**	**0.001**	**0.011**	**190**	**0.0005**	**150**	**17.0**	<0.00006	**0.013**	**10.0**	**370**	**0.0006**	<0.003
W-04-S	03/28/2006	622-01	P	**0.054**	**0.0005**	**0.00008**	**31.0**	**0.007**	**0.001**	**0.085**	**0.002**	**17.0**	**0.110**	<0.00006	**0.003**	**6.80**	**29.0**	<0.0003	<0.003
W-04-89	03/28/2006	624-01	P	**0.150**	**0.004**	**0.00005**	**78.0**	**0.004**	**0.003**	**4.10**	**0.0003**	**22.0**	**0.800**	<0.00006	**0.007**	**5.80**	**14.0**	<0.0003	<0.003
W-09	04/03/2006	638-01	P	**0.500**	**0.022**	<0.00004	**13.0**	**0.012**	**0.016**	**2.10**	**0.036**	**6.50**	**0.280**	<0.00006	**0.016**	**2.90**	**520**	**0.039**	**0.006**
W-09-86	04/03/2006	636-01	P	<0.034	<0.0004	**0.00008**	**78.0**	**0.005**	<0.00008	**0.110**	**0.00006**	**43.0**	**2.90**	<0.00006	**0.009**	**6.10**	**17.0**	**0.001**	<0.003
W-09-116	04/03/2006	637-01	P	<0.034	<0.0004	**0.00006**	**240**	**0.005**	**0.001**	**1.40**	**0.0001**	**130**	**12.0**	<0.00006	**0.026**	**13.0**	**190**	<0.0003	<0.003
W-11-B	03/29/2006	628-01	P	<0.034	**0.001**	<0.00004	**350**	**0.005**	**0.001**	**8.30**	**0.001**	**73.0**	**0.500**	<0.00006	**0.019**	**9.40**	**63.0**	**0.002**	<0.003
W-11-D	03/29/2006	627-01	P	**1.50**	**0.022**	<0.00004	**180**	**0.006**	**0.006**	**5.40**	**0.001**	**69.0**	**14.0**	<0.00006	**0.016**	**8.20**	**560**	**0.007**	<0.003
W-11-I	03/29/2006	626-01	P	<0.034	**0.006**	<0.00004	**110**	**0.005**	**0.001**	**33.0**	**0.0006**	**47.0**	**1.80**	<0.00006	**0.013**	**6.50**	**20.0**	<0.0003	<0.003
W-11-S	03/29/2006	625-01	P	**0.880**	<0.0004	**0.0004**	**37.0**	**0.008**	**0.001**	<0.015	**0.0003**	<0.021	<0.0002	<0.00006	**0.003**	**10.0**	**65.0**	**0.016**	<0.003
W-12-D	03/30/2006	631-01	P	**0.420**	**0.002**	<0.00004	**35.0**	<0.0001	<0.00008	**4.30**	**0.0007**	**19.0**	**0.640**	<0.00006	**0.003**	**4.20**	**15.0**	**0.0008**	<0.003
W-12-I	03/30/2006	630-01	P	<0.034	**0.005**	<0.00004	**58.0**	<0.0001	<0.00008	**13.0**	<0.00002	**42.0**	**2.80**	<0.00006	**0.009**	**2.90**	**73.0**	<0.0003	<0.003
W-12-S	03/30/2006	629-01	P	**0.540**	**0.003**	**0.0005**	**19.0**	<0.0001	<0.00008	**0.030**	**0.0005**	**0.076**	**0.001**	<0.00006	**0.007**	**13.0**	**100**	**0.004**	<0.003
WS-11-125	03/20/2006	601-01	P	<0.034	**0.003**	<0.00004	**76.0**	**0.005**	**0.001**	**36.0**	**0.00004**	**49.0**	**2.00**	<0.00006	**0.002**	**3.60**	**27.0**	**0.002**	<0.003
WS-11-161	03/20/2006	602-01	P	<0.034	<0.0004	<0.00004	**60.0**	**0.006**	**0.0007**	**27.0**	**0.00002**	**23.0**	**2.30**	<0.00006	**0.002**	**4.10**	**18.0**	**0.002**	<0.003
WS-12-125	03/20/2006	603-01	P	**0.220**	**0.0008**	<0.00004	**81.0**	**0.007**	**0.0009**	**48.0**	**0.0005**	**40.0**	**2.50**	<0.00006	**0.003**	**4.00**	**30.0**	**0.001**	<0.003
WS-12-161	03/21/2006	604-01	P	<0.034	<0.0004	<0.00004	**50.0**	**0.009**	**0.002**	**20.0**	<0.00002	**23.0**	**2.00**	<0.00006	**0.006**	**4.00**	**45.0**	<0.0003	<0.003

Notes:

BOLD = detection
< = not detected at or below reported
P = primary sample; D = field duplicate
mg/L = milligrams per liter

J = estimated result
NJ = result is for a tentatively identified analyte
R = rejected result
UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 9
Dissolved Metals Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	Aluminum	Arsenic	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Sodium	Vanadium	Zinc
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**
AL6-96	03/31/2006	635-01	P	<0.034	**0.007**	<0.00004	**140**	**0.008**	**0.001**	**1.10**	**0.00007**	**66.0**	**11.0**	<0.00006	**0.014**	**10.0**	**460**	**0.003**	<0.003
AL6-96	03/31/2006	635-02	D	<0.034	**0.009**	<0.00004	**130**	**0.008**	**0.002 J**	**1.30**	**0.00008 J**	**61.0**	**11.0**	<0.00006	**0.014**	**10.0**	**450**	**0.003**	<0.003
RP-01-31	03/24/2006	612-01	P	**0.180**	**0.005**	<0.00004	**5.50**	**0.006**	**0.002**	**0.340**	**0.0003**	**1.90**	**0.012**	<0.00006	**0.002**	**1.70**	**82.0**	**0.036**	<0.003
RP-01-51	03/24/2006	613-01	P	<0.034	**0.007**	**0.0005**	**110**	**0.009**	**0.008**	**0.049**	**0.0002**	**46.0**	**3.00**	<0.00006	**0.022**	**9.40**	**790**	**0.035**	<0.003
RP-01-65	03/24/2006	614-01	P	**0.067**	**0.006**	**0.0008**	**340**	**0.009**	**0.004**	**0.019**	**0.0002**	**140**	**4.20**	<0.00006	**0.028**	**16.0**	**810**	**0.022**	<0.003
RP-06-30	03/27/2006	615-01	P	<0.034	**0.003**	<0.00004	**27.0**	**0.005**	**0.0006**	**29.0**	**0.00005**	**10.0**	**1.90**	<0.00006	**0.001**	**2.50**	**40.0**	**0.003**	<0.003
RP-06-87	03/27/2006	616-01	P	**0.083**	**0.014**	**0.0001**	**510**	**0.008**	**0.003**	**6.20**	**0.00009**	**180**	**31.0**	<0.00006	**0.024**	**11.0**	**95.0**	**0.005**	<0.003
RP-07-30	03/23/2006	611-01	P	<0.034	**0.012**	<0.00004	**62.0**	**0.009**	**0.0005**	**42.0**	**0.00004**	**23.0**	**3.20**	<0.00006	**0.003**	**5.90**	**14.0**	**0.004**	<0.003
RP-07-55	03/22/2006	608-01	P	**0.041**	**0.012**	<0.00004	**94.0**	**0.010**	**0.001**	**9.20**	**0.00005**	**52.0**	**4.20**	<0.00006	**0.006**	**4.60**	**64.0**	**0.004**	**0.015**
RP-07-84	03/23/2006	609-01	P	**0.035**	**0.004**	**0.00004**	**440**	**0.006**	**0.002**	**0.790**	**0.00006**	**110**	**0.400**	<0.00006	**0.015**	**15.0**	**63.0**	**0.004**	<0.003
RP-07-84	03/23/2006	609-06	D	**0.047 J**	**0.005**	<0.00004	**460**	**0.006**	**0.002 J**	**0.800**	**0.00006 J**	**110**	**0.410**	<0.00006	**0.015**	**16.0**	**64.0**	**0.003**	<0.003
RP-07-119	03/23/2006	610-01	P	**0.060**	**0.0006**	**0.00005**	**230**	**0.004**	**0.0008**	**0.120**	**0.00006**	**59.0**	**0.180**	<0.00006	**0.006**	**11.0**	**19.0**	**0.003**	**0.003**
RP-07-119	03/23/2006	610-02	D	**0.085 J**	**0.00072 J**	<0.00004	**240**	**0.003**	**0.00082 J**	**0.110 J**	**0.00005 J**	**61.0**	**0.170**	<0.00006	**0.005**	**11.0**	**19.0**	**0.004**	<0.003
RP-11-30	03/22/2006	605-01	P	**0.075**	**0.003**	<0.00004	**19.0**	**0.005**	**0.0004**	**31.0**	**0.0002**	**7.00**	**1.30**	<0.00006	**0.002**	**1.80**	**4.70**	**0.002**	**0.036**
RP-11-160	03/22/2006	607-01	P	<0.034	**0.005**	<0.00004	**45.0**	**0.005**	<0.00008	**16.0**	**0.00004**	**19.0**	**1.50**	<0.00006	**0.002**	**2.90**	**11.0**	**0.002**	**0.800**
RP-11-216	03/21/2006	606-01	P	**0.047**	**0.001**	<0.00004	**220**	**0.005**	**0.0009**	**2.10**	**0.00006**	**58.0**	**2.30**	<0.00006	**0.006**	**10.0**	**36.0**	**0.003**	**1.90**
W-03-D	03/27/2006	621-01	P	**0.043**	**0.020**	<0.00004	**48.0**	**0.003**	**0.0009**	**0.360**	**0.00006**	**15.0**	**0.880**	<0.00006	**0.001**	**4.90**	**17.0**	**0.0010**	<0.003
W-03-I	03/27/2006	620-01	P	<0.034	**0.013**	<0.00004	**270**	**0.005**	**0.018**	**470**	**0.00007**	**100**	**15.0**	<0.00006	**0.007**	**12.0**	**750**	**0.002**	**0.010**
W-03-S	03/27/2006	619-01	P	**0.067**	**0.005**	<0.00004	**59.0**	**0.003**	**0.001**	**0.270**	**0.00005**	**12.0**	**0.280**	<0.00006	**0.003**	**3.50**	**30.0**	**0.002**	<0.003
W-04-I	03/28/2006	623-01	P	**0.047**	**0.002**	**0.00005**	**370**	**0.007**	**0.004**	**160**	**0.00007**	**170**	**18.0**	<0.00006	**0.008**	**10.0**	**340**	**0.002**	<0.003
W-04-S	03/28/2006	622-01	P	<0.034	**0.004**	**0.00008**	**31.0**	**0.003**	**0.0003**	**0.024**	**0.0002**	**17.0**	**0.110**	<0.00006	**0.002**	**6.00**	**28.0**	**0.002**	<0.003
W-04-89	03/28/2006	624-01	P	<0.034	**0.007**	<0.00004	**75.0**	**0.003**	**0.0002**	**3.50**	**0.00005**	**21.0**	**0.740**	<0.00006	**0.004**	**5.10**	**14.0**	**0.0010**	<0.003
W-09	04/03/2006	638-01	P	**0.300**	**0.021**	<0.00004	**10.0**	**0.007**	**0.006**	**1.20**	**0.016**	**5.30**	**0.240**	<0.00006	**0.010**	**2.40**	**500**	**0.035**	<0.003
W-09-86	04/03/2006	636-01	P	<0.034	**0.003**	**0.0001**	**70.0**	**0.0005**	**0.0004**	**0.058**	**0.00007**	**39.0**	**2.60**	<0.00006	**0.009**	**5.30**	**19.0**	**0.005**	<0.003
W-09-116	04/03/2006	637-01	P	<0.034	**0.004**	<0.00004	**200**	**0.002**	**0.0008**	**1.10**	**0.00007**	**110**	**10.0**	<0.00006	**0.021**	**11.0**	**190**	**0.002**	<0.003
W-11-B	03/29/2006	628-01	P	**0.055**	**0.004**	<0.00004	**390**	**0.003**	**0.016**	**8.90**	**0.0009**	**84.0**	**0.580**	<0.00006	**0.015**	**11.0**	**67.0**	**0.0010**	<0.003
W-11-D	03/29/2006	627-01	P	**0.047**	**0.021**	<0.00004	**190**	**0.005**	**0.002**	**1.90**	**0.00009**	**71.0**	**14.0**	<0.00006	**0.009**	**8.40**	**590**	**0.002**	<0.003
W-11-I	03/29/2006	626-01	P	<0.034	**0.007**	<0.00004	**130**	**0.006**	**0.0002**	**36.0**	**0.00008**	**55.0**	**2.00**	<0.00006	**0.011**	**7.40**	**20.0**	**0.002**	<0.003
W-11-S	03/29/2006	625-01	P	**0.920**	**0.003**	**0.0002**	**39.0**	**0.0005**	**0.0007**	<0.015	**0.0002**	<0.021	**0.003**	<0.00006	**0.002**	**11.0**	**66.0**	**0.017**	<0.003
W-12-D	03/30/2006	631-01	P	<0.034	**0.003**	<0.00004	**38.0**	**0.002**	<0.00008	**3.80**	<0.00002	**20.0**	**0.680**	<0.00006	**0.004**	**4.90**	**15.0**	**0.0006**	<0.003
W-12-I	03/30/2006	630-01	P	<0.034	**0.008**	<0.00004	**66.0**	**0.006**	<0.00008	**14.0**	<0.00002	**48.0**	**3.00**	<0.00006	**0.009**	**3.50**	**77.0**	**0.002**	<0.003
W-12-S	03/30/2006	629-01	P	**0.580**	**0.003**	**0.0002**	**20.0**	**0.0005**	<0.00008	<0.015	<0.00002	**0.094**	**0.003**	<0.00006	**0.004**	**14.0**	**95.0**	**0.006**	<0.003
WS-11-125	03/20/2006	601-01	P	<0.034	**0.004**	<0.00004	**73.0**	**0.009**	**0.0006**	**35.0**	**0.00005**	**47.0**	**2.00**	<0.00006	**0.002**	**3.50**	**25.0**	**0.003**	<0.003
WS-11-161	03/20/2006	602-01	P	<0.034	**0.006**	<0.00004	**55.0**	**0.006**	**0.0002**	**25.0**	**0.00004**	**21.0**	**2.20**	<0.00006	**0.003**	**3.60**	**16.0**	**0.002**	<0.003
WS-12-125	03/20/2006	603-01	P	**0.140**	**0.003**	<0.00004	**70.0**	**0.010**	**0.0004**	**44.0**	**0.00005**	**35.0**	**2.30**	<0.00006	**0.003**	**3.40**	**25.0**	**0.003**	<0.003
WS-12-161	03/21/2006	604-01	P	**0.054**	**0.002**	<0.00004	**51.0**	**0.005**	<0.00008	**19.0**	**0.00005**	**24.0**	**1.90**	<0.00006	**0.002**	**3.80**	**41.0**	**0.002**	<0.003

Notes:

BOLD = detection

< = not detected at or below reported

P = primary sample; D = field duplicate

mg/L = milligrams per liter

J = estimated result

NJ = result is for a tentatively identified analyte

R = rejected result

UJ = not detected above the method reporting limit; the limit is an approximate value

TABLE 10
Natural Attenuation Parameter Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	Ammonia as Nitrogen	Biological Oxygen Demand	Chloride	Chemical Oxygen Demand	Diesel Degrading Bacteria	Heterotrophic Plate Count	Nitrate	Nitrite(as N)	Orthophosphorus	Sulfate	Sulfide	Total Kjeldhal nitrogen
Location ID	**Sample Date**	**Sample ID**	**Sample Type**	**(mg/L)**	**(mg/l)**	**(mg/L)**	**(mg/L)**	**(cfu/ml)**	**(cfu/ml)**	**(mg/l)**	**(mg/l)**	**(mg/l)**	**(mg/L)**	**(mg/L)**	**(mg/L)**
AL6-96	03/31/2006	635-01	P	<0.040	**3.92**	**500**	**23.0**	**30.0**	**4.00**	<0.015	<0.113	**0.007**	**96.0**	<0.005	<0.500
RP-01-31	03/24/2006	612-01	P	<0.040	<0.307	**9.10**	**5.70**	**110**	**200**	**1.61**	<0.011	**0.304**	**32.0**	<0.005	<0.500
RP-01-51	03/24/2006	613-01	P	**0.250**	<0.307	**750**	**31.0**	**440**	**2,800**	<0.015	<0.113	**0.134**	**200**	<0.005	**0.960**
RP-01-65	03/24/2006	614-01	P	<0.040	<0.307	**1,300**	**26.0**	**170**	**410**	<0.015	<0.113	**0.087**	**120**	<0.005	**0.560**
RP-06-30	03/27/2006	615-01	P	**1.80**	**7.14**	**5.60**	**25.0**	<1.00	<1.00	<0.015	<0.011	**0.004**	**0.580**	**0.020**	**4.80**
RP-06-87	03/27/2006	616-01	P	**0.080**	<0.307	**1,300**	**150**	**1.00**	**2.00**	<0.015	<0.113	**0.004**	**100**	<0.005	**0.570**
RP-07-119	03/23/2006	610-01	P	**0.110**	<0.307	**470**	**8.60**	**54.0**	**12,000**	**0.090**	<0.113	**0.018**	**30.0**	<0.005	<0.500
RP-07-30	03/23/2006	611-01	P	**12.0**	**11.7**	**7.30**	**46.0**	**9.00**	**1,400**	<0.015	<0.011	**0.072**	**0.220**	**0.010**	**14.0**
RP-07-55	03/22/2006	608-01	P	**0.280**	<0.307	**18.0**	**23.0**	**80.0**	**280**	<0.015	<0.011	**0.006**	**61.0**	<0.005	**0.850**
RP-07-84	03/23/2006	609-01	P	<0.040	<0.307	**980**	**11.0**	**14.0**	**510**	<0.015	<0.113	**0.063**	**75.0**	<0.005	<0.500
RP-11-30	03/22/2006	605-01	P	**0.250**	**3.58**	**1.30**	**23.0**	**270**	**1,200**	<0.015	<0.011	**0.005**	**0.300**	<0.005	**1.30**
RP-11-160	03/22/2006	607-01	P	**5.30**	**20.6**	**8.50**	**17.0**	**440**	**4,600**	<0.015	<0.011	**0.007**	**0.220**	<0.005	**7.50**
RP-11-216	03/21/2006	606-01	P	**0.130**	<0.307	**430**	**8.60**	**800**	**3,900**	**0.140**	<0.113	**0.004**	**25.0**	<0.005	**7.30**
W-03-D	03/27/2006	621-01	P	**0.350**	<0.307	**3.60**	<5.00	<1.00	<1.00	<0.015	<0.011	**0.297**	**0.180**	<0.005	<0.500
W-03-I	03/27/2006	620-01	P	**19.0**	**100**	**310**	**110**	<1.00	<1.00	<0.015	<0.113	**0.019**	**3,100**	<0.005	**15.0**
W-03-S	03/27/2006	619-01	P	**0.550**	**2.30**	**10.0**	**15.0**	**38.0**	**6.00**	**0.190**	<0.011	**0.253**	**75.0**	**0.069**	**5.30**
W-04-I	03/28/2006	623-01	P	**36.0**	**11.3**	**1,600**	**63.0**	**13.0**	**220**	<0.015	<0.150	**0.009**	**300**	<0.005	**47.0**
W-04-S	03/28/2006	622-01	P	**0.540**	**6.14**	**3.00**	**18.0**	**82.0**	**1,100**	<0.015	<0.015	**0.130**	**18.0**	**0.040**	**1.10**
W-04-89	03/28/2006	624-01	P	**53.0**	<0.307	**98.0**	**5.10**	<1.00	**3.00**	**0.030**	<0.015	**0.079**	**1.40**	<0.005	**2.00**
W-09	04/03/2006	638-01	P	**5.90**	**9.78**	**240**	**130**	**240**	**1,800**	<0.015	<0.113	**0.011**	**1.80**	<0.005	**5.00**
W-09-86	04/03/2006	636-01	P	**0.100**	<0.307	**130**	<5.00	**23.0**	**25.0**	<0.015	<0.011	**0.210**	**8.20**	<0.005	<0.500
W-09-116	04/03/2006	637-01	P	**0.340**	**2.84**	**650**	**13.0**	**2.00**	**8.00**	<0.015	<0.113	**0.005**	**56.0**	<0.005	**0.840**
W-11-B	03/29/2006	628-01	P	**0.100**	<0.307	**700**	**13.0**	**10.0**	**270**	<0.015	<0.150	**0.003**	**120**	<0.005	**0.780**
W-11-D	03/29/2006	627-01	P	**0.082**	<0.307	**840**	**20.0**	**22.0**	**43.0**	<0.015	<0.150	**0.015**	**240**	<0.005	<0.500
W-11-I	03/29/2006	626-01	P	**6.20**	**28.2**	**44.0**	**41.0**	**210**	**440**	<0.015	<0.015	**0.006**	**0.120**	<0.005	**4.00**
W-11-S	03/29/2006	625-01	P	**7.40**	<0.307	**5.10**	**15.0**	<1.00	<1.00	**0.390**	**0.020**	**0.005**	**12.0**	**0.024**	**3.00**
W-12-D	03/30/2006	631-01	P	**1.10**	**4.38**	**16.0**	**7.60**	**12.0**	**10.0**	<0.015	<0.011	**0.029**	**1.70**	**0.048**	**0.890**
W-12-I	03/30/2006	630-01	P	**13.0**	**24.2**	**10.0**	**43.0**	**380**	**670**	<0.015	<0.011	**0.005**	**0.140**	<0.005	**56.0**
W-12-S	03/30/2006	629-01	P	**3.20**	**7.45**	**12.0**	**58.0**	<1.00	**1.00**	**0.050**	<0.011	**0.026**	**38.0**	**0.970**	**10.0**
WS-11-125	03/20/2006	601-01	P	**4.30**	**2.78**	**47.0**	**37.0**	**150**	**110**	**0.960**	<0.011	**0.004**	**44.0**	**0.023**	**3.80**
WS-11-161	03/20/2006	602-01	P	**9.60**	**13.1**	**35.0**	**26.0**	**1.00**	**68.0**	<0.015	<0.011	**0.004**	**0.150**	<0.005	**8.60**
WS-12-125	03/20/2006	603-01	P	**17.0**	**3.30**	**17.0**	**31.0**	**2.00**	**83.0**	<0.015	<0.011	**0.004**	**17.0**	**0.014**	**6.60**
WS-12-161	03/21/2006	604-01	P	**20.0**	**4.98**	**51.0**	**11.0**	**28.0**	**41.0**	**0.090**	<0.011	**0.004**	**0.670**	<0.005	**1.00**

Notes:
BOLD = detection
< = not detected at or below reported
thod detection limit
P = primary sample; D = field duplicate
me
mg/L = milligrams per liter; cfu = colony forming units

Natural Attenuation analytical results were not validated consistent with the DEQ-approved Revised QAPP dated June 13, 2001

TABLE 11
Carbon 12/13 Isotopic Ratio Analyses of Volatile Organic Compound Groundwater Analytical Results
Winter 2006 Groundwater Monitoring Event
RP-Portland Site

			Chemical Name	cis-1,2-Dichloroethene	Trichloroethene	Tetrachloroethene	Chlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene
Location	**Date**	**Sample ID**	**Sample Type**	**δ13C ‰**	**δ13C ‰**	**δ13C ‰**	**δ13C ‰**	**δ13C ‰**	**δ13C ‰**
RP-01-51	03/27/2006	613-01	P	-19.8	-12.9	bql	-28.1	-27.8	-27.1
RP-01-65	03/24/2006	614-01	P	-20.8	-13.9	-27.6	-28.2	-27.8	-27.1
RP-07-84	03/31/2006	609-01	P	-20.7	-15.4	-29.0	-28.0	-27.7	-27.0
RP-07-119	03/23/2006	610-01	P	-21.6	-20.3	-28.7	-27.8	-27.8	-27.0
RP-11-216	03/21/2006	606-01	P	-16.6	-17.4	bql	-28.7	COEL	-26.8
WS-11-125	03/20/2006	601-01	P	-25.2	-14.2	bql	bql	bql	bql
WS-11-161	03/31/2006	602-01	P	bql	bql	bql	bql	bql	bql
WS-12-125	03/20/2006	603-01	P	-3.5	bql	bql	bql	bql	bql
WS-12-161	03/21/2006	604-01	P	bql	bql	bql	-27.1	bql	-25.65

Notes:

BOLD = detection

P = primary sample; D = field duplicate

δ^{13}C ‰ = deviation of Carbon-13 concentration in parts per mil from the Peedee Belemnite (PDB) standard

bql = below quantitation limits

COEL = peak coelution

ATTACHMENT C

Groundwater Sampling Field Forms

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event
		Project #: 0-61M-10703-0 P 43
		Monitoring/Sampling Date: 3/31/06

Monitoring Well ID: AL6-96 | Field Personnel: L. Gronek, B. McGillicuddy
Start Time: 1227 | Weather Conditions: Partly Sunny | Approx. Air Temp (F): 53

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/31/06
Date/Time of Measurement: 3/31/06 / 1225 | Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 14.88 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2 | Three Well Purge Volumes (gallons) = 3 x =
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~(mS/cm)~~ µS	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0	14.21	6.79	2167	Moderate	0.93	-14.9	1231
	2	14.44	6.42	2261	Slight	0.64	-22.2	1235
	4	14.35	6.38	2286	↓	0.51	-25.6	1239
	6	14.33	6.37	2312	↓	0.30	-26.8	1243
	8	14.33	6.39	2333	clear	0.24	-28.0	1247
	10	14.52	6.45	2357	↓	0.22	-30.6	1251
	12	14.51	6.48	2377	1.35	0.21	-33.1	1255

Total Purged = | Purge Pumping Rate (approx. L/m): 0.5 | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Qual Valve
Ferrous Iron (ppm): | Decontamination Method: Methanol / DI / Alconox / DI
Instrument Type & Number: YSI | Water Disposal: AWTP
Instrument Calibration Date & Time: 3/31/06 0800 | Approx. Pump/Intake Depth: 94

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/31/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1315 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Qual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
635-01			See Back			
635-02						

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: wasps in well
Field Replicate

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GRONEK Sampler Signature: Lisa Gronek Date Signed:

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/3/06

Monitoring Well ID: AL6-96 | Field Personnel: L Gonek, B McGillicuddy

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: | Additional Chain-of-Custody #s:

Time Sampled:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
8502 635-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125ml	1/2 Thiosulfate	Test America	courier	SM9215
	1	250ml	NONE			nitrite/nitrate/orthophosphorus

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GONEK | Sampler Signature: Lisa Gonek | Date Signed: 3/31/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event
		Project #: 0-61M-10703-0 P 43
		Monitoring/Sampling Date: ~~RP 01-31~~ 3/24/06

Monitoring Well ID: RP01-31 | Field Personnel: L. Glonek, J. Fascio, D. McGillicuddy
Start Time: 1000 | Weather Conditions: Mon rain | Approx. Air Temp (F): 45

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: In well Casing: | PID Calibration Standard: isobutylene
%LEL Background: In well Casing: | PID Calibration Date: 3/24/06

Date/Time of Measurement: 3/24/06 1030 | Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): 31 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 24.91 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2 | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0	12.41	6.17	484	Cloudy	~~276.7~~ 6.57	~~[illegible]~~ 4.21	1005
	1.12	11.87	5.50	487	~~3.42~~ ↓	3.73	245.6	1009
	2.24	11.78	5.44	442	Slight	3.69	245.5	1013
	~~3.36~~	11.82	5.53	419	↓	3.24	238.2	1017
	4.48	11.91	5.63	403	↓	3.66	229.4	1021
	5.60	11.89	5.67	396	↓	3.35	224.8	1025
	6.72	11.92	5.73	395	↓	3.32	219.9	1029

Total Purged = 8.96 | Purge Pumping Rate (approx. L/m): 0.28 | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other: Dualvalve
Ferrous Iron (ppm): 0.2 | Decontamination Method: deionized rinse
Instrument Type & Number: YSI | Water Disposal: RP drum warehouse
Instrument Calibration Date & Time: 3/24/06 0800 | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/24/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1045 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Dualvalve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
6012-01						
6012-03						
			see back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: pump lines switched - had to fix all of the pumps

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK | Sampler Signature: Lisa Glonek | Date Signed: 3/24/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/24/06

Monitoring Well ID: RP-01-31 | Field Personnel: L. Glonek, J Fasoro, B McCrillicuddy

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	7.84	12.14	5.77	395	clear	3.14	212.3	1033
	8.96	12.07	5.79	395	↓	3.14	205.6	1037
					73.0 NTU	- before sampling		
					48.6 NT	- after sampling		

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/24/06 | Additional Chain-of-Custody #s:

Time Sampled: 1045

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
612-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/~~orthophosphorus~~/alkalinty
↓	3	40ML	HCL	U of OK	↓	isotopes
↓	1	125ml	Na Thiosulfate	FD	↓	SM9215
↓	1	250ml	NONE	Test Am	↓	orthophosphorus Nitrate/Nitrite

Field Observations/Notes of Sampling Event:
612-03 - 2 - 40ml - VOCs - Trip Blank

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/24/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: RP-01-31 | Field Personnel: JOE ROCK & BARB LARY
Start Time: 11:49 | Weather Conditions: SUNNY & MILD Approx. Air Temp (F): 58

RESAMPLE

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/27/06

Date/Time of Measurement: / | Depth to Water Measuring Technique:
Depth Well Bottom (TOC - ft.): 31 | Detection Method of Free Product:
Depth to Water Level (TOC - ft.): 24.65 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2 | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA NA | Observation of DNAPL: NA NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~mS/cm~~	Turbidity DTW ~~NTUs~~	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	~1L	12.56	6.62	490	25.02	5.24	118.0	11:53
	~2L	12.82	5.87	401		4.23	146.2	11:57
	2.5L	12.81	5.70	387		4.01	153.7	11:59
	3.0L	12.77	5.70	380		4.05	154.3	12:01

Total Purged = | Purge Pumping Rate (approx. L/m): 250 ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Ded. DVP
Ferrous Iron (ppm): | Decontamination Method: Dedicated pumps
Instrument Type & Number: YSI | Water Disposal: to WSF
Instrument Calibration Date & Time: 3/27/06 | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1210 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: | Teflon Bailer Peristaltic Pump Other: dedicated DVP

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
617-01	3	40ml	TSP	Y&F OK		ISOTOPE only

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: resample of Isotopes because original sample was frozen-broke in Amize refrigerator

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Barb Lary | Sampler Signature: BARB LARY | Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: | Additional Chain-of-Custody #s:

Time Sampled:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): | Sampler Signature: | Date Signed:

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/24/06

Monitoring Well ID: RP-01-51 | Field Personnel: J. Fassio, L. Glanek, B. McGillicuddy
Start Time: 1040 | Weather Conditions: Partly Cloudy, Showers Approx. Air Temp (F): 50°F

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: — In well Casing: — | PID Calibration Date: 3/24/06 800
Date/Time of Measurement: 5/24/06 / 930 | Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): 51 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 24.91
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.): —
Casing Diameter (in.): 2"
Quantity of Free Product Collected (gal.): None

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x _____ = _____
Method of Collecting Free Product: NA

Obsevation of sheen or LNAPL: None | Observation of DNAPL: None

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)	OT
	0	11.51	6.32	2239	–	2.34	3.3	1047	25.1
	0.82	12.12	6.28	2948	–	0.69	41.3	1051	23.0
	3.04	12.09	6.38	3255	–	0.30	61.8	1055	
	4.56	12.19	6.39	3381	–	0.23	77.1	1059	
	6.08	12.35	6.31	3421	–	0.20	83.5	1104	24.9
	7.60	12.22	6.39	3481	–	0.20	87.4	1109	24.9
	9.12	11.99	6.35	3519	–	0.21	83.4	1113	25.1

Total Purged = 9.12 | Purge Pumping Rate (approx. L/m): 0.380 ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 0.4 | Decontamination Method: Alconox, DI rinse, methanol
Instrument Type & Number: YSI #3 | Water Disposal: RP - WSF Drum
Instrument Calibration Date & Time: 800 3/24/06 | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/24/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1120 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
613-01						
			joe back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio Sampler Signature: Joe Fassio Date Signed: 3/24/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/24/06

Monitoring Well ID: RP-01-55 | Field Personnel: J. Fassio, L. Glowak, B. McGillicuddy

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
					0.72 NTUs			

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/24/06 | Additional Chain-of-Custody #s:

Time Sampled: 1120

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
513-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	3	40ml	TSP	U of Ok	↓	Stable Isotopes
	1	250ml	sodium thiosulfate	FQL	↓	Plate counts
↓	1	250ml	NaOH	Test Am	↓	Nitrite/Nitrate/orthophosphate

3306
.03
1050.00

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio | Sampler Signature: [signature] | Date Signed: 3/24/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: RP-01-51 | Field Personnel: BARB LARY & JOE ROCK
Start Time: 1210 | Weather Conditions: SUNNY - HAZY | Approx. Air Temp (F):

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/27/06
Date/Time of Measurement: 3/27/06 / 1205 | Depth to Water Measuring Technique:
Depth Well Bottom (TOC - ft.): 51 | Detection Method of Free Product:
Depth to Water Level (TOC - ft.): 25.15 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2 | Three Well Purge Volumes (gallons) = 3 x _____ =
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product:
Obsevation of sheen or LNAPL: NA | Observation of DNAPL:

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~(mS/cm)~~ µS/cm	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	1L	12.88	6.35	3331	25.33	1.63	90.1	1209
	2.25L	12.57	6.26	3289		0.65	84.0	1212
	3.40L	12.59	6.25	3330		0.38	85.5	1214
	4.80L	12.52	6.26	3366		0.33	85.9	1216
	6.00L	12.52	6.27	3402		0.34	86.4	1218

Total Purged = | Purge Pumping Rate (approx. L/m): 400 ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): | Decontamination Method: N/A
Instrument Type & Number: # 3 YSI | Water Disposal: U WSF
Instrument Calibration Date & Time: 3/27/06 | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1230 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
618-01	3	40ml	TSP	U of OK		isotopes

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event: resample of isotopes because the VOAs frozeblock in AMEC fridge

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.
Sampler (Print): BARB LARY Sampler Signature: [signature] Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: | Additional Chain-of-Custody #s:

Time Sampled:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): | Sampler Signature: | Date Signed: 3/27/06

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

Project Name: 2006 Winter GW Event
Project #: 0-61M-10703-0 P 43
Monitoring/Sampling Date: 3/24/06

Monitoring Well ID: RP-01-65
Field Personnel: J. Fassio, B. McGillicuddy, L. Glowek
Start Time: 1140
Weather Conditions: Partly Cloudy, Shower Approx. Air Temp (F): 50°F

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0
%LEL Background: – In well Casing: –
PID Calibration Standard: isobutylene
PID Calibration Date: 800 3/24/06
Date/Time of Measurement: 3/24/06 / 930
Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): 65
Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 24.80
Depth to Free Product (TOC - ft.): –
Calculated Column Height (ft.): NA
Casing Diameter (in.): 2"
Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): NA
Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: None
Observation of DNAPL: None

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)	DTW
	0	12.17	6.03	4521	–	0.93	138	1146	24.9
	1.6	12.05	5.94	4606	–	0.73	141.6	1150	24.95
	3.2	11.96	5.90	4625	–	0.33	141.6	1154	24.95
	4.8	12.05	5.92	4652	–	0.24	140.0	1158	
	6.4	11.93	5.97	4655	–	0.22	139.8	1202	24.95
	Turbidity – 0.58 NTU								

Total Purged = 6.4
Purge Pumping Rate (approx. L/m): 0.4 L/min
Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 0.0
Decontamination Method: Alconox, DI rinse,
Instrument Type & Number: YSI
Water Disposal: RP-WSF Drum
Instrument Calibration Date & Time: 3/24/06 800
Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired
Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired
Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired
Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/24/06
QA/QC Sample (circle one): YES / NO
Water Chemistry Sample: YES / NO
Time Sampled: 1215
Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s:
Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
614-01			See bottle			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio Sampler Signature: Joe Fassio Date Signed: 3/24/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/24/06

Monitoring Well ID: RP-01-65 | Field Personnel: J. Fassio, L. Glowek, B. McGillicuddy

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/24/06 | Additional Chain-of-Custody #s:

Time Sampled: 1215

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
614-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	3	40ml	TSP	U of OK	↓	Stable Isotopes
	1	125 ml	Sodium Thiosulfate	FQL	↓	Plate counts
	1	250ml	NONE	Test Am	↓	Nitrite/Nitrate/orthophosphorus

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio | Sampler Signature: [signature] | Date Signed: 3/24/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event
		Project #: 0-61M-10703-0 P 43
		Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: RR06-30 | Field Personnel: L. Olonek, J. Rock, B. Lary
Start Time: 0903 | Weather Conditions: Partly cloudy No wind Approx. Air Temp (F): 47

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/27/06
Date/Time of Measurement: 3/27/06 / 0900 | Depth to Water Measuring Technique: solinist
Depth Well Bottom (TOC - ft.): 31.5 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 16.57 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2 | Three Well Purge Volumes (gallons) = 3 x =
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (mS/cm)	~~Turbidity~~ DTW (NTU)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
		11.70	6.51	456	17.92	2.89	-98.2	905
	2.0+	11.94	6.40	483	18.35	0.90	-108.7	907
	~3.4	11.82	6.36	491	18.17	0.60	-112.8	911
	~4.5	11.93	6.32	497	18.13	0.42	-114.4	914
	~5.0	11.97	6.31	495		0.40	-115.0	916
		Turb	3.02	NTUs				
		Fe^{2+}	2.40	mg/L				

Total Purged = | Purge Pumping Rate (approx. L/m) 0.3L/0 320 ml/m | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other Qualvalve
Ferrous Iron (ppm): 2.40 | Decontamination Method: methanol | DI | alcinox | DI
Instrument Type & Number: YSI | Water Disposal: LP WSF
Instrument Calibration Date & Time: 3/27/06 0800 | Approx. Pump/Intake Depth: 29.5

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 0945 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Qualvalve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
615-01						
			See back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event:
615-03 - Trip Blank

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LARY Sampler Signature: Barb Lary Date Signed: 3/27/06

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

Project Name: 2006 Winter GW Event
Project #: 0-61M-10703-0 Phase 43
Monitoring/Sampling Date: 3/27/06

Monitoring Well ID:
Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06
Time Sampled: 0945
Additional Chain-of-Custody #s:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
WB-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125ml	Na Thiosulfate	Food Quality		SM 9225
	1	250ml	NONE	Test Am		Nitrite/Nitrate/orthophosphorus

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: RL-06-87 | Field Personnel: B. LARY & J. ROCK
Start Time: 930 | Weather Conditions: CLEAR & NO WIND Approx. Air Temp (F): ~50°F

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/27/06
Date/Time of Measurement: 3/27/06 / 930 | Depth to Water Measuring Technique: solinst
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 25.33 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2" | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): 0 | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: No | Observation of DNAPL: No

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	~~Turbidity~~ DTW ~~feet~~	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00/-23:59)
	~500 ml	12.46	6.22	3065	25.48	0.82	-68.6	10:21
	~1.5 L	12.47	6.18	3638	25.43	0.61	-60.2	10:25
	~2.75 L	12.49	6.23	3778		0.44	-61.8	10:29
	~4.0 L	12.52	6.26	3860	25.45	0.35	-62.0	10:35
	~4.8 L	12.57	6.26	3878		0.31	-61.0	10:37
		TURB	3.55 NTUs					
		Fe^{2+}	3.40 mg/L					

Total Purged = | Purge Pumping Rate (approx. L/m): 380 ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristaltic Pump / Grunfos Pump / Other = Dual Valve Pump
Ferrous Iron (ppm): | Decontamination Method: Methanol, DI, Alconox, DI
Instrument Type & Number: YSI | Water Disposal: RP WSF
Instrument Calibration Date & Time: 3/27/06 0800 | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 10:30 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
~~6/6-01~~						
~~6/6-02~~			See Back			
6/6-a						

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LARY Sampler Signature: Barb Lary Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | Additional Chain-of-Custody #s:

Time Sampled:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1/16-9 ~~dup of~~	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125ml	Na Thiosulfate	Fast Quality	↓	SM9215
	1	150ml	NONE	Test Am		Nitrite/Nitrate/orthophosphorus

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): | Sampler Signature: | Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/23/06

Monitoring Well ID: R-07-30 | Field Personnel: J. Fassio, B. Lary, B. McGillicuddy
Start Time: 1100 | Weather Conditions: Cloudy | Approx. Air Temp (F): 55

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: ✓ In well Casing: ✓ | PID Calibration Date: 800 3/23/06

Date/Time of Measurement: 3/23/06 / | Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): 30 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 23.71
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.): –
Casing Diameter (in.): 2"
Quantity of Free Product Collected (gal.): NONE | Method of Collecting Free Product: NA

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x _____ =

Obsevation of sheen or LNAPL: NONE | Observation of DNAPL: NONE

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)	DTW
	0	14.73	6.12	873	–	0.67	-88.4	1106	24.0
	0.36	14.71	5.91	837	✓	0.77	-84.5	1110	24.1
	0.7	14.70	5.93	813	–	0.34	-87.8	1114	24.17
	1.0	14.70	6.00	795	–	0.27	-95.0	1118	24.21
	1.7	14.69	6.04	788	–	0.24	-99.3	1122	24.24
	2.4	14.78	6.09	783	–	0.20	-99.1	1126	24.2
					6.83 NTU				

Total Purged = 2.4 | Purge Pumping Rate (approx. L/m): 120 ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 2.6 ppm | Decontamination Method:
Instrument Type & Number: YSI | Water Disposal: RP-WSF Drum
Instrument Calibration Date & Time: 800 3/23/06 | Approx. Pump/Intake Depth: ~28.8

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel (PVC) Other:
Casing Condition: (OK) / NA / Needs Repairs / Repaired | Lock Condition: OK / (NA) / Needs Repairs / Replaced
Cap Condition: (OK) / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / (NA) / Needs Repairs / Repaired
Paint Condition: OK / (NA) / Needs Repairs / Repaired | Monument Condition: (OK) / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/23/06 | QA/QC Sample (circle one): YES / (NO) | Water Chemistry Sample: (YES) / NO
Time Sampled: 1130 | Sampling Method (circle one): SS Bailer, Poly Bailer, Grunfos Pump, Teflon Bailer, Peristaltic Pump, Other: Dual Valve
Chain-of-Custody #s: electronic

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
611-01			see back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: (YES) / NO

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio | Sampler Signature: Joe Fassio | Date Signed: 3/23/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/23/06

Monitoring Well ID: RP-07-30 | Field Personnel: J. Fassio, B. Lury, B. McGillicuddy

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/23/06 | Additional Chain-of-Custody #s:

Time Sampled: 1130

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
611-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	↓	125ml	Na Thiosulfate	Food Quality	↓	SM9215
		250ml	NONE	Test Am		Nitrite Nitrate ortho
✓	3	40ml	TSP	U of OK	✓	stable isotopes

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio | Sampler Signature: Joe Fassio | Date Signed: 3/23/06

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

Project Name: 2006 Winter GW Event
Project #: 0-61M-10703-0 P 43
Monitoring/Sampling Date: 3/31/06

Monitoring Well ID: RD-07-38 | Field Personnel: L. Glonek, B. McGillicuddy
Start Time: 1010 | Weather Conditions: sunny | Approx. Air Temp (F): 50

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/31/06
Date/Time of Measurement: 3/31/06 1009 | Depth to Water Measuring Technique: NA
Depth Well Bottom (TOC - ft.): 30 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 23.42
Depth to Free Product (TOC - ft.):
Calculated Column Height (ft.):
Casing Diameter (in.):

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 | 1" = 0.04 | 2" = 0.17 | 3" = 0.37
4" = 0.66 | 6" = 1.47 | 8" = 2.61 | 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x =

Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~(mS)~~ µS	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	~~0~~	15.20	5.54	719	Moderate	4.55	-80.9	1014
	0.5 ~~480~~	15.09	5.75	802		1.72	-63.7	1018
	1	14.94	5.65	814	Slight	0.95	-69.9	1022
	1.5	14.89	5.63	818	clear	0.5	-69.3	1026
	2.0	15.18	5.79	819		0.42	-84.7	1030
	2.5	15.16	5.89	821		0.38	-91.2	1034
	3.0	15.00	5.92	819		0.30	-94.7	1038

Total Purged = | Purge Pumping Rate (approx. L/m): .120 | Well Yield: High / Moderate / Low

Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Qualkleer

Ferrous Iron (ppm): 3.8 | Decontamination Method: dedicated pump
Instrument Type & Number: YSI | Water Disposal: to WSF
Instrument Calibration Date & Time: 3/31/06 0800 | Approx. Pump/Intake Depth: 29

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs: Sample time 1050

SAMPLING INFORMATION / DATA

Date Sampled: 3/31/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: ~~1045 1047~~ | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Qualkleer

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
6033-01	3	40ml	~~HCl~~ HCl	U of OK	Courier	isotopes

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: re-sample for isotopes only

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Lisa Glonek Sampler Signature: Lisa Glonek Date Signed: 3/31/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (~~mS~~ µS)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	3.5	15.07	5.96	816	clear	0.25	-99.1	1042
	4.0	15.08	6.06	815	5.68	0.21	-100.9	1046

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 6/33-01 | Additional Chain-of-Custody #s:

Time Sampled: 1050

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: [signature] Date Signed: 2/3/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/22/06

Monitoring Well ID: RP-07-SS | Field Personnel: J. Fassio, B. McGillicuddy
Start Time: 1355 | Weather Conditions: Cloudy, 50°F | Approx. Air Temp (F):

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: – In well Casing: – | PID Calibration Date: 3/22/06 800

Date/Time of Measurement: 3/22/06 / 1355 | Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): 55 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): ~~27.52~~ 28.207 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.): –
Casing Diameter (in.): 2"
Quantity of Free Product Collected (gal.): NA | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Method of Collecting Free Product: NA

0.75" = 0.02	1" = 0.04	2" = 0.17	3" = 0.37
4" = 0.66	6" = 1.47	8" = 2.61	12" = 5.88

Obsevation of sheen or LNAPL: None | Observation of DNAPL: None

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0	14.28	6.52	1002	–	1.68	-9.9	1404
	0.6	14.32	6.53	1007	–	0.85	-23.4	1407
	1.2	14.36	6.54	1014	–	0.63	-29.4	1411
	1.8	14.34	6.55	1020	–	0.60	-34.8	1414
	2.4	14.36	6.55	1024	–	0.51	-39.8	1417
					2.38 NTU			

Total Purged = | Purge Pumping Rate (approx. L/m): 200 ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 3.4 ppm | Decontamination Method: Alconox, DI Rinse
Instrument Type & Number: YSI | Water Disposal: Drum in RP WSF
Instrument Calibration Date & Time: 3/22/06 800 | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other: Dual Valve - Dedicated Pump
Casing Condition: (OK) / NA / Needs Repairs / Repaired | Lock Condition: OK / (NA) / Needs Repairs / Replaced
Cap Condition: (OK) / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / (NA) / Needs Repairs / Repaired
Paint Condition: OK / (NA) / Needs Repairs / Repaired | Monument Condition: (OK) / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/22/06 | QA/QC Sample (circle one): YES (NO) | Water Chemistry Sample: (YES) / NO
Time Sampled: 1430 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
608-01	27	various	502-Black			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: (YES) / NO

Field Observations/Notes of Sampling Event: DTW = 26.68 on 3/23/06 DTW measured on 3/22 may be in error.

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio | Sampler Signature: [signature] | Date Signed: 3/22/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/22/06

Monitoring Well ID: RP-02-55 | Field Personnel: J Fossio, L-Glover, B McGillivray

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/22/06 | Additional Chain-of-Custody #s:

Time Sampled: 1420

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
GW-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/~~orthophosphorus~~/alkalinty
	3	40 ml	TSP	N. OK		Isotopes
	1	250 ml	None	NCA		Nitrate/nitrite/orthophosphorus
	1	125 ml	Sulfuric Acid	FCL		Plate count

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fossio | Sampler Signature: [signature] | Date Signed: 3/22/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/23/06

Monitoring Well ID: RP-71-84 | Field Personnel:
Start Time: 840 | Weather Conditions: | Approx. Air Temp (F):

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: In well Casing: | PID Calibration Standard: isobutylene
%LEL Background: In well Casing: | PID Calibration Date:
Date/Time of Measurement: 3/23/06 1900 | Depth to Water Measuring Technique:
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product:
Depth to Water Level (TOC - ft.): 27.22 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): | Method of Collecting Free Product:
Obsevation of sheen or LNAPL: | Observation of DNAPL:

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
		See Back						

Total Purged = | Purge Pumping Rate (approx. L/m): 380ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other =
Ferrous Iron (ppm): | Decontamination Method:
Instrument Type & Number: YSI | Water Disposal:
Instrument Calibration Date & Time: | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/23/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 945 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1609-01			See Back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fossi | Sampler Signature: Joe Fossi (Fossi) | Date Signed: 3/23/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: ~~RP-07-84~~ GW 3/23/06

Monitoring Well ID: RP-07-84 Field Personnel: J. Fassio, B. Lory, B. McGillivray

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)	DTW
	~~0~~	~~13.64~~	~~6.66~~	~~1874~~	~~-~~	~~1.96~~	~~231.2~~	~~910~~	DNA
	0	13.65	6.35	3510	-	0.46	43.7	913	
	1.5	13.71	6.27	3519	-	0.74	31.9	917	
	3.0	13.75	6.25	3517	-	0.42	27.2	921	28.1
	4.5	13.75	6.24	3515	-	0.31	26.3	925	27.0
	6.0	13.77	6.23	3513	-	0.25	23.0	929	
	7.5	13.78	6.24	3517	-	0.23	21.1	933	27.0
	TURBIDITY:	1.84 NTUs							
	Fe^{2+}:	1.4	mg/L						

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/23/06 Additional Chain-of-Custody #s:

Time Sampled: 945

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
609-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	3	40ml	TSP	U of O		Isotope
	1	250 ml	none	Test Amer		TKN/orthophosphorus
	1	Bio	Na Thiosulfate	Food Qual.		

Field Observations/Notes of Sampling Event: Trip Blank = 609-03 - Time = 800
Lab Dup : 609-06

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio Sampler Signature: [signature] Date Signed: 3/23/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/31/06

Monitoring Well ID: RP-07-84 | Field Personnel: L Glonek, b. McCilliuddy
Start Time: 1100 | Weather Conditions: sunny, | Approx. Air Temp (F): 50

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0	PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA	PID Calibration Date: 3/31/06
Date/Time of Measurement: 3/ / 1100	Depth to Water Measuring Technique: Solinist
Depth Well Bottom (TOC - ft.): 84	Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 25.39	Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA	0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): NA	4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 0.2	Three Well Purge Volumes (gallons) = 3 x =
Quantity of Free Product Collected (gal.): NA	Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA	Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~(mS)~~ uS	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0	13.54	6.75	2316	clear	5.50	-44.3	1104
	1.4	13.91	6.26	2193	↓	0.48	7.3	1108
	2.8	13.88	6.21	2187	↓	0.3	12.8	1112
	4.2	13.90	6.21	2194	↓	0.17	14.2	1116
	5.6	13.86	6.24	2216	↓	0.15	14.3	1120
	7.0	13.94	6.26	2237	0.90	0.14	14.1	1124

Total Purged = 7.0 | Purge Pumping Rate (approx. L/m): 0.35 | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Quakwater

Ferrous Iron (ppm): 1.6	Decontamination Method: Dedicated pumps
Instrument Type & Number: YSI	Water Disposal: to WSF
Instrument Calibration Date & Time: 3/31/06 0800	Approx. Pump/Intake Depth: 80

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:

Casing Condition: OK / NA / Needs Repairs / Repaired	Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired	Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired	Monument Condition: OK / NA / Needs Repairs / Repaired

Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/31/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 11:30 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Quakwater

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
0321-01	3	40ml	TSP	U of OK	courier	isotopes

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: re-sample of isotopes because original isotope vial broke/froze

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/31/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: | Additional Chain-of-Custody #s:

Time Sampled:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/31/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER 7 SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/23/06

Monitoring Well ID: RP-M-119	Field Personnel: J. Fazzio,		
Start Time: 840	Weather Conditions: Cloudy, 55°F No wind!	Approx. Air Temp (F):	

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0	In well Casing: 0.0	PID Calibration Standard: isobutylene	
%LEL Background: –	In well Casing: –	PID Calibration Date: 3/23/06	800
Date/Time of Measurement: 3/23/06 1900		Depth to Water Measuring Technique:	
Depth Well Bottom (TOC - ft.): 119		Detection Method of Free Product:	
Depth to Water Level (TOC - ft.): 27.16		Conversions Factors (casing dia. = gallons/linear ft.) Circle One	
Depth to Free Product (TOC - ft.): NA		0.75" = 0.02	1" = 0.04	2" = 0.17	3" = 0.37
Calculated Column Height (ft.): NA		4" = 0.66	6" = 1.47	8" = 2.61	12" = 5.88
Casing Diameter (in.): 2"		Three Well Purge Volumes (gallons) = 3 x _____ = _____	
Quantity of Free Product Collected (gal.): None		Method of Collecting Free Product: NA	
Obsevation of sheen or LNAPL: None		Observation of DNAPL: None	

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

Total Purged =	Purge Pumping Rate (approx. L/m): 225 ml/min	Well Yield: High / Moderate / (Low)
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve		
Ferrous Iron (ppm):	Decontamination Method:	
Instrument Type & Number: YSI	Water Disposal: RP-WSF Drum	
Instrument Calibration Date & Time: 800 3/23/05	Approx. Pump/Intake Depth:	

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel (PVC) Other:	
Casing Condition: (OK) / NA / Needs Repairs / Repaired	Lock Condition: OK / (NA) / Needs Repairs / Replaced
Cap Condition: (OK) / NA / Needs Repairs / Repaired	Inner Casing Condition: OK / (NA) / Needs Repairs / Repaired
Paint Condition: OK / (NA) / Needs Repairs / Repaired	Monument Condition: (OK) / NA / Needs Repairs / Repaired
Recommended Well Repairs:	

SAMPLING INFORMATION / DATA

Date Sampled: 3/23/06	QA/QC Sample (circle one): (YES) / NO	Water Chemistry Sample: (YES) / NO
Time Sampled: 1000	Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump	
Chain-of-Custody #s:	Teflon Bailer Peristaltic Pump Other: Dual Valve	

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1610-01			See Back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: (YES) / NO

Field Observations/Notes of Sampling Event: _____

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fazzio Sampler Signature: [signature] Date Signed: 3/23/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: RP-07-119

Monitoring Well ID: RP-07-119 | Field Personnel: J. Fassio, B. Lary, B. McGillicuddy

INITIAL WELL DATA & WELL PURGING INFORMATION

	Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)	DTW
YSI #4 →		0	13.84	6.66	1874	–	1.36	244.4	910	27.4
		0.9	14.00	6.49	1887	–	0.57	197.3	914	
		1.8	14.11	6.44	1866	–	0.36	145.5	918	27.5
		2.7	14.14	6.43	1855	–	0.36	132.0	922	27.5
		3.6	14.21	6.42	1841	–	0.31	121.1	926	27.4
		4.5	14.22	6.41	1833	–	0.42	114.3	930	27.4
		5.4	14.34	6.42	1827	–	0.34	108.2	934	
		6.3	14.34	6.42	1823	–	0.27	105.4	938	27.4
Stopped pump @ 1 SK		107.2	14.29	6.42	1815	–	0.29	101.6	942	
Reading with → YSI #3		~~20.7~~ 21.6	10.0 10.9	14.12 14.14	6.25 6.25	1900 1894	– –	0.35 0.34	56.8 53.9	1000 1004	27.27
		11.8		14.15	6.28	1885	–	0.27	50.0	1009	27.27
					TURBIDITY:	1.11 NTU				
					Fe II	0.50 mg/L				

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/23/06 | Additional Chain-of-Custody #s:

Time Sampled: 1000

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
610-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	3	40ml	TSP	U of OK		Isotope
	1	250ml	none	Test Amer		TKN/orthophosphorus
	1	8 oz	Na Thiosulfate	Food Quest		

9
4
15
0.9
13.5

Field Observations/Notes of Sampling Event: Dup = 610-02

Took three new readings with YSI #3 YSI #4 ORP reading too high and reading on calibration solution = 90 mV on 249 mV solution

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio | Sampler Signature: [signature] | Date Signed: 3/23/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/21/06

Monitoring Well ID: RP-11-30 | Field Personnel: JOE F. BARB & BRENDAN
Start Time: 1130 | Weather Conditions: SHOWERS, CLOUDY | Approx. Air Temp (F): ~48°F

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: Isobutylene 100 ppm
%LEL Background: N/A In well Casing: | PID Calibration Date: 3/21/06
Date/Time of Measurement: 3/21/06 1145 | Depth to Water Measuring Technique:
Depth Well Bottom (TOC - ft.): ~ | Detection Method of Free Product:
Depth to Water Level (TOC - ft.): 20.0' below wellcap | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): | Method of Collecting Free Product:
Obsevation of sheen or LNAPL: | Observation of DNAPL:

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
			see back					

Total Purged = | Purge Pumping Rate (approx. L/m): | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other =
Ferrous Iron (ppm): | Decontamination Method:
Instrument Type & Number: YSI # 4 | Water Disposal:
Instrument Calibration Date & Time: | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel (PVC) Other:
Casing Condition: (OK) / NA / Needs Repairs / Repaired | Lock Condition: (OK) / NA / Needs Repairs / Replaced
Cap Condition: (OK) / NA / Needs Repairs / Repaired | Inner Casing Condition: (OK) / NA / Needs Repairs / Repaired
Paint Condition: (OK) / NA / Needs Repairs / Repaired | Monument Condition: (OK) / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/21/06 | QA/QC Sample (circle one): YES / (NO) | Water Chemistry Sample: (YES) / NO
Time Sampled: | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Dwelvalve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
605-01			All	Mark		

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: Continued Sampling on 3/22/06 ok

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Faosh Sampler Signature: [signature] Date Signed: 3/22/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/21/06

Monitoring Well ID: RP-11-30 | Field Personnel: BARB, JOE F, BRENDAN

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~µmhos/cm~~	~~Turbidity (NTUs)~~ DTW feet bgs	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
N/A	0	12.45	6.13	298	20.58	1.19	-26.4	1156
	400	12.81	6.11	280	20.80	0.51	-38.4	1157
	800	13.16	6.01	269		0.28	-41.2	1159
	~1 L	13.23	5.99	265	21.56	0.28	-48.2	12[illegible]
	~1.5 L	13.15	5.95	26[illegible]	21.8[illegible]	0.[illegible]	-50.8	1204
	~3.0 L	13.11	5.92	271	22.50	0.33	-53.7	12[illegible]8
	3/21/06				13[illegible]/2006			
		TURB	65.3 NTUs			6.92 = NTU		
		Fe^{2+}	3.0 mg/L			Fe^{3+}	3.2 mg/L	

WELL CONDITION

Recommended Well Repairs/Additional Notes:

~~200~~ ml/min
~~360~~
240

SAMPLING INFORMATION / DATA

RP-11-30

Date Sampled: 3/21/06 | Additional Chain-of-Custody #s:

Time Sampled: 1230

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters	Date
605-01	2	1 L	None	STL-Seattle	courier	8081A	3/22/06
	2	1 L	None	STL-Seattle	courier	8151A	↓
	2	1 L	None	STL-Seattle	courier	8270C	↓
	3	40 ml	HCL	STL-Seattle	courier	8260B	3/21/06
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx	3/22/06
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613	3/21/06
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000	3/22/06
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000	↓
	1	1 L	None	Test America	courier	405.1/310.1/300	
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12	
	1	250	NAOH + Zn	STL-Seattle	courier	376.2	
	3	40 ml	HCL	STL-Seattle	courier	RSK 175	3/21/06
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty	
	3	40ml	TSP	U of Okla.		isotope	3/21/06
	1	~~250~~ Bio	Na Thiosulfate	Food Qual.		Sn 9245	
↓	1	~~B1000~~	NONE	Test Amer.		TKN/orthophosphorus	↓

Field Observations/Notes of Sampling Event:

1220 - WELL DRIED UP - WAIT FOR RECHARGE

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LAMY | Sampler Signature: [signature] | Date Signed: 3/21/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event
		Project #: 0-61M-10703-0 P 43
		Monitoring/Sampling Date: 3/22/06

Monitoring Well ID: RP-11-~~2~~ 161 | Field Personnel: J. Fassio, B. McGillicuddy, L. Glanek

Start Time: 1045 1600 | Weather Conditions: Cloudy, 50°F | Approx. Air Temp (F): 50°F

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene

%LEL Background: — In well Casing: — | PID Calibration Date: ~~0.0~~ 800 3/22/06

Date/Time of Measurement: 3/22/06 / 1030 | Depth to Water Measuring Technique: Solinst

Depth Well Bottom (TOC - ft.): ~~218~~ 161 | Detection Method of Free Product: NA

Depth to Water Level (TOC - ft.): 25.31

Depth to Free Product (TOC - ft.):

Calculated Column Height (ft.):

Casing Diameter (in.): 2"

Quantity of Free Product Collected (gal.):

Conversions Factors (casing dia. = gallons/linear ft.) Circle One

0.75" = 0.02	1" = 0.04	2" = 0.17	3" = 0.37
4" = 0.66	6" = 1.47	8" = 2.61	12" = 5.88

Three Well Purge Volumes (gallons) = 3 x _____ = _____

Method of Collecting Free Product: NA

Obsevation of sheen or LNAPL: None | Observation of DNAPL: None

Casing Volumes (#)	Volume Purged (liters) ml	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)	OTu
	0	13.25	7.09	347	–	1.27	98.3	10:31	25.6
	800	13.30	6.81	410	–	0.43	-52.9	10:55	25.5
	1400	13.47	6.77	431	–	0.32	-88.8	1059	25.5
	2000	13.43	6.76	436	–	0.29	-97.8	1104	
	2600	13.41	6.75	439	–	0.49	-105.0	1108	
	3200	13.47	6.75	441	–	0.41	-106.9	1111	25.5
					4.74 ntu				

Total Purged = | Purge Pumping Rate (approx. L/m): 200 ml/min* | Well Yield: High / Moderate / Low

Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve

Ferrous Iron (ppm): 3.6 ppm | Decontamination Method:

Instrument Type & Number: YSI | Water Disposal: stored in drum at RP WSF

Instrument Calibration Date & Time: 3/22/06 800 | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel (PVC) Other:

Casing Condition: (OK) / NA / Needs Repairs / Repaired | Lock Condition: OK / (NA) / Needs Repairs / Replaced

Cap Condition: (OK) / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / (NA) / Needs Repairs / Repaired

Paint Condition: OK / (NA) / Needs Repairs / Repaired | Monument Condition: (OK) / NA / Needs Repairs / Repaired

Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/22/06 | QA/QC Sample (circle one): YES / (NO) | Water Chemistry Sample: (YES) / NO

Time Sampled: 1130 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump

Chain-of-Custody #s: | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
607-01	27	Various	Various	NCA, STL, FGL		
			see back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: *reduced pump rate to 150 ml/min at second reading. End time = 1330

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio | Sampler Signature: Joe Fassio | Date Signed: 3/22/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/22/06

Monitoring Well ID: RP-11-~~2~~160 | Field Personnel: J. Fassio, L. Glovek

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/22/06 | Additional Chain-of-Custody #s:

Time Sampled: 1130

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
607-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/~~orthophosphorus~~/alkalinty
	3	40ml	TSP	UOK		Isotopes
	~~1~~	~~1L~~	~~None~~	~~NCA~~		BOD
	1	250ml	None	NCA		Nitrate/Nitrite/Orthophosphorus
			Sodium Thiosulfate			Retrotrophic plate count

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Fassio | Sampler Signature: [signature] | Date Signed: 3/22/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/21/06

Monitoring Well ID: RP-11-[illegible] Field Personnel: JOE F. BRENDAN & BARB

Start Time: 1225 Weather Conditions: SHOWERS & COOL Approx. Air Temp (F): 48-F

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0	In well Casing: 0.0	PID Calibration Standard:	Isobutylene
%LEL Background: NA	In well Casing: NA	PID Calibration Date:	3/21/06
Date/Time of Measurement:	3/21/06 1300	Depth to Water Measuring Technique:	solinist
Depth Well Bottom (TOC - ft.):		Detection Method of Free Product:	NA
Depth to Water Level (TOC - ft.):	25.35 25.50	Conversions Factors (casing dia. = gallons/linear ft.) Circle One	
Depth to Free Product (TOC - ft.):		0.75" = 0.02 / 1" = 0.04 / 2" = 0.17 / 3" = 0.37	
Calculated Column Height (ft.):		4" = 0.66 / 6" = 1.47 / 8" = 2.61 / 12" = 5.88	
Casing Diameter (in.):		Three Well Purge Volumes (gallons) = 3 x ____ = ____	
Quantity of Free Product Collected (gal.):	NA	Method of Collecting Free Product:	NA
Obsevation of sheen or LNAPL:	NA	Observation of DNAPL:	NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

see back

Total Purged =	Purge Pumping Rate (approx. L/m):	Well Yield: High / Moderate / Low

Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Quickvalve

Ferrous Iron (ppm):		Decontamination Method:	dedicated pump
Instrument Type & Number:	YSI	Water Disposal:	RP WSF
Instrument Calibration Date & Time:	3/21/06	Approx. Pump/Intake Depth:	

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:

Casing Condition:	OK / NA / Needs Repairs / Repaired	Lock Condition:	OK / NA / Needs Repairs / Replaced
Cap Condition:	OK / NA / Needs Repairs / Repaired	Inner Casing Condition:	OK / NA / Needs Repairs / Repaired
Paint Condition:	OK / NA / Needs Repairs / Repaired	Monument Condition:	OK / NA / Needs Repairs / Repaired

Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/20/06	QA/QC Sample (circle one): YES NO	Water Chemistry Sample: YES / NO
Time Sampled: 1330	Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump	
Chain-of-Custody #s: electronic	Teflon Bailer Peristaltic Pump Other: Quickvalve	

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
4.3.2 6006-01						

see back

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LARY Sampler Signature: Barb Lary Date Signed: 3/21/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/21/06

Monitoring Well ID: RP-11-~~2600~~ 216 | Field Personnel: BARB, JOEF, BRENDAN

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~µS/cm~~	~~Turbidity (NTUs)~~ DTW ft	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
N/A	~200 ml	12.48	7.04	650	25.65	0.95	-77.0	1320
	800 ml	12.87	6.42	1553	25.65	0.21	-50.3	1323
	~1.5 l	12.89	6.53	1625		0.18	-64.2	1326
	~2.0 l	12.89	6.55	1643		0.20	-68.0	1329
	2.5 l	13.02	6.54	1654		0.21	-67.6	1331
	3.25 l	13.26	6.5	1666	25.70	0.23	-66.1	1334
	4.25 l	13.32	6.53	1676		0.30	-62.1	1338
			TURB:	6.01 NTUs				
			Fe^{2+}:	2.0 mg/L				

WELL CONDITION

Recommended Well Repairs/Additional Notes:

~240 mg/L

SAMPLING INFORMATION / DATA

RP-11-~~160~~ 216

Date Sampled: 3/21/06 | Additional Chain-of-Custody #s:

Time Sampled: 1330

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
606-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/~~orthophosphorus~~/alkalinty
	3	40 ml	TSP	U of OK		Isotopes
	1	250 ml	NONE	Test Amer		TKN/orthophosphorus
	1	BIO	Na Thiosulfate	Food Qual.		Sm9215

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LARY | Sampler Signature: Barb Lary | Date Signed: 3/21/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: W-03-5 | Field Personnel: J. Rock, B. Lary, L. Glover
Start Time: 1325 | Weather Conditions: | Approx. Air Temp (F):

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: In well Casing: | PID Calibration Date:

Date/Time of Measurement: 3/27/06 1330 | Depth to Water Measuring Technique:
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product:
Depth to Water Level (TOC - ft.): 5.76 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): | Method of Collecting Free Product:
Obsevation of sheen or LNAPL: | Observation of DNAPL:

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~(uS/cm)~~	~~Turbidity~~ DTW (ft bgs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	~1L	14.94	7.20	547	6.08	1.65	85.1	1336
	~2.2L	13.41	6.39	512	6.55	1.14	94.6	1340
	~3.4L	13.36	6.24	512		1.05	52.0	1344
	~4.0L	13.44	6.26	514	7.08	0.92	-2.4	1346
	~5.0L	13.50	6.38	513		0.92	-10.8	1349
	6.8L	13.51	6.47	514	7.23	0.84	-34.6	1353
							over	

Total Purged = | Purge Pumping Rate (approx. L/m): ~~250 ml~~ 320 ml | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 0.0 | Decontamination Method: Alconox, Methanol + DI Water
Instrument Type & Number: YSI #3 | Water Disposal: LP WSF
Instrument Calibration Date & Time: | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1350 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: Electronic | Teflon Bailer Peristaltic Pump Other Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
619-01						

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.
Sampler (Print): BARB LARY Sampler Signature: Barb Lary Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity µ~~S/cm~~	~~Turbidity~~ DTW ~~FNTUs~~	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
Cont. from	8.0L	13.50	6.71	514	7.4	0.79	-51.4	1357
	9.0L	13.52	6.74	514		0.77	-56.0	1400
back								
		TURB	=	4.02 NTUs				
		Fe^{2+}	=	0.0 mg/L				

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | Additional Chain-of-Custody #s:

Time Sampled: ~~1400~~ 1350

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
619-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	250 ml	none	Test Amer		TKN/orthophosphorus
	1	610	Na Thiosulf.	Food Quality		SM9215

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LARY | Sampler Signature: Barb Lary | Date Signed 3/27/06

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

Project Name:	2006 Winter GW Event
Project #:	0-61M-10703-0 P 43
Monitoring/Sampling Date:	3/27/06

Monitoring Well ID: RP W-03-A (B) | Field Personnel: B. LARY, J ROCK, L. GLONEK
Start Time: 1320 | Weather Conditions: SUNNY & MILD LIGHT BREEZE | Approx. Air Temp (F): 60

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: In well Casing: | PID Calibration Date:
Date/Time of Measurement: 3/27/06 / 1325 | Depth to Water Measuring Technique:
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product:
Depth to Water Level (TOC - ft.): 7.14 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): | Three Well Purge Volumes (gallons) = 3 x ____ = ____
Quantity of Free Product Collected (gal.): | Method of Collecting Free Product:
Obsevation of sheen or LNAPL: | Observation of DNAPL:

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~(mS/cm)~~	~~Turbidity~~ DTW ~~(NTUs)~~	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	1L+	14.58	5.80	5066	7.68	0.53	-103.0	1410
	3L+	14.62	5.88	5097	8.25	0.28	-108.1	1417
	4L+	15.16	5.87	5076		0.23	-108.9	1420
	5.2L	15.46	5.93	5099		0.23	-111.9	1424
	6.2L	15.41	5.94	5090	8.49	0.21	-114.0	1427
	7.2L	15.26	5.93	5091	8.52	0.18	-111.9	1430
		TURB: 149 NTUs						

Total Purged = | Purge Pumping Rate (approx. L/m): ~ 360 ml/m | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristaltic Pump / Grunfos Pump / Other =
Ferrous Iron (ppm): 5.5 mg/L | Decontamination Method: DI Alconox Method → Disposable
Instrument Type & Number: YSI #3 | Water Disposal: RP WSF
Instrument Calibration Date & Time: 3/27/06 | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1445 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Dedicated

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1620-01						

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LARY Sampler Signature: Barb Lary Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | Additional Chain-of-Custody #s:

Time Sampled: 1445

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
6.20-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	250 ml	NONE	Test Amer		TKN / orthophosphorus
	1	BIO	Na-thiosulfate	Food Qual		SM9215

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LARY | Sampler Signature: Barb Lary | Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: W03-D | Field Personnel: Joe Rock, Lisa Colonel, Barb Lary
Start Time: 1500 | Weather Conditions: Sunny, Clear | Approx. Air Temp (F): 60

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: In well Casing: | PID Calibration Date: 3/27/06
Date/Time of Measurement: 3/27/06 / 15:00 | Depth to Water Measuring Technique: NA
Depth Well Bottom (TOC - ft.): 94 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 11.27
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.):
Quantity of Free Product Collected (gal.): Ø | Method of Collecting Free Product: NA

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x _____ = _____

Obsevation of sheen or LNAPL: None | Observation of DNAPL: None

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity mS/cm	~~Turbidity~~ DTW (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
4.18 NTUs	~1L+	14.35	6.57	490	11.50	4.36	-90.2	1509
	~2.3L	14.13	5.94	431		0.58	-43.4	1514
	3.3L	14.12	5.97	430	11.80	0.48	-45.5	1518
	4.3L	13.99	6.07	429		0.33	-51.4	1522
	5.3L	13.91	6.10	428	11.85	0.30	-57.7	1526
	6.3L	13.96	6.32	427		0.24	-64.7	1530
	7.3	13.93	6.48	427	11.85	0.35	-71.0	1534

Total Purged = | Purge Pumping Rate (approx. L/m): 280 ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 1.0 mg/L | Decontamination Method:
Instrument Type & Number: YSI # 3 | Water Disposal: RP - WJP
Instrument Calibration Date & Time: 3/27/06 | Approx. Pump/Intake Depth: 84'

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel (PVC) Other:
Casing Condition: (OK) / NA / Needs Repairs / Repaired | Lock Condition: (OK) / NA / Needs Repairs / Replaced
Cap Condition: (OK) / NA / Needs Repairs / Repaired | Inner Casing Condition: (OK) / NA / Needs Repairs / Repaired
Paint Condition: (OK) / NA / Needs Repairs / Repaired | Monument Condition: (OK) / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | QA/QC Sample (circle one): YES / (NO) | Water Chemistry Sample: (YES) / NO
Time Sampled: 1545 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Dual valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
621-01						

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: (YES) / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Rock Sampler Signature: [signature] Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/27/06

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/27/06 | Additional Chain-of-Custody #s:

Time Sampled: 1545

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
621-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/~~orthophosphorus~~/alkalinty
	1	250 ml	None	Test Amer		TKN/orthophosphorus
	1	8oz	Na Thiosulfate	Food Qual.		SM9215

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LARI / Sampler Signature: [signature] Date Signed: 3/27/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/28/2006

Monitoring Well ID: W-04-S | Field Personnel:
Start Time: 0930 | Weather Conditions: Sunny w/clouds | Approx. Air Temp (F): ~50°F

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/28/2006
Date/Time of Measurement: 3/28/06 / 0920 | Depth to Water Measuring Technique: solinst
Depth Well Bottom (TOC - ft.): 17 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 5.91
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 4
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x ____ = ____

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	~~0.05~~	13.05	7.45	432	clear	1.98	141.7	0936
	0.8	12.88	6.90	423	clear	0.28	145.0	0940
	0.8	12.85	6.81	422	clear	0.34	134.5	0944
	0.8	12.70	6.98	422	clear	0.27	112.4	0948
	0.8	12.83	7.13	423	clear	0.18	84.5	0952
	0.8	12.84	7.12	422	clear	0.18	77.7	0956
	0.8	12.44	7.13	422	clear	0.11	65.1	1000

Total Purged = | Purge Pumping Rate (approx. L/m): 0.2 | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Qualwater
Ferrous Iron (ppm): 0.8 | Decontamination Method: Dispos. tubing / DI water / steam
Instrument Type & Number: YSI | Water Disposal: RP WSF
Instrument Calibration Date & Time: 3/28/2006 0830 | Approx. Pump/Intake Depth: 12

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/28/2006 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1010 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: Electronic | Teflon Bailer Peristaltic Pump Other: Qualwater

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
6022-01						

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: Low recharge; well continued to draw down, at min pump rate. Stopped during purging / sampling

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LBA GONEK Sampler Signature: Lisa Gonek Date Signed: 3/28/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 03/28/06

Monitoring Well ID: W-04-S | Field Personnel: LG, CB, EM, JR

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0.8	12.82	7.22	421	clear	0.13	47.9	1004
	0.8	12.91	7.44	421	clear	0.15	26.1	1008
					1.28			

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/28/2006 | Additional Chain-of-Custody #s:

Time Sampled: 1010

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1622-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125ml	~~[illegible]~~ Food Quality			SM9215
	1	250ml	None	Test Am		Nitrite / Nitrate / orthophosphate

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/28/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/28/06

Monitoring Well ID: W-04-I | Field Personnel: Joe Rock, Lisa Cabell, Cindy Bartlett, Eric McDonell
Start Time: 10:20 | Weather Conditions: clear | Approx. Air Temp (F) 55°

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: Ø.Ø In well Casing: Ø.Ø | PID Calibration Standard: isobutylene
%LEL Background: – In well Casing: – | PID Calibration Date: 3/28/06
Date/Time of Measurement: 3/28/06 / | Depth to Water Measuring Technique: Solinist
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 8.01
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 4"
Quantity of Free Product Collected (gal.): Ø

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 | 1" = 0.04 | 2" = 0.17 | 3" = 0.37
4" = 0.66 | 6" = 1.47 | 8" = 2.61 | 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x _____ = _____
Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (~~mS~~) µS	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)	DTW
	.5l	13.56	6.07	4654	clear	Ø.85	-46.3	10:23	9.50
	4.0l	13.88	5.88	4592	Clear	Ø.34	-79.3	10:30	
	7.5l	13.99	5.88	4580	Clear	Ø.18	-83.6	10:37	
	10.5l	14.08	6.95	4594	Clear	Ø.14	-86.4	10:44	12.01
	Paused purging / too much drawdown reduced pumping rate to .2l/min								
	See back page								
				NTU=30.9					12.41

Total Purged = | Purge Pumping Rate (approx. L/m): .5 l/min – .2l/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristaltic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 5.3 | Decontamination Method: BP WTP Methanol, Alconox, DI, Alconox
Instrument Type & Number: YSI # | Water Disposal: BP WTP
Instrument Calibration Date & Time: 3/28/06 8:30 | Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/28/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: H00 11:20 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
L23-01						
			See back page			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event: Low well yield - drawdown during purging/sampling ~5ft

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Rock | Sampler Signature: [signature] | Date Signed: 3/28/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: W-04-I | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (~~µS~~) µS	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)	
	10.75 l	16.03	6.06	4652	clear	Ø.12	-94.9	11:04	
	11.0 l	14.73	6.02	4600	clear	Ø.12	-92.5	11:06	12.6
	11.8 l	14.35	5.97	4589	clear	Ø.11	-91.4	11:12	
	12.2 l	14.40	6.02	4607	clear	Ø.11	-94.3	11:20	

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 8/28/06 | Additional Chain-of-Custody #s:

Time Sampled: 11:00 11:20 DUP

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1023-01DUP	2 x 1 L	1 L	None	STL-Seattle	courier	8081A
	2 x 1 L	1 L	None	STL-Seattle	courier	8151A
	2 x 1 L	1 L	None	STL-Seattle	courier	8270C
	3 x 40 ml	40 ml	HCL	STL-Seattle	courier	8260B
	2 x 1 L	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2 x 1 L	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Rock | Sampler Signature: [signature] | Date Signed: 8/28/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/28/06

Monitoring Well ID: W-04-89 | Field Personnel: Joe Rock, Lisa Glueck, Erin McDonnell
Start Time: 1200 | Weather Conditions: Sunny, Clear | Approx. Air Temp (F): 55°

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.4 | PID Calibration Standard: isobutylene
%LEL Background: — In well Casing: — | PID Calibration Date: 3/28/06
Date/Time of Measurement: 3/28/06 / 1200 | Depth to Water Measuring Technique: Solinist
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 10.10 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 2"
Quantity of Free Product Collected (gal.): 0

0.75" = 0.02	1" = 0.04	2" = 0.17	3" = 0.37
4" = 0.66	6" = 1.47	8" = 2.61	12" = 5.88

Three Well Purge Volumes (gallons) = 3 x _____ =
Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (~~mS~~) uS	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)	DTW
	0.5 l	15.10	7.05	841	Clear	9.56	-117.8	12:07	10.4
	4.5 l	14.12	6.37	717	Clear	3.31	-47.6	12:15	10.5
	6.9 l	14.47	6.44	708	Clear	2.22	-103.9	12:21	10.9
	8.5 l	14.58	6.54	700	Clear	1.87	-112.5	12:25	
	10 l	14.50	6.61	689	Clear	1.50	-117.5	12:29	
	11.7	14.43	6.69	682	Clear	1.32	-122.0	12:33	
	13.8	14.40	6.74	674	Clear	1.08	-125.5	12:37	

Total Purged = | Purge Pumping Rate (approx. L/m): .4 l/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 3.0 | Decontamination Method: methanol, DI, Alconox, DI
Instrument Type & Number: YSI | Water Disposal: RPWTP
Instrument Calibration Date & Time: 3/28/06 0930 | Approx. Pump/Intake Depth: 84'

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/28/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1215 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
624-01			See back page			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event: Collected MS/MSD sample from this well

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.
Sampler (Print): Joe Rock | Sampler Signature: [signature] | Date Signed: 3/28/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (~~mS~~ uS)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
~~12:41~~	14.9	14.42	6.78	671	Clear	0.96	-128.0	12:41
12:45	16.5	14.41	6.79	670	Clear	0.97	-130.0	12:45
	18.1	14.43	6.80	671	Clear	0.99	-131.4	12:49
					2.71			

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/28/06 | Additional Chain-of-Custody #s:

Time Sampled: 12:50

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
624-01	26	1 L	None	STL-Seattle	courier	8081A
	26	1 L	None	STL-Seattle	courier	8151A
	26	1 L	None	STL-Seattle	courier	8270C
	39	40 ml	HCL	STL-Seattle	courier	8260B
	26	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	26	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125ml	Na Thiosulfate	Food Quality	↓	SM 9215
	1	250ml	NONE	Test Am		Nitrite/Nitrate/Orthophos

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Joe Rick | Sampler Signature: [signature] | Date Signed: 3/28/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 4.3.6

Monitoring Well ID:	W-09	Field Personnel:	L. GLONEK, B. LARY, J. ELENGE
Start Time:	1100	Weather Conditions:	OVERCAST & HUMID — Approx. Air Temp (F): 52° F

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0	In well Casing: 0	PID Calibration Standard:	isobutylene
%LEL Background:	In well Casing:	PID Calibration Date:	
Date/Time of Measurement:	/	Depth to Water Measuring Technique:	SOLINST
Depth Well Bottom (TOC - ft.):		Detection Method of Free Product:	N/A
Depth to Water Level (TOC - ft.):	9.51	Conversions Factors (casing dia. = gallons/linear ft.) Circle One	
Depth to Free Product (TOC - ft.):		0.75" = 0.02 / 1" = 0.04 / 2" = 0.17 / 3" = 0.37	
Calculated Column Height (ft.):		4" = 0.66 / 6" = 1.47 / 8" = 2.61 / 12" = 5.88	
Casing Diameter (in.):	2"	Three Well Purge Volumes (gallons) = 3 x _____ =	
Quantity of Free Product Collected (gal.):		Method of Collecting Free Product:	N/A
Obsevation of sheen or LNAPL:		Observation of DNAPL:	N A

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
					9.26			

Total Purged = 6.5+	Purge Pumping Rate (approx. L/m): 0.2	Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = DVP		
Ferrous Iron (ppm): 1.2	Decontamination Method:	
Instrument Type & Number: YSI	Water Disposal:	
Instrument Calibration Date & Time:	Approx. Pump/Intake Depth:	

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:	
Casing Condition: OK / NA / Needs Repairs / Repaired	Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired	Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired	Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:	

SAMPLING INFORMATION / DATA

Date Sampled: 4.3.6	QA/QC Sample (circle one): YES / NO	Water Chemistry Sample: YES / NO
Time Sampled: 1315	Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump	
Chain-of-Custody #s: electronic	Teflon Bailer Peristaltic Pump Other: DV	

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
	See Back					

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: V. LOW YIELD, HAD TO PURGE @ V. LOW RATE

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 4/3/2006

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 4.3.6

Monitoring Well ID: W-09 | Field Personnel: L. GLONEK, B. LAMEY, J. BLEDGE

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~mS/mS/cm~~	Turbidity ~~(NTUs)~~ DTW (ft)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
1.5		12.28	7.35	1981	9.51	1.41	-142.3	1225
2.5		12.18	7.57	1902	10.40	0.30	-179.3	1230
3.5		12.18	7.69	1868	10.80	0.29	-181.3	1235
4.5		12.17	7.80	1839	11.20	0.22	-193.0	1240
5.5		12.18	7.84	1826	11.50	0.19	-193.6	1245
6.5		12.19	7.92	1803	11.90	0.18	-194.1	1250

WELL CONDITION

Recommended Well Repairs/Additional Notes: FIX LOCK - OUTSIDE WELL CASING

SAMPLING INFORMATION / DATA

Date Sampled: | Additional Chain-of-Custody #s:

Time Sampled:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
638-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 4/3/2006

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 4.3.6

Monitoring Well ID: W-09-86 | Field Personnel: L. GLONEK, J. ELEDGE, D. BARTLETT, B. LARY
Start Time: 0950 | Weather Conditions: OVERCAST + HUMID | Approx. Air Temp (F): 52°

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0 In well Casing: 0 | PID Calibration Standard: isobutylene
%LEL Background: In well Casing: | PID Calibration Date: 4.3.06
Date/Time of Measurement: 4/3/06 / 0915 | Depth to Water Measuring Technique: SOLINST
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product:
Depth to Water Level (TOC - ft.): 16.85 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2 | Three Well Purge Volumes (gallons) = 3 x =
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	Ø	11.79	6.97	551	Slight	6.62	139.4	0924
	1.2	12.52	6.40	729	clear	0.85	-44.4	0928
NAG	2.4	12.64	6.44	744		0.60	-41.2	0932
inflow	3.6	12.71	6.43	749		1.15	-33.1	0936
~~Approx~~	4.8	12.78	6.41	746		2.29	-21.5	0940
	6.0	12.80	6.40	741		1.3	-14.0	0944
					3.77			

Total Purged = 6.0 | Purge Pumping Rate (approx. L/m): 0.3 | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other =
Ferrous Iron (ppm): 0.8 | Decontamination Method:
Instrument Type & Number: YSI | Water Disposal: RPWSF WTP
Instrument Calibration Date & Time: 4.3.06 | Approx. Pump/Intake Depth: 83

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel (PVC) Other:
Casing Condition: (OK) / NA / Needs Repairs / Repaired | Lock Condition: (OK) / NA / Needs Repairs / Replaced
Cap Condition: (OK) / NA / Needs Repairs / Repaired | Inner Casing Condition: (OK) / NA / Needs Repairs / Repaired
Paint Condition: (OK) / NA / Needs Repairs / Repaired | Monument Condition: (OK) / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 4/3/06 | QA/QC Sample (circle one): (YES) NO | Water Chemistry Sample: (YES) NO
Time Sampled: 1015 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Qual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1636-01			Dell Black			
1636-05						
1636-03	AQA					

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: (YES) / NO

Field Observations/Notes of Sampling Event: collected lab split on this well
Trip Blank 1636-03 will accompany split samples to TestAmerica

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 4/3/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 4/3/06 LAG | Additional Chain-of-Custody #s:

Time Sampled:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1605 636-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125ml	Na Thiosulfate	Food Quality		SM9215
	1	250ml	None	Test Am		Nitrite/Nitrate/orthophosphorus
636-03	~~1~~	40ml	HCL	STL Sacramento		

Field Observations/Notes of Sampling Event: Collected lab split

~~636-03 - Trip Blanks 2 to STL Seattle & to the lab split LAG~~

Trip Blank will accompany split samples to TA.

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLOWACK Sampler Signature: Lisa Glowack Date Signed: 4/3/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 4/3/06

Monitoring Well ID: W-09-114 | Field Personnel: L. Monet, Bcary
Start Time: 905 | Weather Conditions: rainy | Approx. Air Temp (F): 55

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 4/3/06
Date/Time of Measurement: 4/3/06 1910 | Depth to Water Measuring Technique:
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product:
Depth to Water Level (TOC - ft.): 17.38 (TOC) | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2 | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (mS/cm)	~~Turbidity~~ OTW (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	2.5	12.63	6.09	1961	17.48	1.12	-14.7	915
	4.1	12.59	6.05	1926	17.28	0.49	-4.9	920
	5.6	12.69	6.08	1947	17.22	0.41	-1.3	925
	7.2	12.71	6.08	1965	17.23	0.38	4.2	930
	8.8	12.69	6.08	1985	17.22	0.37	7.1	935
				NTU = -8.06				

Total Purged = 8.8 | Purge Pumping Rate (approx. L/m): 320 ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Quaalpe
Ferrous Iron (ppm): | Decontamination Method: Methanol/DI/Alconox/DI
Instrument Type & Number: YSI #3 | Water Disposal: to WTP
Instrument Calibration Date & Time: 4/3/06 0800 | Approx. Pump/Intake Depth: 12

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 4/3/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1050 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Quaalpe

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
6370			Ice Pack			
6371-03						

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: Trip blank (6370-03) will accompany all primary samples (WOS) to STL-Seattle → Trip blank was did not make it into cooler

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Lisa Monet | Sampler Signature: Lisa Monet | Date Signed: 4/3/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 4/3/06

Monitoring Well ID: W-09-114 | Field Personnel: L. Clonet, J. Eledge, B. Lory

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 4/3/06 | Additional Chain-of-Custody #s:

Time Sampled: 1050

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1057-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125ml	Na Thiosulfate	Food Quality	↓	SM9215
↓	1	250ml	None	Test Am	↓	Nitrite/Nitrate/orthophosphorus

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Lisa Clonet | Sampler Signature: Lisa Clonet | Date Signed: 4/3/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/29/06

Monitoring Well ID: W-11-B | Field Personnel: L Glover, J. Rock, E. McDonald
Start Time: | Weather Conditions: Rainy, windy | Approx. Air Temp (F): 50

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/29/06
Date/Time of Measurement: 3/29/06 1439 | Depth to Water Measuring Technique: Solinist
Depth Well Bottom (TOC - ft.): 124.5 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 25.42 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 4 | Three Well Purge Volumes (gallons) = 3 x _____ =
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0.96	12.33	7.61	2015	high	3.30	-81.4	1456
	1.76	13.01	7.23	2450	high	0.24	-121.6	1500
	2.56	12.94	7.12	2434	high	0.28	-128.8	1504
	3.36	12.94	7.09	2480	clear	0.32	-129.9	1508
	4.16	12.90	7.08	2468	clear	0.32	-127.6	1502
				NTU =	10.5			

Total Purged = | Purge Pumping Rate (approx. L/m): | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): | Decontamination Method: Alconox & Hard Alconox KT
Instrument Type & Number: YSI | Water Disposal: LPWST
Instrument Calibration Date & Time: 3/29/06 0830 | Approx. Pump/Intake Depth: 120

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel (PVC) Other:
Casing Condition: (OK) / NA / Needs Repairs / Repaired | Lock Condition: (OK) / NA / Needs Repairs / Replaced
Cap Condition: (OK) / NA / Needs Repairs / Repaired | Inner Casing Condition: (OK) / NA / Needs Repairs / Repaired
Paint Condition: (OK) / NA / Needs Repairs / Repaired | Monument Condition: (OK) / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/29/06 | QA/QC Sample (circle one): YES / (NO) | Water Chemistry Sample: (YES) / NO
Time Sampled: 1530 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
W28-01						
			see back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: (YES) / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): L SAGLONE Sampler Signature: Lisa Glover Date Signed: 3/29/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/29/06

Monitoring Well ID: N71-B | Field Personnel: L. Glowek, J. Rock, E. McDonald

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/29/06
Time Sampled: 1530
Additional Chain-of-Custody #s:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
002-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125ml	yes	Fund Qu		SM9215
	1	250ml	None	Test Am		Nitrite/Nitrate/orthophosphorus

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLOWEK Sampler Signature: Lisa Glowek Date Signed: 3/29/06

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

Project Name: 2006 Winter GW Event
Project #: 0-61M-10703-0 P 43
Monitoring/Sampling Date: 3/29/06

Monitoring Well ID: W-11-D
Field Personnel: L. Olonek, J. Beck, E. McDonell
Start Time: 1300
Weather Conditions: rainy, windy
Approx. Air Temp (F): 45

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0
%LEL Background: NA In well Casing: NA
PID Calibration Standard: isobutylene
PID Calibration Date: 3/29/06
Date/Time of Measurement: 3/29/06 /
Depth Well Bottom (TOC - ft.): 84
Depth to Water Level (TOC - ft.): 24.81
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 4
Quantity of Free Product Collected (gal.): NA
Obsevation of sheen or LNAPL: NA
Depth to Water Measuring Technique: solinst
Detection Method of Free Product: NA
Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x _____ = _____
Method of Collecting Free Product: NA
Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	1.0	11.16	6.56	2617	clear	4.05	-58.5	1308
	2.0	12.66	6.81	3202	clear	1.67	-42.1	1312
	3.0	12.76	6.85	3372	clear	0.72	-19.4	1316
	4.0 l	12.88	6.86	3434	Clear	0.73	-1.2	1320
	5.0 l	12.90	6.83	3456	clear	0.45	15.5	1324
	6.0 l	12.97	6.77	3436	Clear	0.28	19.8	1328
	7.0 l	12.98	6.72	3431	moderate	0.23	19.4	1332

Total Purged = 9
Purge Pumping Rate (approx. L/m): .25 l/min
Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Qualvalve
Ferrous Iron (ppm): 1.6
Decontamination Method: Methanol, DI, Alconox, DI
Instrument Type & Number: YSI
Water Disposal: RP WTP INST
Instrument Calibration Date & Time: 3/29/06 830
Approx. Pump/Intake Depth: 80

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired
Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired
Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired
Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/29/06
QA/QC Sample (circle one): YES / NO
Water Chemistry Sample: YES / NO
Time Sampled: 1345
Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump Teflon Bailer Peristaltic Pump Other: Qualvalve
Chain-of-Custody #s: electronic

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
27-06						

see Back

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Jim Beck
Sampler Signature: [signature]
Date Signed: 3/29/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	8.0	12.97	6.68	3428	Slight	0.20	16.8	1336
	9.0	12.98	6.66	3429	↓	0.21	8.4	1340
				NTU=	62.6			

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/29/06 | Additional Chain-of-Custody #s:

Time Sampled: 1345

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
609-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	250ml	None	Test Am	↓	Nitrite/Nitrate/Orthophosphorus
		125ml	yes	Food Quality		379215

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Lisa Gronek Sampler Signature: Lisa Gronek Date Signed: 3/29/06

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

Project Name: 2006 Winter GW Event
Project #: 0-61M-10703-0 P 43
Monitoring/Sampling Date: 3/29/06

Monitoring Well ID: W-11-I
Field Personnel: L. Gronek, J. Rock, E. McDonald
Start Time: 1120
Weather Conditions: rainy, windy, yuck! Approx. Air Temp (F): 45

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0
PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA
PID Calibration Date: 3/29/06
Date/Time of Measurement: 3/29/06 / 1005
Depth to Water Measuring Technique: solinst
Depth Well Bottom (TOC - ft.):
Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 25.04
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 2
Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x =
Quantity of Free Product Collected (gal.): NA
Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA
Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0.2	11.38	7.08	801	clear	1.84	-91.6	1132
	1.3	11.54	7.21	964	clear	0.48	-116.5	1136
	2.6	12.70	6.95	1033	↓	1.90	-123.8	1140
4.08	3.9	12.74	6.81	1043	↓	0.36	-125.3	1144
	4.7	12.76	6.73	1043	↓	0.30	-127.0	1148
	5.8	12.74	6.67	1043	↓	0.30	-127.0	1152
	6.8	12.77	6.64	1042	clear	0.27	-127.4	1156

Total Purged = 6.8
Purge Pumping Rate (approx. L/m): 0.32
Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual valve
Ferrous Iron (ppm): 5.0
Decontamination Method: methanol/DI/Alconox/DI
Instrument Type & Number: YSI
Water Disposal: Drum
Instrument Calibration Date & Time: 3/29/06
Approx. Pump/Intake Depth:

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired
Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired
Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired
Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/29/06
QA/QC Sample (circle one): YES / NO
Water Chemistry Sample: YES / NO
Time Sampled: 1200
Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump Teflon Bailer Peristaltic Pump Other: Dual valve
Chain-of-Custody #s: electronic

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
6260-01						
			See Back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.
Sampler (Print): LISA GRONEK Sampler Signature: Lisa Gronek Date Signed: 3/29/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/29/06 | Additional Chain-of-Custody #s:

Time Sampled: 1200

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
6960-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	250 ml	None	Test America	↓	nitrite/Nitrate/orthophosphorus
	1	125 ml	YES	Food Quality	↓	SM9215

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLOWEK Sampler Signature: Lisa Glowek Date Signed: 3/29/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/29/06

Monitoring Well ID: W-11-S | Field Personnel: L. Glonek, J. Rock & McConnell
Start Time: 1030 | Weather Conditions: windy, rainy Yuck! | Approx. Air Temp (F): 45

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/29/06
Date/Time of Measurement: 3/29/06 / 1000 | Depth to Water Measuring Technique: ~~ACA~~ Solinst
Depth Well Bottom (TOC - ft.): 22.5 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 10.05
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 2
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x _____ = _____

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	2.0	10.39	11.21	996	clear	1.90	25.6	1024
	2.0	10.81	11.46	965	clear	0.62	-37.2	1028
	2.0	10.83	11.49	983	clear	0.43	-66.2	1032
	2.0	10.87	11.57	990	clear	0.36	-94.9	1036
	2.0	10.89	11.64	992	clear	0.32	-108.3	1040
	2.0	10.96	11.66	996	clear	0.25	-123.5	1044
	2.0	10.93	11.73	998	clear	0.23	-137.8	1048

Total Purged = | Purge Pumping Rate (approx. L/m): | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Qualivalve
Ferrous Iron (ppm): Ø | Decontamination Method:
Instrument Type & Number: YSI | Water Disposal: DRUM
Instrument Calibration Date & Time: 3/29/06 0800 | Approx. Pump/Intake Depth: 15

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/29/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: ~~1025~~ 1115 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: [illegible] | Teflon Bailer Peristaltic Pump Other: Qualivalve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
~~W25-0~~						
W25-01			See Back			
W25-B	Trip Blank					

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.
Sampler (Print): LISA GLONEK Sampler Signature: [signature] Date Signed: 3/29/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 03/29/06

Monitoring Well ID: W-11-5 | Field Personnel: Lisa G, Eric M., Joel

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	2.0	11.00	11.69	1000	clear 0.41	0.24	~~998~~ 6	1052

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/29/06 | Additional Chain-of-Custody #s:

Time Sampled: 1115

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
625-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinity
	1	250ml	NONE	Test Am	↓	SM9215 Nitrite/Nitrate/Ammonia
	1	125ml	H2O	~~Food Quality~~	↓	SM9215

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/29/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/30/06

Monitoring Well ID: W-12-5 | Field Personnel: L. Glover, J. Lack, B. McGillicuddy
Start Time: 0945 | Weather Conditions: cloudy, no rain, calm | Approx. Air Temp (F): 50

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/30/06
Date/Time of Measurement: 3/30/06 10930 | Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): 20 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 11.77 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2 | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (~~ms~~) us	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	Ø	11.99	10.88	488	slight	3.44	-82.4	0945
	2	12.31	11.36	508	↓	0.58	-128.6	0949
	4	12.35	11.54	548	↓	0.41	-169.9	0953
	6	12.36	11.61	568	clear	0.31	-188.5	0957
	8	12.34	11.65	594	↓	0.27	-203.6	1001
	10	12.34	11.66	607	↓	0.31	-211.0	1005
	12	12.34	11.68	622	↓	0.27	-218.3	1009

Total Purged = 14 | Purge Pumping Rate (approx. L/m): 0.5 | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 0.0 | Decontamination Method: Methanol/DI/Alconox DI
Instrument Type & Number: YSI | Water Disposal: LP WST
Instrument Calibration Date & Time: 3/30/06 0800 | Approx. Pump/Intake Depth: 17

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs: None

SAMPLING INFORMATION / DATA

Date Sampled: 3/30/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1030 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Dual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
629-01						
629-03						
↓						
TrailBlank						

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event: high yielding well - ~~[illegible]~~ collected MS/MSD sample

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.
Sampler (Print): LISA GLOVER Sampler Signature: Lisa Glover Date Signed: 3/30/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/30/06

Monitoring Well ID: W-12-5 Field Personnel: L. Clonek, J. Rock, B. McCullicuddy

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	14	12.32	11.70	631	clear	0.31	-223.2	1013
					1.36			
				NTU =				

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/30/06 Additional Chain-of-Custody #s:

Time Sampled: 1030

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
629-01	6	1 L	None	STL-Seattle	courier	8081A
	6	1 L	None	STL-Seattle	courier	8151A
	6	1 L	None	STL-Seattle	courier	8270C
	9	40 ml	HCL	STL-Seattle	courier	8260B
	6	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	6	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	3	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	3	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
629-03	2	40ml	HCL	STL-Sea		8260B
629-01	1	125ml	Na Thiosulfate	Food Quality		SM9215
	1	250ml	NONE	Test Am		Nitrite/Nitrate/orthophosphorus

Field Observations/Notes of Sampling Event:

Collected MS/MSD sample

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): L. A. Clonek Sampler Signature: [signature] Date Signed: 3/30/06

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

Project Name:	2006 Winter GW Event
Project #:	0-61M-10703-0 P 43
Monitoring/Sampling Date:	3/30/06

Monitoring Well ID: W12-I | Field Personnel: L. Gronek, J. Rock
Start Time: 1:25 | Weather Conditions: rain, low wind | Approx. Air Temp (F): 50

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: ~~NA~~ 0.0 In well Casing: ~~NA~~ 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/30/06
Date/Time of Measurement: 1020 | Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): 58.5 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 19.10
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 2
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Conversions Factors (casing dia. = gallons/linear ft.) Circle One

0.75" = 0.02	1" = 0.04	2" = 0.17	3" = 0.37
4" = 0.66	6" = 1.47	8" = 2.61	12" = 5.88

Three Well Purge Volumes (gallons) = 3 x _____ = _____

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0 ~~0.27~~	12.27	8.22	1003	clear	1.53	-185.9	1031
	0.8	12.73	7.45	1010	↓	0.30	-141.9	1035
	1.6	12.65	7.28	1004	↓	0.39	-172.1	1039
	2.4	12.67	7.14	998	↓	1.57	-168.8	1043
	3.2	12.73	7.08	993	↓	0.78	-166.5	1047
	4.0	12.77	7.04	988	↓	0.46	-159.4	1051
	4.8	12.76	7.01	984	↓	0.34	-155.3	1055

Total Purged = 5.6 | Purge Pumping Rate (approx. L/m): 0.2 | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Qual Valve
Ferrous Iron (ppm): ~~0.0~~ 4.0 | Decontamination Method: DI, methanol, Alconox, DI
Instrument Type & Number: YSI | Water Disposal: LPWSF
Instrument Calibration Date & Time: 3/30/06 0800 | Approx. Pump/Intake Depth: 54

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other: ( )
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/30/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1115 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Qual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
W30-01						
			See Back			

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event: well very low yield, assumed @ low water possible

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): USA Gronek Sampler Signature: [signature] Date Signed: 3/30/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/30/06

Monitoring Well ID: W-12-I | Field Personnel: L. Gronek, J. Rol

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	5.6	12.71	6.96	982	Clear	0.28	-149.7	1059
		NTU = 7.46						

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/30/06 | Additional Chain-of-Custody #s:

Time Sampled: 1115

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
1630-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125 ml	Na Thiosulfate	Food Quality		SM9215
	1	250 ml	None	Test Am		Nitrate/Nitrite/orthophosphate (SW)

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Lisa Gronek | Sampler Signature: Lisa Gronek | Date Signed: 3/30/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/30/06

Monitoring Well ID: W-12-D | Field Personnel: L. Glonek, T. Rock
Start Time: 1125 | Weather Conditions: rainy | Approx. Air Temp (F): 50

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/30/06
Date/Time of Measurement: 3/30/06 / 1205 | Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): 104.5 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 20.06 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 4 | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0	13.31	7.87	414	clear	3.08	-106.2	1226
	0.8	13.48	6.92	406	slight	0.4	-121.9	1230
	1.6	13.57	6.68	405		0.31	-180	1234
	2.4	13.56	6.67	406	clear	0.28	-120.4	1238
	3.2	13.80	6.82	405	clear	0.31	-125.3	1242
	4.0	13.89	7.03	404	clear	0.30	-141.1	1246
	4.8	13.85	6.92	405	clear	0.33	-132.6	1250

Total Purged = 4.8 | Purge Pumping Rate (approx. L/m): 0.2 | 1.54 gpm | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Qual Valve
Ferrous Iron (ppm): 2.6 | Decontamination Method: LP WSF
Instrument Type & Number: YSI | Water Disposal: Methanol (DS) / Alconox (DL)
Instrument Calibration Date & Time: 3/30/06 0800 | Approx. Pump/Intake Depth: 95

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/30/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1300 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Qual Valve

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
0631-01		See Back				

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LEA GLONEK Sampler Signature: Lea Glonek Date Signed: 3/30/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/30/06

Monitoring Well ID: W-12-D | Field Personnel: C. Gronek, T. Rock

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/30/06 | Additional Chain-of-Custody #s:

Time Sampled: 1300

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
631-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125 ml	Na Thiosulfate	Fred Quality	↓	SM 9215
	1	250 ml	None	STL-Seattle	↓	Nitrite/Nitrate/orthophosphate

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GRONEK, Sampler Signature: [signature] Date Signed: 3/30/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/20/2006

Monitoring Well ID: WS-11-125 | Field Personnel: L. Glomet, C. Johnson, J. Fagan
Start Time: 0920 | Weather Conditions: Sunny | Approx. Air Temp (F): 50

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/20/2006
Date/Time of Measurement: 3/20/2006 / | Depth to Water Measuring Technique: solinist
Depth Well Bottom (TOC - ft.): 125 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 24.43
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 2"
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x =

Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0	14.93	6.53	826	Clear	0.15	-59.3	0920
	2	15.68	6.46	871	↓	0.38	-87.3	0930
	4	15.81	6.43	883	↓	0.83	-96.0	0934
	6	15.84	6.42	882	↓	0.62	-98.3	0938
	8	15.92	6.42	881	↓	0.51	-99.9	0942
			Turbidity → 0.74					

Total Purged = 8 | Purge Pumping Rate (approx. L/m): 500ml/min | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristaltic Pump / Grunfos Pump / Other = Dedicated
Ferrous Iron (ppm): 5.8 | Decontamination Method: Disposable
Instrument Type & Number: YSI | Water Disposal: RP Drum and Hauler, DOT Approved
Instrument Calibration Date & Time: 3/20/06 0815 | Approx. Pump/Intake Depth: 120'

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs: NONE

SAMPLING INFORMATION / DATA

Date Sampled: 3/20/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 1000 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Dedicated

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
601-01	19	←	various	STL-SEA	courier	see back
601-01	2	various	NONE	Test Am	↓	↓
601-01	1		Na Thiosulfate	Test	↓	↓
601-01	2	2	None	STL-SEA	↓	Dioxins
601-01	3	40ml	TSP	LLOC OK	↓	Isotope

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Lisa Glomet | Sampler Signature: LISA GLOMET | Date Signed: 3/20/2006

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/20/2006

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/20/2006 | Additional Chain-of-Custody #s:

Time Sampled: 1000

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
601-01	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/~~340.1/300~~
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	125ml	~~NaOH~~ Thiosulfate	FQ	↓	Sm9215
	3	40ml	~~HCL~~ DP	~~STL-Sacram~~	↓	+ Sotope
	1	250ml	~~TA~~ NONE	TA	↓	310.1/300

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLOWIK Sampler Signature: Lisa Glowik Date Signed: 3/20/2006

amec

AMEC Earth & Environmental, Inc.
GROUNDWATER SAMPLING FIELD FORM

Project Name: 2006 Winter GW Event
Project #: 0-61M-10703-0 P 43
Monitoring/Sampling Date: 3/20/2006

Monitoring Well ID: WS-11-161 | Field Personnel: L Glonek, G. Johnson, J Frazier
Start Time: 1100 | Weather Conditions: Sunny | Approx. Air Temp (F): 50

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/20/2006
Date/Time of Measurement: 3/20/06 1102 | Depth to Water Measuring Technique: Solinst
Depth Well Bottom (TOC - ft.): 161 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 24.75
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 2
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x _____ =

Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0	16.12	5.80	639	clear	0.33	-73.9	1107
0.8	~~1.6~~	16.20	5.71	640	↓	0.18	-81.9	1111
1.6	~~3.2~~	16.20	5.80	636	↓	0.16	-90.2	1115
2.4	~~4.8~~	16.22	5.93	633	↓	0.22	-99.5	1119
3.2	~~6.4~~	16.23	6.03	630	↓	0.42	-107.5	1123
4.0	~~7.2~~	16.29	6.14	628	↓	0.32	-113.7	1127
4.8	~~8.4~~	16.36	6.23	625	↓		-119.8	1131

Total Purged = ~~185.4~~ | Purge Pumping Rate (approx. L/m): ~~0.4~~ 0.2 | Well Yield: High / ~~Moderate~~ / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Dual Valve
Ferrous Iron (ppm): 5.4 | Decontamination Method: Deionized Rinse
Instrument Type & Number: YSI | Water Disposal: GP Drum
Instrument Calibration Date & Time: 3/20/06 0815 | Approx. Pump/Intake Depth: 157

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel (PVC) Other:
Casing Condition: (OK) / NA / Needs Repairs / Repaired | Lock Condition: (OK) / NA / Needs Repairs / Replaced
Cap Condition: (OK) / NA / Needs Repairs / Repaired | Inner Casing Condition: (OK) / NA / Needs Repairs / Repaired
Paint Condition: (OK) / NA / Needs Repairs / Repaired | Monument Condition: (OK) / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/20/06 | QA/QC Sample (circle one): YES / (NO) | Water Chemistry Sample: (YES) / NO
Time Sampled: 1130 | Sampling Method (circle one): SS Bailer Poly Bailer ~~Grunfos Pump~~
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump (Other: Dual Valve)

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
6002-01	19	various	→	STL SCA	courier	various
6002-01	2	various	NONE	TA	↓	various
↓	1	125ml		FQ		SM9215
↓	2	1L	NONE	STL-SCA	↓	Dioxins
↓	3		TBP	Lab OK	↓	Isotope

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event:
6002-03 - 2 Trip Blanks Turbidity = 0.67

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/20/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/20/2006

Monitoring Well ID: WS-11-161 Field Personnel: L. Glonek, C. Dixon, J. Ferguson

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/20/2006 Additional Chain-of-Custody #s:

Time Sampled: 1130

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
60201	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	500 ml	Na Thiosulfate	FQ	↓	SM9215
	3	40 ml	TF	UofOK		Lactoper
↓	1	250 ml	NONE	TA		310.1/300

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/20/2006

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/31/06

Monitoring Well ID: LOS-11-161 | Field Personnel: L. Klonek, B. McCallinday,
Start Time: 0910 | Weather Conditions: Sunny, calm | Approx. Air Temp (F): 50

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: Isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/31/06
Date/Time of Measurement: 3/31/06 / 0900 | Depth to Water Measuring Technique: Solinist
Depth Well Bottom (TOC - ft.): 161 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 22.79
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 2
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x =

Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~(mS)~~ uS	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	0	13.51	7.16	581	Clear	5.53	-20.8	0911
	1.2	16.37	6.61	608	↓	0.37	-134.3	0915
	2.4	16.42	6.62	622		0.35	-147.1	0919
	3.6	16.46	6.67	613		1.44	-154.1	0923
	4.8	16.39	6.70	611		0.83	-157.5	0927
	6.0	16.39	6.69	603		0.36	-158.6	0931
	7.2	16.25	6.71	599	0.41	0.29	-160.4	0935

Total Purged = 7.2 | Purge Pumping Rate (approx. L/m): 0.3 | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Qualek
Ferrous Iron (ppm): 5.0 | Decontamination Method: Sodium Hydroxide
Instrument Type & Number: YSI | Water Disposal: LPWSF
Instrument Calibration Date & Time: 3/31/06 | Approx. Pump/Intake Depth: 156

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/31/06 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 0940 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump Teflon Bailer Peristaltic Pump Other: Qualek
Chain-of-Custody #s: electronic

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
632-01	3	40ml	~~Acetic acid~~ TSP	UofOK	courier	carbides

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO
Field Observations/Notes of Sampling Event: re-sample because was frozen

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.
Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/31/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date:

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: | Additional Chain-of-Custody #s:

Time Sampled:

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): Lisa Glover Sampler Signature: Lisa Glover Date Signed: 9/5/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 P 43 Monitoring/Sampling Date: 3/20/2006

Monitoring Well ID: W5-12-125 | Field Personnel: L. Klonek, C. Simpson, J. Fuller
Start Time: 1300 | Weather Conditions: Sunny | Approx. Air Temp (F): 45

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: NA In well Casing: NA | PID Calibration Date: 3/20/2006
Date/Time of Measurement: 3/20/2006 1300 | Depth to Water Measuring Technique: ~~NA~~ Solinst
Depth Well Bottom (TOC - ft.): 125 | Detection Method of Free Product: NA
Depth to Water Level (TOC - ft.): 26.04
Depth to Free Product (TOC - ft.): NA
Calculated Column Height (ft.):
Casing Diameter (in.): 2
Quantity of Free Product Collected (gal.): NA | Method of Collecting Free Product: NA
Obsevation of sheen or LNAPL: NA | Observation of DNAPL: NA

Conversions Factors (casing dia. = gallons/linear ft.) Circle One
0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Three Well Purge Volumes (gallons) = 3 x ____ = ____

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
LAG	~~0~~	~~14.52~~	~~7.66~~	~~526~~	~~Clear~~	~~7.28~~	~~-39.5~~	LAG
	0.8	17.27	4.38	722	Clear	3.61	-4.1	1308
LAG	~~[illegible]~~	17.93	4.39	862	↓	0.75	4.3	1312
LAG	~~3.2~~	17.84	4.55	856	↓	0.5	-14.7	1316
	2.4	17.84	4.77	846	↓	0.41	-32	1320
	3.2	17.82	4.99	842	↓	0.3	-45.7	1324
	4.0	17.79	5.27	841	↓	0.28	-59.8	1328

OVER

Total Purged = | Purge Pumping Rate (approx. L/m): ~~0.4~~ LAG 0.2 | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other = Qualdrum
Ferrous Iron (ppm): 0.9 | Decontamination Method: Disposable / Dedicated
Instrument Type & Number: YSI | Water Disposal: LF Drum warehouse
Instrument Calibration Date & Time: 3/20/06 0815 | Approx. Pump/Intake Depth: 120

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs:

SAMPLING INFORMATION / DATA

Date Sampled: 3/20/2006 | QA/QC Sample (circle one): YES NO | Water Chemistry Sample: YES / NO
Time Sampled: 1330 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: Qualdrum

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
W5-01	19	various	various	Courier	STL-SEA	various
↓	2	↓	NONE		TA	↓
	1	125	Na Thiosulfate		EQ	SM9215
	2	1L	NONE		STL-SAC	Dioxin
↓	3	40ml	TSP	↓	U of OK	Isotopes

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event:
See back page

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.
Sampler (Print): LISA GLOWEK | Sampler Signature: [signature] | Date Signed: 3/21/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/20/06

Monitoring Well ID: | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
	4.8	17.77	5.33	841	clear	0.26	-65.2	1332
	5.6	17.75	5.50	841	↓	0.26	-74.9	1336
	6.4	17.69	5.66	841	↓	0.24	-83.1	1340

Turbidity - 6.71

WELL CONDITION

Recommended Well Repairs/Additional Notes:

SAMPLING INFORMATION / DATA

Date Sampled: 3/20/06 | Additional Chain-of-Custody #s:

Time Sampled: 1330

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
60301	2	1 L	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + Zn	STL-Seattle	courier	376.2
	3	40 ml	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	3	40ml	TSP	U of OK		stable isotope
	1	250ml	NaOH	Test Am		Nitrite/Nitrate/orthophosphorus
↓	1	125ml	Na Thiosulfate	Test Quality		SM 9215

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): LISA GLONEK Sampler Signature: Lisa Glonek Date Signed: 3/20/2006

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-8 P 43 Monitoring/Sampling Date: 3/21/06

Monitoring Well ID: WS-12-161 | Field Personnel: BARB, BRENDAN, JOE F.
Start Time: 845 | Weather Conditions: PTLY CLOUDY & COOL | Approx. Air Temp (F):

INITIAL WELL DATA & WELL PURGING INFORMATION

PID (ppm) Background: 0.0 In well Casing: 0.0 | PID Calibration Standard: isobutylene
%LEL Background: N/A In well Casing: | PID Calibration Date: 3/21/06
Date/Time of Measurement: 3/21/06 / 850 | Depth to Water Measuring Technique:
Depth Well Bottom (TOC - ft.): | Detection Method of Free Product:
Depth to Water Level (TOC - ft.): 25.61 | Conversions Factors (casing dia. = gallons/linear ft.) Circle One
Depth to Free Product (TOC - ft.): NA | 0.75" = 0.02 1" = 0.04 2" = 0.17 3" = 0.37
Calculated Column Height (ft.): | 4" = 0.66 6" = 1.47 8" = 2.61 12" = 5.88
Casing Diameter (in.): 2" | Three Well Purge Volumes (gallons) = 3 x _____ = _____
Quantity of Free Product Collected (gal.): | Method of Collecting Free Product:
Obsevation of sheen or LNAPL: | Observation of DNAPL:

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity (ms)	Turbidity (NTUs)	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
ON	BACK							

Total Purged = | Purge Pumping Rate (approx. L/m): | Well Yield: High / Moderate / Low
Purge Method (circle one): PVC Bailer / Poly Bailer / SS Bailer / Peristalic Pump / Grunfos Pump / Other - Bladder - dedicated
Ferrous Iron (ppm): | Decontamination Method:
Instrument Type & Number: #4 YSI | Water Disposal:
Instrument Calibration Date & Time: 3/21/06 8:00 | Approx. Pump/Intake Depth:

MAUL FOSTER WELL

WELL CONDITION

Casing (circle one): Stainless Steel Carbon Steel PVC Other:
Casing Condition: OK / NA / Needs Repairs / Repaired | Lock Condition: OK / NA / Needs Repairs / Replaced
Cap Condition: OK / NA / Needs Repairs / Repaired | Inner Casing Condition: OK / NA / Needs Repairs / Repaired
Paint Condition: OK / NA / Needs Repairs / Repaired | Monument Condition: OK / NA / Needs Repairs / Repaired
Recommended Well Repairs: APPEARS TO BE IN GOOD CONDITION

SAMPLING INFORMATION / DATA

Date Sampled: 604-01 | QA/QC Sample (circle one): YES / NO | Water Chemistry Sample: YES / NO
Time Sampled: 930 | Sampling Method (circle one): SS Bailer Poly Bailer Grunfos Pump
Chain-of-Custody #s: electronic | Teflon Bailer Peristaltic Pump Other: /

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
604-01						

All samples were immediately placed into a cooler and packed with ice or "Blue Ice", unless otherwise noted: YES / NO

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print) BARB LARY Sampler Signature: Barb Lary Date Signed: 3/21/06

amec	AMEC Earth & Environmental, Inc. GROUNDWATER SAMPLING FIELD FORM	Project Name: 2006 Winter GW Event Project #: 0-61M-10703-0 Phase 43 Monitoring/Sampling Date: 3/21/06

Monitoring Well ID: NS-12-16 | Field Personnel:

INITIAL WELL DATA & WELL PURGING INFORMATION

Casing Volumes (#)	Volume Purged (liters)	Water Temperature (degree C)	Water pH (S.U.)	Specific Conductivity ~~(uS)~~ /cm	~~Turbidity~~ DTW ~~(NTUs)~~ feet	Dissolved Oxygen (mg/L)	ORP (mV)	Time (0:00 - 23:59)
N/A	0	14.66	6.39	675	26.52	1.24	-46.8	903
	1	16.46	6.54	694	26.90	0.30	-121.7	907
	2	16.49	6.54	694		0.25	-133.7	910
	3	16.40	6.54	692		0.43	-137.9	913
	~4	16.45	6.52	691		0.60	-143.3	916
	~5.5	16.41	6.55	689	27.2	0.29	-142.1	920
	~7	16.43	6.55	690	27.1	0.26	-143.1	924
	8	16.43	6.56	690	27.18	0.22	-142.8	9:27
	TURBIDITY	2.64 NTUs						
	Fe^{2+}	3.60 mg/L			26.72			

LOW FLOW PURGING & SAMPLING

WELL CONDITION

Recommended Well Repairs/Additional Notes:

~~400+~~ ~~18~~ 320 ml/min pump rate

SAMPLING INFORMATION / DATA

Date Sampled: 3/21/06 | Additional Chain-of-Custody #s:

Time Sampled: 930

Sample ID	Bottles (total)	Bottles (size)	Preservative	Destination Laboratory	Sample Transporter	Analytical Parameters
604-01	2	1 L ✓	None	STL-Seattle	courier	8081A
	2	1 L	None	STL-Seattle	courier	8151A
	2	1 L	None	STL-Seattle	courier	8270C
	3	40 ml	✓ HCL	STL-Seattle	courier	8260B
	2	1 L	HCL	STL-Seattle	courier	NWTPH-Dx
	2	1 L	None	STL-Sacram	courier	dioxins/furans 1613
	1	500 ml	Nitric Acid	STL-Seattle	courier	Total 7470/6000/7000
	1	500 ml	Nitric Acid	STL-Sacram	courier	Dissolved 7470/6000/7000
	1	1 L	None	Test America	courier	405.1/310.1/300
	1	500 ml	Sulfuric Acid	STL-Seattle	courier	415.1/410.4/350.1/351.12
	1	250	NAOH + ~~X~~	STL-Seattle	courier	376.2
	3	40 ml ✓	HCL	STL-Seattle	courier	RSK 175
	1	1 L	None	STL-Seattle	courier	chloride/sulfate/orthophosphorus/alkalinty
	1	250	None	Test Amer		TKN/Total phosphorus
	3	40 ml ✓	TSP	U. of OK		for ~~[illegible]~~ isotope
	1	Bio.	Na Thiosulfate	Food Quality		SM 9215

Field Observations/Notes of Sampling Event:

CERTIFICATION STATEMENT

By signing below, the listed AMEC sampler states that the information provided on this page is accurate.

Sampler (Print): BARB LARY | Sampler Signature: Barb Lary | Date Signed: 3/21/06

ATTACHMENT D

Data Validation Reports

D-1 Data Validation Report for the Winter 2006 Groundwater Sampling Event - Excluding PCDD/PCDF

D-2 Data Validation Report for the Winter 2006 Groundwater Sampling Event - PCDD/PCDF Results

ATTACHMENT D-1

DATA VALIDATION REPORT FOR THE WINTER 2006 GROUNDWATER MONITORING EVENT EXCLUDING PCDD/PCDF RP - PORTLAND SITE

August 3, 2006

Submitted to:

Oregon Department of Environmental Quality
Northwest Region
2020 S.W. 4th Avenue, Suite 400
Portland, Oregon 97201

Prepared for:

SLLI
One Copely Parkway, Suite 309
Morrisville, North Carolina 27709

Prepared by:

AMEC Earth & Environmental, Inc.
7376 SW Durham Road
Portland, Oregon 97224

0-61M-107030/Phase 43

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ACRONYMS

%D	percent deviation or percent drift in relative response
AMEC	AMEC Earth & Environmental, Inc.
BS	blank spike
BSD	blank spike duplicate
CAR	certified analytical report
CCAL	continuing calibration
CCB	continuing calibration blank
CCV	continuing calibration verification
CLP	EPA Contract Laboratory Program
COC	chain of custody
DEQ	Oregon Department of Environmental Quality
DQI	data quality indicators
DRO	diesel range organics
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
GC	gas chromatography
ICAL	initial calibration
ICS	interference check sample
ICV	initial calibration verification
ID	identification
IDL	instrument detection limit
IS	internal standard
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
MDL	method detection limit
MRL	method reporting limit
MS	matrix spike

MSD	matrix spike duplicate
NWTPH-Dx	Northwest Total Petroleum Hydrocarbons-Diesel
OCP	organochlorine pesticide
OSWER	EPA Office of Solid Waste and Emergency Response
PQL	practical quantitation limit
QAPP	quality assurance project plan
QC	quality control
RL	reporting limit
RF	response factor
RPD	relative percent difference
RRF	relative response factor
RRO	residual range organics
SOP	standard operating procedure
STL	Severn Trent Laboratories, Inc.
SVOC	semivolatile organic compound
VOC	volatile organic compound

1.0 INTRODUCTION

Fifty groundwater samples were collected from the Rhône-Poulenc (RP) Portland Site, between March 20, 2006 and April 3, 2006, for the 2006 Winter Groundwater Monitoring Event. The samples included 34 primary samples, 3 field duplicates, 1 interlaboratory split sample, 11 trip blanks, and 1 rinsate blank, which were submitted to Severn Trent Laboratories, Inc. (STL) in Tacoma, Washington, and TestAmerica Analytical Testing Corporation (TestAmerica) in Beaverton, Oregon, for analysis. STL analyzed the samples for metals by United States Environmental Protection Agency (EPA) Methods 6010B/6020; mercury by EPA Method 7470A; organochlorine pesticides by EPA Method 8081A; chlorinated herbicides by EPA Method 8151A; volatile organic compounds (VOCs) by EPA Method 8260B; and semivolatile organic compounds (SVOCs) by EPA Method 8270C; and semivolatile petroleum products by Oregon Department of Environmental Quality (DEQ)/Washington Department of Ecology (Ecology) Method NWTPH-Dx. TestAmerica analyzed the split sample and a trip blank. A list of these samples by sample location, field sample identification (ID), and laboratory sample ID is presented in Table 1.

2.0 DATA VALIDATION METHODOLOGY

This data validation has been performed with reference to EPA guidelines as given in the April 1992 final version of Guidance for Data Usability in Risk Assessment, the current EPA functional guidelines for organic and inorganic data review, and the EPA Office of Solid Waste and Emergency Response (OSWER) standard operating procedures (SOPs) for inorganic and organic data review. The EPA guidelines listed above were written specifically for the Contract Laboratory Program (CLP), and have been modified for the purposes of this data validation where they differ from EPA SW-846 Methods (EPA, 2004) quality control requirements.

AMEC Earth & Environmental, Inc.'s (AMEC's) methodology exceeded the validation procedures specified in the DEQ-approved Revised Quality Assurance Project Plan (QAPP), dated June 13, 2001 (AMEC, 2001), and the QAPP Addendum No. 1 dated August 1, 2002 (AMEC, 2002). The laboratory's certified analytical report (CAR) and supporting documentation were reviewed to assess the following: chain of custody (COC) compliance; holding time compliance; presence or absence of laboratory contamination as demonstrated by method and field blanks; accuracy and bias as demonstrated by recovery of surrogate spikes, laboratory control samples (LCS), and matrix spikes (MS); analytical precision as relative percent difference (RPD) of analyte concentration between replicate samples (i.e., laboratory duplicates) or MS and matrix

spike duplicates (MSD); sampling precision as RPD of analyte concentration between field duplicates; calibration performance; and insofar as possible, the degree of conformance to method requirements and good laboratory practices.

In general, it is important to recognize that no analytical data are guaranteed to be correct, even if all quality control (QC) audits are passed. Strict QC serves to increase confidence in data, but any reported value may potentially contain error.

3.0 EXPLANATION OF DATA QUALITY INDICATORS

LCS Recoveries

LCS and laboratory control sample duplicates (LCSD), also known as blank spike (BS) and blank spike duplicates (BSD), are aliquots of analyte-free water or Ottawa sand that are spiked with the analytes of interest for an analytical method or a representative subset of those analytes. The spiked water or sand is then processed through the same extraction, concentration, cleanup, and analytical procedures as the samples they accompany. LCS recovery and precision are indications of a laboratory's ability to successfully perform an analytical method in an interference-free matrix. LCS recoveries should generally be within 70 to 130% acceptance limits for organic analytes and 80 to 120% for inorganic analytes.

MS Recoveries

MS and MSD are prepared by adding known amounts of the analytes of interest for an analytical method, or a representative subset of those analytes, to an aliquot of sample. The spiked sample is then processed through the same extraction, concentration, cleanup, and analytical procedures as the unspiked samples in an analytical batch.

MS recovery and precision are indications of a laboratory's ability to successfully recover an analyte in the matrix of a specific sample or closely related sample matrices. It is important not to apply MS results for any specific sample to other samples without understanding how the sample matrices are related. MS recoveries should generally be within 60 to 140% acceptance limits for organic analytes and 75 to 125% acceptance limits for inorganic analytes.

Internal Standard Recoveries

Internal standard (IS) are compounds that are added to a sample extract after all preparatory steps are completed and before instrumental analysis. These compounds

serve as standards for qualitative analysis using relative retention time and quantitative analysis using relative response factors (RRFs). Methods that use IS calibration include requirements for changes in response to the IS relative to the initial calibration (ICAL).

For EPA Methods 8260B and 8270C, IS response must fall between 50 and 200% of the response in the ICAL. Because the area of the IS is used in the denominator of the equation for calculation of results using internal standardization, a response below 50% may indicate a possible positive bias, and a response above 200% may indicate a possible negative bias.

For EPA Method 6020 IS intensities must fall between 30 and 120% of the intensity of that IS in the ICAL standard. The intensity of the ISs for the calibration blank and instrument check standard must fall between 80 and 120% of the intensity of the IS of the ICAL standard.

Surrogate Spike Recoveries

Surrogate spikes are used to evaluate accuracy, method performance, and extraction efficiency in each individual sample. Surrogate compounds are compounds not normally found in environmental samples, but which are similar to target analytes in chemical composition and behavior in the analytical process. Surrogate recoveries generally should be within 70 to 130% acceptance limits in interference-free matrices (blanks, LCS/LCSD) and 60 to 140% acceptance limits in field samples.

Field Duplicate Results

Field duplicates are replicate samples collected at the same location and submitted in blind form to the laboratory. Field duplicates provide an indication of the reproducibility of the sampling and analysis procedures for a given sample matrix, including heterogeneity of the sample itself. RPDs between aqueous field duplicate results should be less than 30% and for soil samples less than 50% for analytes with concentrations greater than 5 times the method reporting limit (MRL) and the difference between analyte concentrations less than 5 times the MRL should be less than or equal to the corresponding MRL. A summary of field duplicate detections may be found in Table 2.

Blank Concentrations

Blank samples are aliquots of analyte free water or Ottawa sand that are used as negative controls to verify that the sample collection, storage, preparation, and analysis system does not produce false positive results. The three types of blanks employed for this project are:

- Laboratory blanks are aliquots of analyte free water that are processed by the laboratory using exactly the same procedures as the field samples. Laboratory blanks are used to monitor for contamination introduced by the laboratory during sample preparation and analysis.
- Trip blanks are aliquots of analyte free water that are placed in sample containers at the analytical laboratory and are then sent into the field with the sample containers that are used to collect field samples. Trip blanks are not opened in the field, but accompany the field samples back to the laboratory where they are analyzed as samples. Trip blanks are used to monitor for contamination that result from sample shipping and storage. For the purpose of this project, trip blanks are prepared and analyzed for VOCs only.
- Rinsate blanks are prepared by passing analyte-free water through or over sample collection equipment and collecting the water in sample containers. Rinsate blanks are analyzed for the analytical suite required for the project. Rinsate blanks are used to monitor for possible sample contamination during the sample collection process and serve as a check on the effectiveness of field decontamination procedures.

4.0 CHAIN OF CUSTODY AND SAMPLE RECEIPT CONDITION DOCUMENTATION

4.1 Sample Receipt at STL

All samples were received at STL in good condition. Specific details of sample receipt condition and COC anomalies are described below and in Table 4.1.

STL did not document sample receipt temperatures on the COCs; however, cooler temperatures were indicated as acceptable on the associated Login Sample Receipt Check Lists.

4.2 Sample Receipt at TestAmerica

All samples were received at TestAmerica in good condition. Specific details of sample receipt condition and COC anomalies are described in Table 4.2.

5.0 SPECIFIC DATA VALIDATION FINDINGS FOR EACH ANALYTICAL METHOD

Sections 5.1 to 5.6 of this Data Validation Report contain narrative descriptions of data validation findings and data quality limitations. Definitions of data qualifiers added during validation may be found in Table 6. Summaries of specific qualifiers added to each affected sample as a result of the data validation findings are presented in Tables 7 through 12.

5.1 Volatile Organic Compounds by EPA Method 8260B

VOC data from the Winter 2006 Ground Water Monitoring Event may be considered usable with the limitations and exceptions described below. Summaries of qualified VOC results are presented in Table 7.

5.1.1 Holding Times

All samples from this event were analyzed for VOCs within the recommended maximum holding time of 7 days for unpreserved aqueous samples and 14 days for preserved aqueous samples, except as described below.

Samples W-09-86 (636-01) and W-09-116 (637-01) were reanalyzed 1 day beyond the technical holding time of 14 days due to a high 1,2-dichlorobenzene concentrations in the original analyses. 1,2-Dichlorobenzene was the only analyte reported from the secondary dilution of these samples and AMEC J qualified the 1,2-dichlorobenzene results because of the exceeded holding time.

5.1.2 Initial Calibration

All criteria were met for the ICALs associated with analysis of samples from this monitoring event for VOCs, with the exception of the relative response factor (RRF) for isobutyl alcohol which was < 0.01 as described in Table 5.1.

5.1.3 Continuing Calibration

Continuing calibration (CCAL) performance is evaluated in terms of percent deviation (%D), which corresponds to %D (average response factor (RF) models) or percent drift (regression fit models) from the average ICAL response. To facilitate understanding of CCAL effects on data quality to the end user, %D has been expressed as percent recovery in this narrative.

Compounds with CCAL recoveries greater than 120% and detected results were J qualified by AMEC in all associated samples to indicate a possible high bias in the results. AMEC J qualified detected results or UJ qualified nondetected results associated with compounds with CCAL recoveries less than 80% to indicate possible low bias in the sample results.

All criteria were met for the CCAL associated with analysis of samples from this monitoring event for VOCs with the exception of those described in Table 5.2. Data affected by the CCAL exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.1.4 Blanks

Target analytes should not be found in blank samples. Results greater than the MRL but less than 5 times the concentration found in the blank, or 10 times the amount found in the blank for methylene chloride, acetone, and 2-butanone, have been U qualified. Results between the instrument detection limit (IDL) and MRL, and less than 5 or 10 times the amount found in the blank have been U qualified at the MRL concentration.

Laboratory Blanks

No target analytes were detected in the laboratory blanks associated with the analysis of these samples for VOCs, except as described in Table 5.3. Data affected by the analyte detections these blanks have been qualified by AMEC and overall data usability was not adversely affected by these blank detections.

Trip Blanks

No target analytes were detected in the trip blanks associated with the analysis of these samples for VOCs, except as described in Table 5.4. Data affected by the analyte detections these blanks have been qualified by AMEC and overall data usability was not adversely affected by these blank detections.

Rinsate Blanks

No target analytes were detected in the rinsate blanks associated with the analysis of these samples for VOCs, except as described in Table 5.5. Data affected by the analyte detections these blanks have been qualified by AMEC and overall data usability was not adversely affected by these blank detections.

5.1.5 LCS Recovery

All LCS recoveries associated with analysis of samples from this project for VOCs were within the QAPP-specified 70 to 130% acceptance limits, except as described in Table 5.6. Data affected by the LCS exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.1.6 Surrogate Standard Recoveries

Recovery of all surrogates associated with analysis of samples from this event for VOCs were acceptable, except as described in Table 5.7. Data affected by the surrogate recovery exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.1.7 Internal Standard Recoveries

Recovery of all IS associated with analysis of samples from this event for VOCs were between 50 and 200% of the response in the associated CCAL standard.

5.1.8 MS/MSD Recovery and Precision

All MS/MSD recoveries associated with analysis of samples from this project for VOCs were within the QAPP-specified 60 to 140% acceptance limits, except as described in Table 5.8. Data affected by the MS/MSD exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.1.9 Data Reporting and Analytical Procedures

The laboratory J qualified detected results with concentrations between the reporting limit (RL) and method detection limit (MDL). AMEC concurs that these results are quantitative estimates and qualified these results J on the data tables.

Sample WS-11-125 (601-01) was reanalyzed at 100-fold and 1,000-fold dilutions because of high concentrations of target compounds in the initial undiluted analysis.

The laboratory reported cis-1,2-dichloroethene results from both dilutions in the data package. The cis-1,2-dichloroethene concentration from the 100-fold dilution is above the calibration range of the instrument. Though the results were comparable (17,000 µg/L vs. 16,000 µg/L), AMEC chose to report the cis-1,2-dichloroethene from the 1,000-fold dilution of sample WS-11-125 (601-01) on the data tables, in order to use a result that was within the calibration range of the instrument.

The laboratory did not reanalyze sample WS-11-125 (601-01) at an appropriate dilution to bring the concentration of trans-1,2-dichloroethene within the calibration range of the instrument. AMEC J qualified the detected trans-1,2-dichloroethene result from this sample because the reported concentration exceeded the instrument calibration range of the instrument by 25%.

The laboratory did not provide IS summaries in the data packages provided for review. AMEC was able to evaluate IS recoveries and retention times using the raw data.

AMEC discovered a number of low-level VOC analyte concentrations reported on the laboratory reports were not reported on the associated raw data. AMEC contacted the laboratory about this issue. The laboratory's response is given below in italics. AMEC did not have the laboratory reissue the VOC results because there was not significant difference between the original and reprocessed results (i.e., >10%).

> "*These inconsistencies are a result of minor mismatches between the MDLs that are used at the instrument level and the MDLs that exist in the LIMS system. During the time that the data was processed STL Seattle was in the process of updating MDLs. Some MDL changes were made at the instrument level during the update process and a few values very close to the STL LIMS MDL were marked as ND at in the instrument quant report. After reviewing the data, it appears that the values were correctly reported by the LIMS, although they were not visible to the analyst on the quant report. One value (for 580-1973-6) does not appear on the Chemstation quant report because of a rounding issue within the software that rounds the value prior to comparison to the MDL. The unrounded value that was below the Chemstation MDL cutoff, but the rounded value is at the cutoff.*
>
> *We will drop the MDL cutoff value in the Chemstation software to a level below the LIMS MDL, which will ensure that the values at or slightly below the MDL always show up in the quant report regardless of rounding.*

During the regeneration of the quant reports it was noted that the recalculated report (which is necessary to detected the analytes in question) was giving slightly different values for some of the other previously reported compounds. This appears to be the result of updating of RT's since the original initial calibration for this sample set was created. Even though each initial calibration is saved on the day it was validated, the RT values at that time are not. Per STL Seattle's SOP, the RT's may be updated on the continuing calibration prior to processing a batch. Once this is done, the new values override the previous values. Due to this issue the data will not be re-processed at the clients request."

For several analytical sequences, it appeared the laboratory analyzed instrument blanks prior to method blanks. The laboratory explained: "*The purpose of the IB is to monitor the cleanliness of the spiking solutions prior to the analysis of samples and the method blank. In the past, we have been able to trace contamination back to specific spiking solutions based on comparison with the IB results. IB perhaps is a poor choice of words to describe its function, solution check sample may be more appropriate.*" Though it is commendable that the laboratory adopt additional QC measures, this solution should not be analyzed prior to the method blank. It is not good laboratory practice to treat QC samples preferentially and "clean" the instrument prior to analyzing the method blank. The laboratory should review this practice.

The initial calibration verification (ICVs) associated with the ICAL analyzed on February 27, 2006 on instrument HP did not meet acceptance limits. The laboratory reanalyzed these failing ICVs the following day. This is not good laboratory practice. The ICV should only be reanalyzed once and a new calibration should be analyzed if the second ICV does not meet acceptance limits. Project samples were not analyzed within 12-hours of the failing ICV and in AMEC's professional opinion, data usability is not adversely affected. Data usability based on CCAL exceedances is addressed in Section 5.1.3.

The laboratory did not record sample pH on the associated Aqueous Extraction Analysis Sheets. AMEC therefore assumed the sample preservation was acceptable because pre-preserved vials were used for sample collection. In addition, most samples were analyzed within seven days of sample collection.

5.2 Chlorophenoxy Acid Herbicides by EPA Method 8151A

Chlorophenoxy Acid Herbicide (Herbicide) data from the Winter 2006 Ground Water Monitoring Event may be considered usable with the limitations and exceptions described below. Summaries of qualified herbicide results are presented in Table 8.

5.2.1 Holding Times

All samples were extracted within the EPA recommended maximum holding times of 7 days for waters, and analyzed within 45 days of extraction.

5.2.2 Initial Calibration

All ICALs associated with analysis of samples from this event for herbicides were acceptable and met all method criteria.

5.2.3 Continuing Calibration

CCAL performance is evaluated in terms of %D from the average ICAL response. To facilitate understanding of CCAL effects on data quality to the end user, %D has been expressed as percent recovery in this narrative.

CCAL recoveries should fall within 85 to 115% acceptance limits. AMEC J qualified all detected results associated with CCAL recoveries greater than 115% due to a possible high bias in the analytical results. AMEC J qualified all detected results and UJ qualified all nondetected results associated with CCAL recoveries less than 85% due to a possible low bias in the analytical results.

All CCALs associated with analysis of these samples for herbicides were within acceptance limits, except for the single case described below.

- 2,4-D recovery was low at 83% in CCAL L19092.D analyzed on April 6, 2005. AMEC UJ qualified the nondetected 2,4-D results from samples W-09-86 (636-01), W-09-116 (637-01), and W-09 (638-01) because of possible low bias in the analytical results.

5.2.4 Laboratory and Rinsate Blanks

No target analytes were detected in the laboratory and rinsate blanks associated with analysis of samples from this event for herbicides.

5.2.5 LCS Recovery

LCS recoveries were within the QAPP-specified 70 to 130% acceptance limits except as described in Table 5.9. Data affected by the LCS exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.2.6 Surrogate Recoveries

All surrogate recoveries associated with analysis of these samples for herbicides were within the QAPP-specified 70 to 130% acceptance limits for analyte-free matrices and 60 to 140% acceptance limits for field sample matrices, except as described in Table 5.10. Data affected by the surrogate recovery exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.2.7 Internal Standard Recoveries

Recovery of all IS associated with analysis of samples from this event for herbicides were between 50 and 200% of the response in the associated CCAL standard.

5.2.8 MS/MSD Recovery and Precision

Precision and recovery were within the QAPP-specified 60 to 140% acceptance limits in all MS associated with analysis of these samples for herbicides, except as described in Table 5.11. Data affected by the MS/MSD exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.2.9 Data Reporting and Analytical Procedures

The laboratory J qualified detected results with concentrations between the RL and MDL. AMEC concurs that these results are quantitative estimates and qualified these results J on the data tables.

The laboratory did not provide IS summaries in the data packages provided for review. AMEC was able to evaluate IS recoveries and retention times using the raw data.

5.3 Semivolatile Organic Compounds by EPA Method 8270C

SVOC results data from the Winter 2006 Ground Water Monitoring Event may be considered usable with the limitations described below. Summaries of qualified SVOC results are presented in Table 9.

5.3.1 Holding Times

All samples were extracted within the EPA recommended maximum holding time of 7 days for waters and analyzed within 45 days of extraction.

5.3.2 Initial Calibration

All criteria were met for the ICALs associated with analysis of samples from this monitoring event for SVOCs, except as described in Table 5.12. Data affected by the ICAL exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.3.3 Continuing Calibration

CCAL performance is evaluated in terms of %D, which corresponds to %D (average RF models) or percent drift (regression fit models) from the average ICAL response. To facilitate understanding of CCAL effects on data quality to the end user, %D has been expressed as percent recovery in this narrative. CCAL performance is evaluated in terms of percent recovery for linear and quadratic calibration models.

CCAL recoveries should fall within 80 to 120% acceptance limits. AMEC J qualified all detected results associated with CCAL recoveries greater than 120% due to a possible high bias in the analytical results. AMEC has J qualified all detected results and UJ qualified all nondetected results associated with CCAL recoveries less than 80% due to a possible low bias in the analytical results.

All criteria were met for the CCALs associated with analysis of samples from this monitoring event for SVOCs, except as described in Table 5.13. Data affected by the CCAL exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.3.4 Blanks

Target analytes should not be found in blank samples. Results greater than the MRL but less than 5 times the concentration found in the blank have been U qualified. Results between the IDL and MRL, and less than 5 times the amount found in the blank have been U qualified at the MRL concentration.

Laboratory Blanks

No SVOCs were detected in the laboratory blanks associated with these samples, except as described in Table 5.14. Data affected by the analyte detections these blanks have been qualified by AMEC and overall data usability was not adversely affected by these blank detections.

Rinsate Blank

No SVOCs were detected in the rinsate blank (628-04) associated with these samples.

5.3.5 LCS Recovery

All LCS recoveries associated with analysis of samples from this project for SVOCs were within the QAPP-specified 70 to 130% acceptance limits, except as described in Table 5.15. Data affected by the LCS exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.3.6 MS/MSD Recovery and Precision

All MS/MSD recoveries associated with analysis of samples from this project for SVOCs were within the QAPP-specified 60 to 140% acceptance limits, except as described in Table 5.16. Data affected by the MS/MSD exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances, with the exception of the phenol result from sample W-12-S (629-01) which was not recovered in the associated MS/MSD. Non detected analytes with MS recoveries less than 10% were R qualified and rejected by AMEC as specified in Table 5.16.

5.3.7 Internal Standard Recoveries

IS recoveries were within the method-specified 50 to 200% acceptance limits.

5.3.8 Surrogate Recoveries

Recovery of all surrogates associated with analysis of samples from this event for SVOCs were acceptable, except as described in Table 5.17. As specified in EPA Method 8270C, up to one surrogate from each extraction fraction may be outside of acceptance limits without affecting data usability. Data affected by the surrogate recovery exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.3.9 Data Reporting and Analytical Procedures

The laboratory J qualified detected results with concentrations between the RL and MDL. AMEC concurs that these results are quantitative estimates and qualified these results J on the data tables.

The 3-nitroaniline coefficient of determination (COD) associated with the ICAL analyzed on March 27, 2006 was 0.971. According to SW-846 Method 8000B (Section 7.5.3), in order to be an acceptable non-linear calibration, the COD must be greater than or equal to 0.99. Effects on data usability are discussed in Table 5.12 of this report.

The laboratory did not provide IS summaries in the data packages provided for review. AMEC was able to evaluate IS recoveries and retention times using the raw data.

Low-level phthalate concentrations were detected in several samples. Phthalates are common laboratory contaminants; therefore, these results should be used with caution.

The laboratory reported target analytes 4,6-dinitro-2-methylphenol and 3&4-methylphenol as 2-methyl-4,6-dinitrophenol and 3&4-cresol, respectively. AMEC has corrected this terminology in the project data base.

5.4 Organochlorine Pesticides by EPA Method 8081A

Organochlorine pesticides (OCPs) data from the Winter 2006 Ground Water Monitoring Event may be considered usable with the limitations and exceptions described below. Summaries of qualified OCP results are presented in Table 10.

5.4.1 Holding Times

All samples were extracted within the EPA recommended maximum holding times of 7 days for waters, and analyzed within 45 days of extraction.

5.4.2 4,4’-DDT/Endrin Breakdown

Breakdown is a measure of the amount of decomposition that 4,4′-DDT and endrin undergo when analyzed on the gas chromatography (GC) column. Excessive breakdown is an indication that the chromatographic system is contaminated, chemically active, or too hot. Breakdown is measured by injecting a mixture of 4,4’-DDT and endrin into the GC and dividing the sum of the areas of the breakdown

products (4,4'-DDE and 4,4'-DDD for 4,4'-DDT, and endrin aldehyde and endrin ketone for endrin) by the sums of the areas of the breakdown products and the parent compounds. Breakdown must be less than 15% for analysis to proceed and data to be fully useable. 4,4′-DDT and endrin breakdown was less than 15% each day that samples from this project were analyzed for OCPs.

5.4.3 Initial Calibration

All ICALs associated with analysis of these samples for OCPs were acceptable.

5.4.4 Continuing Calibration

CCAL performance is evaluated in terms of %D from the average ICAL response. To facilitate understanding of CCAL effects on data quality to the end user, %D has been expressed as percent recovery in this narrative.

CCAL recoveries should fall within 85 to 115% acceptance limits. AMEC J qualified all detected results associated with CCAL recoveries greater than 115% due to a possible high bias in the analytical results. AMEC J qualified all positive results and UJ qualified all nondetected results associated with CCAL recoveries less than 85% due to a possible low bias in the analytical results.

All CCALs associated with analysis of these samples for OCPs were acceptable, except as described in Table 5.18. Data affected by the CCAL exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.4.5 Blanks

Target analytes should not be found in blank samples. Results greater than the MRL but less than 5 times the concentration found in the blank have been U qualified. Results between the IDL and MRL, and less than 5 or 10 times the amount found in the blank have been U qualified at the MRL concentration.

Laboratory Blanks

No target analytes were detected in the laboratory blanks associated with the analysis of these samples for OCPs, except as described in Table 5.19. Data affected by the analyte detections these blanks have been qualified by AMEC and overall data usability was not adversely affected by these blank detections.

Rinsate Blanks

No target analytes were detected in the rinsate blanks associated with the analysis of these samples for OCPs.

5.4.6 LCS Recovery

Target analyte recoveries were within the QAPP-specified 70% to 130% acceptance limits in the LCSs associated with the analysis of these samples for OCPs, except as described in Table 5.20. Data affected by the LCS exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.4.7 Surrogate Recoveries

Surrogate recoveries associated with analysis of these samples for OCPs were within the QAPP-specified 60 to 140% acceptance limits, except as described in Table 5.21. Data affected by the surrogate recovery exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.4.8 MS/MSD Recovery and Precision

Precision and recovery were within the QAPP-specified 60 to 140% acceptance limits in all MS associated with analysis of these samples for pesticides, except as described in Table 5.22. Data affected by the MS/MSD exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.4.9 Data Reporting and Analytical Procedures

The laboratory J qualified detected results with concentrations between the RL and MDL. AMEC concurs that these results are quantitative estimates and qualified these results J on the data tables.

The laboratory did not provide retention time windows in the data packages provided for review. AMEC compared surrogate and reported target compound RTs to CCAL standards that bracketed the samples.

Large discrepancies were observed between numerous results reported from the primary and secondary analytical columns. The discrepancies appear related to the complex and difficult matrix of the samples. Data that were N qualified by AMEC as a result of these anomalies are summarized on Table 5.23.

5.5 Semivolatile Petroleum Products by DEQ/Ecology Method NWTPH-Dx

Diesel-range organics (DRO) and residual range organics (RRO) data from the Winter 2006 Ground Water Monitoring Event may be considered usable with the limitations and exceptions described below. Summaries of qualified DRO and RRO results are presented in Table 11.

5.5.1 Holding Times

All samples were extracted within the EPA recommended maximum holding times of 7 days for waters and analyzed within 45 days from extraction.

5.5.2 Initial Calibration

All criteria were met for the ICALs associated with analysis of samples from this monitoring event for DRO and RRO.

5.5.3 Continuing Calibration

All criteria were met for the continuing calibrations associated with analysis of samples from this monitoring event for DRO and RRO.

5.5.4 Laboratory Blanks

DRO and RRO were not detected in the laboratory blanks associated with these samples, except for a single case summarized below.

RRO was detected in method blank MB 580-4973/1-A at 0.067 mg/L. AMEC U qualified the detected RRO results from samples WS-11-125 (601-01), WS-11-161 (602-01), and WS-12-125 (603-01) because the sample concentrations were less than 5 times the concentration detected in the blank.

5.5.5 Rinsate Blanks

DRO and RRO were not detected in the rinsate blanks associated with these samples.

5.5.6 LCS/LCSD Recovery and Precision

Recovery and precision for LCS/LCSDs associated with analysis of samples from this project for DRO and RRO were acceptable.

5.5.7 Surrogate Recoveries

Surrogate recoveries associated with analysis of these samples for DRO and RRO were within the method-specified 50 to 150% acceptance limits.

5.5.8 MS/MSD Recovery and Precision

Precision and recovery were within the QAPP-specified 50 to 150% acceptance limits in all MS associated with analysis of these samples for NWTPH-Dx.

5.5.9 Data Reporting

The laboratory J qualified detected results with concentrations between the RL and MDL. AMEC concurs that these results are quantitative estimates and qualified these results J on the data tables.

According to the associated Prep Batch Sheet, a small amount of sample was lost during the extraction of sample W-12-D (631-01). AMEC UJ qualified the nondetected DRO and RRO results from this sample due to potential low bias in the analytical results. It should be noted that o-terphenyl surrogate recovery was acceptable at 98% and the sample results may be acceptable as reported since similar loss of surrogate and analyte would be expected.

5.6 Metals by EPA 6010B/6020 and EPA 7470A

Metals data from the Winter 2006 Ground Water Sampling Event may be considered usable with the limitations and exceptions described below. Summaries of qualified metals results may be found in Table 12.

5.6.1 Holding Times

All samples were analyzed for mercury within the recommended technical holding time of 28 days and for all other metals within the recommended technical holding time of 180 days.

5.6.2 Initial Calibration

All ICALs associated with the analysis of these samples for metals were acceptable.

5.6.3 Initial Calibration Verification

EPA acceptance limits for metals ICVs are 90 to 110%. ICVs associated with the analysis of these samples were acceptable.

5.6.4 Continuing Calibration Verification

EPA acceptance limits for metals continuing calibration verifications (CCVs) are 90 to 110%. CCVs associated with reported data from the analysis of these samples were acceptable.

5.6.5 Inductively Coupled Plasma Interference Check Sample

All interference check samples (ICS) exhibited recoveries within the method-specified 80 to 120% acceptance limits.

5.6.6 Blanks

Target analytes should not be found in blank samples. When the concentration detected in the blank is less than the MRL, concentrations in associated samples greater than the MRL but less than 5 times the concentration detected in the blank have been U qualified by AMEC. When the absolute concentration detected in the blank is greater than the MRL, concentrations in associated samples greater than the MRL but less than 10 times the concentration detected in the blank have been U qualified by AMEC. In both cases, sample concentrations between the IDL and MRL, and less than 5 or 10 times the concentration detected in the blank have been U qualified at the MRL concentration.

Laboratory Blanks

Target analyte concentrations in laboratory blanks associated with analysis of these samples for metals are described in Table 5.24. Data affected by the analyte detections these blanks have been qualified by AMEC and overall data usability was not adversely affected by these blank detections.

Rinsate Blanks

Target analyte concentrations greater than the MDL in the rinsate blanks associated with analysis of these samples for metals are described in Table 5.25. Data affected by the analyte detections these blanks have been qualified by AMEC and overall data usability was not adversely affected by these blank detections.

5.6.7 LCS Recovery

Recoveries were acceptable in all LCS associated with analysis of these samples for metals.

5.6.8 MS/MSD Recovery and Precision

The method-specified acceptance limits for metals MS recoveries are 75 to 125%. However, spike recovery limits are not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

Precision and recovery were acceptable in all MS associated with analysis of these samples for metals, except as described in Table 5.26. Data affected by the MS/MSD exceedances have been qualified by AMEC and overall data usability was not adversely affected by these exceedances.

5.6.9 Laboratory Duplicates

EPA CLP acceptance limits for duplicate sample analyses are ±20% RPD for sample concentrations greater than or equal to (≤) 5 times the MRL. A control limit of ± MRL is used if either the sample or duplicate result is less than 5 times the MRL.

The laboratory duplicates exhibited acceptable precision.

5.6.10 Internal Standards

IS recoveries were within the method-specified 30 to 120% acceptance limits.

5.6.11 Data Reporting and Analytical Procedures

The laboratory B qualified detected results with concentrations between the RL and IDL. AMEC concurs that these results are quantitative estimates and qualified these results J on the data tables.

The laboratory analyzes batch method blanks and LCS/LCSD samples several times during the analytical sequence. According to the laboratory, "*The blank and LCS/LCSD are analyzed multiple times by the ICP analyst in case one of the CCV/CCB brackets fails. He will report the first analysis of the blank, LCS/LCSD if there are no failures of the CCV/CCB. This is the same digest solution for the blank, LCS/LCSD analyzed multiple times*." This procedure is not good laboratory practice. The method does not allow for reanalysis of calibration verification standards.

According to SW-846 Method 6010B (Section 7.4), if the calibration cannot be verified within the specified limits, the sample analysis must be discontinued, the cause determined and the instrument recalibrated. The laboratory should review this practice. All project samples were bracket by acceptable CCV standards; therefore, data usability is not adversely affected.

6.0 FIELD DUPLICATE RESULTS

Three field duplicate pairs out of 34 field samples were submitted to STL. The samples were given blind IDs, so that the laboratory was not aware which samples were submitted in duplicate. Primary samples were coded with -01 appended to the blind sample ID, and duplicate samples were coded with -02 appended to the blind sample ID. Detected results for each set of field duplicates are summarized in Table 2 at the end of this document.

Precision values met the QAPP-specified acceptance limits, with RPDs for aqueous samples less than 30% for analytes with concentrations more than 5 times their practical quantitation limit (PQLs), and concentrations within one MRL for analytes with concentrations less than 5 times their PQLs, except for the three cases described below.

- A field duplicate was collected at RP-07-119. The RPDs between the detected MCPP (44%), dichloroprop (40%), 2,4,5-TP (Silvex) (41%), endrin (127%), and total vanadium (77%) results were high. In addition, the RPDs between the detected 2,4-D (36%), alpha-BHC (93%), alpha-chlordane (52%), total aluminum (59%), and dissolved aluminum (34%) results were high. The 2,4-D, alpha-BHC, alpha-chlordane, total aluminum, and dissolved aluminum concentrations in these samples were less than 5 times their associated PQLs and the differences between the concentrations were less than the MRL; therefore, data usability is not adversely affected.
- A field duplicate was collected at RP-07-84. The RPDs between the detected delta-BHC (63%), total copper (98%), and total vanadium (45%) results were high. In addition, the RPDs between the detected chloromethane (40%) and total arsenic (34%) results were high. The chloromethane and total arsenic concentrations in these samples were less than 5 times their associated PQLs and the differences between the concentrations were less than the MRL, data usability is not adversely affected.

- A field duplicate was collected at AL6-96. The RPDs between the detected dichloroprop (32%), Silvex (31%), and DRO (71%) results were high. In addition, the RPD between the detected RRO results was high at 81%. The RRO concentrations in these samples were less than 5 times their associated PQLs and the differences between the concentrations were less than the MRL, data usability is not adversely affected.

7.0 INTERLABORATORY SPLIT SAMPLE RESULTS

Field sample W-09-86 was submitted to both STL and TestAmerica. The samples were given blind IDs, so that the primary laboratory (i.e., STL) was not aware which samples were also submitted to the QC laboratory (i.e., TestAmerica). Primary samples were coded with -01 appended to the blind sample ID, and split samples were coded with -05 appended to the blind sample ID. A summary of split sample results may be found in Table 3.

Field sample RP-07-84 (609-06) was supposed to be delivered to TestAmerica as an interlaboratory split sample but was inadvertently sent to STL. STL received two separate field samples for location RP-07-84 (609-01 and 609-06). AMEC treated the samples as a field duplicate. See Section 6.0.

TestAmerica MDLs and MRLs are generally higher than STL's. STL and TestAmerica report analyte concentrations down to the MDL or IDL; therefore, low-level concentrations comparisons could be made between reported laboratory results.

Analyte concentrations from sample RP-07-84 reported by both laboratories were generally comparable (≤50% RPD), except for the total aluminum, total chromium, total nickel, total vanadium, dissolved iron, and dissolved chromium analyses performed. In all cases, except for total vanadium, STL reported higher concentrations.

STL detected Silvex, benzene, dissolved copper, and dissolved lead at concentrations above the MDL. TestAmerica reported these analytes as nondetected above the MDLs. Because the concentrations were less than 5 times their associated MRLs and the differences between the concentrations were less than the TestAmerica MRLs, the results are acceptable.

TestAmerica detected total arsenic at a concentration above the MDL. STL reported this analyte as nondetected above the MDL. Because the concentration was less than 5 times their associated MRLs and the differences between the concentrations were less than the STL's MRLs, the results are acceptable.

8.0 SUMMARY AND CONCLUSIONS

The data are generally usable and of good quality, with the exceptions listed below.

- The isobutyl alcohol results from sample WS-11-125 (601-01), WS-11-161 (602-01), WS-12-125 (603-01), WS-12-161 (604-01), RP-11-20 (605-01), RP-11-216 (606-01), RP-11-161 (607-01), RP-07-55 (608-01), RP-07-84 (609-01), RP-07-84 (609-06), RP-07-119 (610-01), RP-07-119 (610-02), RP-07-30 (611-01), RP-01-31 (612-01), RP-01-51 (613-01), RP-01-65 (614-01), W-09-86 (636-01), W-09-116 (637-01), and W-09 (638-01) were rejected due to very low RRF in the associated ICALs and CCALs. Because this analyte is not a primary constituent of concern, the rejected results may not impact overall data usability.
- The phenol result from sample W-12-S (629-01) was R qualified and rejected because of very low recoveries in the associated MS/MSD.
- The nondetected acid extractable compound (phenols) results from samples WS-11-161 (602-01), WS-12-125 (603-01), WS-12-161 (604-01), RP-11-30 (605-01), RP-07-55 (608-01), RP-01-51 (613-01), W-11-D (627-01), W-12-1 (630-01), AL6-96 (635-02), W-09-86 (636-01), and W-09-116 (637-01) were R qualified and rejected because of very low acid surrogate compound recoveries in these samples. The low recoveries may be indicative of laboratory performance or matrix interference.
- The delta-BHC result from sample WS-11-161 (602-01) was R qualified and rejected due to very low LCS/LCSD recoveries.

The remainder of the data is generally usable and of good quality, with the qualifications listed below.

- A portion of the VOC data was qualified due to headspace in associated sample vials (Table 4.1), holding time exceedances (Section 5.1.1), laboratory (Table 5.3), rinsate (Table 5.4), and/or trip blank (Table 5.5) contamination, low or high CCAL recoveries (Table 5.2), low or high LCS recoveries (Table 5.6), and a low surrogate recovery (Table 5.7).
- A portion of the herbicides data was qualified due to low CCAL recoveries`6666, low surrogate recoveries (Table 5.10), and low MS/MSD recoveries (Table 5.11).
- A portion of the SVOC data was qualified due to ICAL instability (Table 5.12), low or high CCAL recoveries (Table 5.13), low-level laboratory contamination

(Table 5.14), low or high LCS recoveries (Table 5.15), low or high MS/MSD recoveries (Table 5.16), and low or high acid extractable surrogate compound recoveries (Table 5.17).

- A portion of the OCP data was qualified due to low or high CCAL recoveries (Table 5.18), low-level laboratory blank contamination (Table 5.19), low or high LCS/LCSD recoveries (Table 5.20), high or low surrogate recoveries (Table 5.21), and high percent differences between the dual-column results (Table 5.23).
- A portion of the DRO and RRO data was qualified due to a small amount of sample lost during the extraction process (Section 5.5.9) and laboratory blank contamination (Section 5.5.4).
- A portion of the metals data was qualified due to low-level laboratory (Table 5.24) or rinsate blank contamination (Table 5.25), and high or low MS recoveries (Table 5.26).

No metals, herbicides, DRO, and RRO results were rejected by AMEC due to data quality issues.

A total of 158 results out of 7,667 total results or 2.1% were rejected during data validation. Overall completeness of the data set exceeded 95%. In addition, 634 results (8.3%) were J qualified, 655 (8.5%) results were UJ qualified, 117 results (1.5%) were U qualified, and 10 results (0.1%) were N qualified.

REFERENCES

AMEC, 2001. *Revised Quality Assurance Project Plan, RPAC - Portland Site*, prepared for Aventis CropScience, prepared by AMEC Earth & Environmental, submitted to Oregon Department of Environmental Quality, June 13, 2001.

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EPA, 2004. *USEPA SW-846 Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, Update IIIB.*

LIMITATIONS

This report was prepared exclusively for SLLI by AMEC Earth & Environmental, Inc. (AMEC). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in AMEC services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This Winter 2006 Groundwater Monitoring Event is intended to be used by SLLI for the RP - Portland Site, 6200 N.W. St. Helens Road, Portland, Oregon only, subject to the terms and conditions of its contract with AMEC. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

TABLES

TABLE 1
Field Samples Submitted to STL and TestAmerica with Corresponding Laboratory IDs
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample Location	Field Sample ID	Sample Date	Test America Sample ID	STL Sample ID	Notes
WS-11-125	601-01	03/20/2006	-	580-1935-1	
WS-11-161	602-01	03/20/2006	-	580-1935-2	
Trip Blank	602-03	03/20/2006	-	580-1935-3	Trip Blank
WS-12-125	603-01	03/20/2006	-	580-1935-4	
WS-12-161	604-01	03/21/2006	-	580-1955-1	
Trip Blank	604-03	03/21/2006	-	580-1955-2	Trip Blank
RP-11-30	605-01	03/21/2006	-	580-1955-3	
RP-11-216	606-01	03/21/2006	-	580-1955-4	
RP-11-30	605-01	03/22/2006	-	580-1959-1	
RP-11-161	607-01	03/22/2006	-	580-1959-2	
Trip Blank	607-03	03/22/2006	-	580-1959-3	Trip Blank
RP-07-55	608-01	03/22/2006	-	580-1959-4	
RP-07-84	609-01	03/23/2006	-	580-1973-1	
Trip Blank	609-03	03/23/2006	-	580-1973-2	Trip Blank
RP-07-84	609-06	03/23/2006	-	580-1973-3	Field Duplicate
RP-07-119	610-01	03/23/2006	-	580-1973-4	
RP-07-119	610-02	03/23/2006	-	580-1973-5	Field Duplicate
RP-07-30	611-01	03/23/2006	-	580-1973-6	
RP-01-31	612-01	03/24/2006	-	580-1992-1	
RP-01-51	613-01	03/24/2006	-	580-1992-2	
RP-01-65	614-01	03/24/2006	-	580-1992-3	
Trip Blank	612-03	03/24/2006	-	580-1992-4	Trip Blank
W-03-I	615-01	03/25/2006	-	580-2006-01	
Trip Blank	615-03	03/25/2006	-	580-2006-02	Trip Blank
W-03-D	616-01	03/25/2006	-	580-2006-03	
W-04-89	619-01	03/25/2006	-	580-2006-04	
W-09	620-01	03/25/2006	-	580-2006-05	
W-09-86	621-01	03/25/2006	-	580-2006-06	
W-09-116	622-01	03/28/2006	-	580-2022-1	
Trip Blank	622-03	03/28/2006	-	580-2022-2	Trip Blank
W-11-B	623-01	03/28/2006	-	580-2022-3	
W-11-D	624-01	03/28/2006	-	580-2022-4	
W-11-S	625-01	03/29/2006	-	580-2035-1	
Trip Blank	625-03	03/29/2006	-	580-2035-2	Trip Blank
W-11-I	626-01	03/29/2006	-	580-2035-3	
W-11-D	627-01	03/29/2006	-	580-2035-4	
W-11-B	628-01	03/29/2006	-	580-2035-5	
Rinsate	628-04	03/30/2006	-	580-2058-1	Rinsate blank
W-12-S	629-01	03/30/2006	-	580-2058-2	
Trip Blank	629-03	03/30/2006	-	580-2058-3	Trip blank
W-12-1	630-01	03/30/2006	-	580-2058-4	
W-12-D	631-01	03/30/2006	-	580-2058-5	
AL6-96	635-01	03/31/2006	-	580-2059-1	
AL6-96	635-02	03/31/2006	-	580-2059-2	Field Duplicate
Trip Blank	635-03	03/31/2006	-	580-2059-3	Trip Blank
W-09-86	636-01	04/03/2006	-	580-2096-1	
W-09-116	637-01	04/03/2006	-	580-2096-2	
W-09	638-01	04/03/2006	-	580-2096-3	
Trip Blank	636-03	04/03/2006	PPD0044-02	-	Trip Blank
W-09-86	636-05	04/03/2006	PPD0044-01	-	Interlaboratory Split

ID = Identification
STL = Severn Trent Laboratories, Inc.

TABLE 2
Summary of Field Duplicate Detections
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analytical Method	Analyte	MRL	Primary Result	Duplicate Result	RPD
Sample RP-07-119 (610-01 and 610-02)					
VOCs	Vinyl chloride	1.0	ND	0.20	NC
	1,1-Dichloroethene	1.0	0.41	0.38	8%
	cis-1,2-dichloroethene	1.0	5.8	5.9	2%
	Chloroform	1.0	0.69	0.70	1%
	Benzene	1.0	0.17	0.16	6%
	1,2-Dichloroethane	1.0	ND	0.048	NC
	Trichloroethene	1.0	8.5	8.7	2%
	Toluene	1.0	0.44	0.42	5%
	Tetrachloroethene	1.0	0.097	ND	NC
	Chlorobenzene	1.0	13	13	0%
	o-xylene	1.0	0.085	0.083	2%
	1,3-Dichlorobenzene	1.0	6.4	5.9	8%
	1,4-Dichlorobenzene	1.0	54	47	14%
	1,2-Dichlorobenzene	1.0	170	150	13%
	1,2,4-Trichlorobenzene	1.0	0.13	0.12	8%
	1,2,3-Trichlorobenzene	1.0	0.098	0.077	24%
	Hexachlorobutadiene	1.0	0.087	0.095	9%
	Naphthalene	1.0	0.11	0.093	17%
Herbicides	MCPP	0.24	2.2	1.4	**44%**
	Dichloroprop	0.24	1.4	0.93	**40%**
	2,4-D	0.24	0.33	0.23	36%
	Pentachlorophenol	0.24	ND	0.083	NC
	Silvex (2,4,5-TP)	0.24	8.9	5.9	**41%**
Pesticides	alpha-BHC	0.0096	0.0027	0.0074	93%
	delta-BHC	0.0096	0.0094	0.011	16%
	4,4-DDT	0.019	0.0055	ND	NC
	alpha-Chlordane	0.0096	0.010	0.0059	52%
	Endrin	0.019	0.028	0.0062	**127%**
Total Metals	Total Aluminum	0.50	0.081	0.044	59%
	Total Calcium	0.50	230	230	0%
	Total Iron	0.20	0.24	0.24	0%
	Total Magnesium	0.50	58	59	2%
	Total Manganese	0.0050	0.18	0.17	6%
	Total Potassium	3.0	9.7	9.5	2%
	Total Sodium	2.0	19	18	5%
	Total Chromium	0.0020	0.0056	0.0063	12%
	Total Copper	0.0020	0.0015	0.0014	7%
	Total Lead	0.0020	0.000075	0.000080	6%
	Total Nickel	0.0020	0.0073	0.0073	0%
	Total Vanadium	0.0020	0.00058	0.0013	**77%**
Dissolved Metals	Dissolved Aluminum	0.50	0.060	0.085	34%
	Dissolved Calcium	0.50	230	240	4%
	Dissolved Iron	0.20	0.12	0.11	9%
	Dissolved Magnesium	0.50	59	61	3%
	Dissolved Manganese	0.0050	0.18	0.17	6%
	Dissolved Potassium	3.0	11	11	0%
	Dissolved Sodium	2.0	19	19	0%
	Dissolved Arsenic	0.0020	0.00056	0.00072	25%
	Dissolved Cadmium	0.0020	0.000050	ND	NC
	Dissolved Chromium	0.0020	0.0035	0.0032	9%
	Dissolved Copper	0.0020	0.00082	0.00082	0%
	Dissolved Lead	0.0020	0.000060	0.000045	29%
	Dissolved Nickel	0.0020	0.0055	0.0051	8%
	Dissolved Vanadium	0.0020	0.0033	0.0036	9%

TABLE 2
Summary of Field Duplicate Detections
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analytical Method	Analyte	MRL	Primary Result	Duplicate Result	RPD
Sample RP-07-84 (609-01 and 609-06)					
VOCs	Chloromethane	1.0	0.24	0.36	40%
	Vinyl chloride	1.0	16	16	0%
	1,1-Dichloroethene	1.0	2.6	2.5	4%
	trans-1,2-dichloroethene	1.0	1.3	1.3	0%
	cis-1,2-dichloroethene	1.0	16	17	6%
	Chloroform	1.0	0.12	0.14	15%
	Benzene	1.0	1.7	1.7	0%
	1,2-Dichloroethane	1.0	0.13	0.13	0%
	Trichloroethene	1.0	16	17	6%
	MTBE	1.0	1.4	1.5	7%
	Toluene	1.0	0.54	0.51	6%
	Tetrachloroethene	1.0	0.18	0.17	6%
	Chlorobenzene	20	120	140	15%
	m,p-xylene	1.0	0.13	0.12	8%
	o-xylene	1.0	0.097	0.085	13%
	Isopropylbenzene	1.0	0.20	0.19	5%
	2-Ethyl-1hexanol	5	2.5	ND	NC
	1,3-Dichlorobenzene	1.0	22	23	4%
	1,4-Dichlorobenzene	20	210	240	13%
	1,2-Dichlorobenzene	20	730	750	3%
	1,2,4-Trichlorobenzene	1.0	0.35	0.35	0%
	1,2,3-Trichlorobenzene	1.0	0.22	0.20	10%
	Hexachlorobutadiene	1.0	0.12	0.096	22%
	Naphthalene	1.0	0.11	0.092	18%
Herbicides	MCPP	0.24	7.4	5.9	23%
	Dichlorprop	0.24	3.0	2.4	22%
	2,4-D	0.24	0.22	ND	NC
	Pentachlorophenol	0.24	0.27	0.21	25%
	2,4,5-TP (Silvex)	0.24	19	16	17%
Pesticides	Aldrin	0.0095	0.0051	ND	NC
	alpha-BHC	0.0095	0.050	0.058	15%
	delta-BHC	0.0095	0.021	0.011	**63%**
	gamma-BHC (Lindane)	0.0095	ND	0.0019	NC
	alpha-Chlordane	0.0095	0.0083	0.0066	23%
	4,4'-DDD	0.019	0.0047	0.0042	11%
	4,4'-DDE	0.019	0.0032	0.0038	17%
	4,4'-DDT	0.019	ND	0.012	NC
	Endosulfan I	0.019	ND	0.042	NC
	Endrin	0.019	0.012	0.011	9%
	Heptachlor	0.0095	0.0043	0.0039	10%
	Heptachlor Epoxide	0.0095	0.0054	0.0054	0%

TABLE 2
Summary of Field Duplicate Detections
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analytical Method	Analyte	MRL	Primary Result	Duplicate Result	RPD
Sample RP-07-84 (609-01 and 609-06)					
Total Metals	Total Aluminum	0.50	0.086	0.099	14%
	Total Calcium	0.50	470	460	2%
	Total Iron	0.20	0.89	0.86	3%
	Total Magnesium	0.50	110	110	0%
	Total Manganese	0.0050	0.39	0.38	3%
	Total Potassium	3.0	13	14	7%
	Total Sodium	2.0	61	62	2%
	Total Arsenic	0.0020	0.0017	0.0012	34%
	Total Chromium	0.0020	0.0050	0.0047	6%
	Total Copper	0.0020	0.0025	0.0073	**98%**
	Total Lead	0.0020	0.000075	0.000080	6%
	Total Nickel	0.0020	0.018	0.018	0%
	Total Vanadium	0.0020	0.0015	0.00095	**45%**
Dissolved Metals	Dissolved Aluminum	0.50	0.035	0.047	29%
	Dissolved Calcium	0.50	440	460	4%
	Dissolved Iron	0.20	0.79	0.80	1%
	Dissolved Magnesium	0.50	110	110	0%
	Dissolved Manganese	0.0050	0.40	0.41	2%
	Dissolved Potassium	3.0	15	16	6%
	Dissolved Sodium	2.0	63	64	2%
	Dissolved Arsenic	0.0020	0.0042	0.0048	13%
	Dissolved Cadmium	0.0020	0.000040	ND	NC
	Dissolved Chromium	0.0020	0.0062	0.0060	3%
	Dissolved Copper	0.0020	0.0016	0.0016	0%
	Dissolved Lead	0.0020	0.000060	0.000060	0%
	Dissolved Nickel	0.0020	0.015	0.015	0%
	Dissolved Vanadium	0.0020	0.0035	0.0033	6%

TABLE 2
Summary of Field Duplicate Detections
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analytical Method	Analyte	MRL	Primary Result	Duplicate Result	RPD
Sample AL6-96 (635-01 and 635-02)					
	Benzene	50	24	24	0%
	Toluene	50	4.7	ND	NC
	Chlorobenzene	50	2300	2300	0%
	Ethylbenzene	50	7.0	ND	NC
	2-Ethyl-1hexanol	250	140	ND	NC
	1,3-Dichlorobenzene	50	63	61	3%
	1,4-Dichlorobenzene	50	970	950	2%
	1,2-Dichlorobenzene	50	900	880	2%
	1,2,4-Trichlorobenzene	50	15	15	0%
Herbicides	MCPP	0.24	12	15	22%
	Dichlorprop	0.24	3.1	4.3	**32%**
	2,4,5-TP (Silvex)	0.24	11	15	**31%**
Pesticides	alpha-Chlordane	0.048	0.87	0.93	7%
	alpha-BHC	0.048	0.031	0.037	18%
	delta-BHC	0.048	0.015	ND	NC
	Aldrin	0.048	ND	0.028	NC
	4,4'-DDD	0.097	2.0	2.0	0%
	4,4'-DDE	0.097	0.095	ND	NC
	4,4'-DDT	0.097	0.12	0.16	29%
	Endosulfan II	0.097	0.088	ND	NC
	Endrin Ketone	0.097	0.048	ND	NC
	Heptachlor	0.048	0.17	0.18	6%
	Heptachlor Epoxide	0.048	0.14	0.16	13%
NWTPH-Dx	DRO	0.24	1.2	0.57	**71%**
	MRO	0.48	0.16	0.068	81%
Total Metals	Total Calcium	0.50	120	120	0%
	Total Iron	0.20	1.5	1.6	6%
	Total Magnesium	0.50	57	56	2%
	Total Manganese	0.0050	9.4	9.4	0%
	Total Potassium	3.0	9.0	7.8	14%
	Total Sodium	2.0	430	430	0%
	Total Arsenic	0.0020	0.0076	0.0062	20%
	Total Chromium	0.0020	0.0041	0.0035	16%
	Total Copper	0.0020	0.0028	0.0029	4%
	Total Lead	0.0020	0.000085	0.000090	6%
	Total Nickel	0.0020	0.020	0.019	5%
	Total Vanadium	0.0020	0.00056	ND	NC
Dissolved Metals	Dissolved Calcium	0.50	140	130	7%
	Dissolved Iron	0.20	1.1	1.3	17%
	Dissolved Magnesium	0.50	66	61	8%
	Dissolved Manganese	0.0050	11	11	0%
	Dissolved Potassium	3.0	10	10	0%
	Dissolved Sodium	2.0	460	450	2%
	Dissolved Arsenic	0.0020	0.0073	0.0085	15%
	Dissolved Chromium	0.0020	0.0079	0.0075	5%
	Dissolved Copper	0.0020	0.0014	0.0015	7%
	Dissolved Lead	0.0020	0.000065	0.000075	14%
	Dissolved Nickel	0.0020	0.014	0.014	0%
	Dissolved Vanadium	0.0020	0.0034	0.0030	13%

RPD = Relative Percent Difference
NC = Not Calculable
ND = Not Detected
STL = Severn Trent Laboratories, Inc.
SVOCs = semivolatile organic compounds
VOCs = volatile organic compounds

TABLE 3
Interlaboratory Split Samples Submitted to STL and TestAmerica
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte Class	Analyte	Primary Result (STL)	Split Result (Test America)	RPD
Sample W-09-86 (636-01 and 636-05)				
SVOCs	1,2-Dichlorobenzene	150	118	24%
	1,3-Dichlorobenzene	2.7	2.87	6%
	1,4-Dichlorobenzene	35	33.2	5%
	Diethylphthalate	2.2	<2.83	NC
	Di-n-butylphthalate	1.3	<2.83	NC
Herbicides	MCPP	0.41	<16.5	NC
	Dichlorprop	0.17	<0.186	NC
	2,4,5-TP (Silvex)	0.64	<0.230	**NC**
Pesticides	Endrin	0.0058	<0.0472	NC
VOCs	Vinyl chloride	0.38	0.420	10%
	1,1-Dichloroethene	0.12	<0.14	NC
	cis-1,2-dichloroethene	0.47	0.640	31%
	Benzene	0.13	<0.060	**NC**
	Trichloroethene	0.58	0.500	15%
	Toluene	0.073	<0.120	NC
	Chlorobenzene	37	38.5	4%
	1,3-Dichlorobenzene	3.2	2.52	24%
	1,4-Dichlorobenzene	42	36.5	14%
	1,2-Dichlorobenzene	200	218	9%
NWTHP-Dx	DRO	0.13	<0.146	NC
Total Metals	Total Aluminum	0.062	0.00895	**150%**
	Total Calcium	78	78.6	1%
	Total Iron	0.11	0.130	17%
	Total Magnesium	43	44.1	3%
	Total Manganese	2.9	2.74	6%
	Total Potassium	6.1	5.41	12%
	Total Sodium	17	16.1	5%
	Total Arsenic	<0.00037	0.00410	**NC**
	Total Cadmium	0.000080	0.000110	32%
	Total Chromium	0.0047	0.000160	**187%**
	Total Lead	0.000055	<0.0000553	NC
	Total Nickel	0.0091	0.00184	**133%**
	Total Vanadium	0.0013	0.00572	**126%**
	Total Zinc	<0.0029	0.00593	NC
Dissolved Metals	Dissolved Calcium	70	77.1	10%
	Dissolved Iron	0.058	0.109	**61%**
	Dissolved Magnesium	39	41.9	7%
	Dissolved Manganese	2.6	2.95	13%
	Dissolved Potassium	5.3	5.68	7%
	Dissolved Sodium	19	16.6	13%
	Dissolved Arsenic	0.0033	0.00486	38%
	Dissolved Cadmium	0.00011	0.000105	5%
	Dissolved Chromium	0.00047	0.000126	**115%**
	Dissolved Copper	0.00039	<0.000133	**NC**
	Dissolved Lead	0.000070	<0.0000553	**NC**
	Dissolved Nickel	0.0089	0.00889	0%
	Dissolved Vanadium	0.0046	0.00533	15%
	Dissolved Zinc	<0.0029	0.00277	NC

RPD = Relative Percent Difference
DRO = Diesel Range Organics
NC = Not Calculable
STL = Severn Trent Laboratories, Inc.
SVOCs = semivolatile organic compounds
VOCs = volatile organic compounds

TABLE 4.1
Sample Receipt at STL
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample Receipt Date	Receipt Issue(s)	Affected Samples	Effects on Data Usability
03/23/2006	According to the Login Sample Receipt Check List, 2 of 3 sample vials contained air bubbles.	WS-12-161 (604-01)	AMEC assumed the laboratory analyzed the vial that did not contain air bubbles. Data usability is not adversely affected.
03/24/2006	According to the Login Sample Receipt Check List, 2 of 3 sample vials contained air bubbles.	RP-11-161 (607-01)	AMEC assumed the laboratory analyzed the vial that did not contain air bubbles. Data usability is not adversely affected.
03/27/2006	4-1 liter bottles were received broken.	RP-07-84 (609-06)	Enough bottles were received to complete all analyses. Data usability is not adversely affected.
	3-1 liter bottles and 1 vial were received broken	RP-07-119 (610-02)	
04/03/2006	According to the Login Sample Receipt Check List, all 3 sample vials contained air bubbles >6mm in size.	W-12-1 (630-01)	AMEC J qualified the detected VOC results and UJ qualified the nondetected VOC result from this sample because of possible low bias in the analytical results.

Note: °C = degrees Celsius

TABLE 4.2
Sample Receipt at TestAmerica
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample Receipt Date	Receipt Issue(s)	Affected Samples	Effects on Data Usability
04/03/2006	According to the Sample Receipt Check the temperature of one of two coolers was recorded as 0.4°C.	W-09-86 (636-05) Trip Blank (636-03)	The laboratory did not indicate that any samples were frozen or damaged. Data usability is not adversely affected.

TABLE 5.1
Initial Calibration for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analytes with %RSDs Greater than 15%	Effects on Data Usability
ICAL analyzed on March 20, 2006 on instrument U	
Isobutyl Alcohol RRFs < 0.01	AMEC R qualified and rejected the nondetected isobutyl alcohol results from sample WS-11-125 (601-01), WS-11-161 (602-01), WS-12-125 (603-01), WS-12-161 (604-01), RP-11-30 (605-01), RP-11-216 (606-01) because the presence of this analyte could not be confirmed due to the very low RRF.
ICAL analyzed on March 27, 2006 on instrument U	
Isobutyl Alcohol RRFs < 0.01	AMEC R qualified and rejected the nondetected isobutyl alcohol results from sample RP-11-161 (607-01), RP-07-55 (608-01), RP-07-84 (609-01), RP-07-84 (609-06), RP-07-119 (610-01), RP-07-119 (610-02), RP-07-30 (611-01), RP-01-31 (612-01), RP-01-51 (613-01), RP-01-65 (614-01) because the presence of this analyte could not be confirmed due to the very low RRF.
ICAL analyzed on April 17, 2006 on instrument AG	
Isobutyl Alcohol RRFs < 0.01	AMEC R qualified and rejected the nondetected isobutyl alcohol results from sample W-09-86 (636-01, W-09-116 (637-01), and W-09 (638-01) because the presence of this analyte could not be confirmed due to the very low RRF.

TABLE 5.2
Continuing Calibration for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte/Problem	Effects on Data Usability
CCAL analyzed March 22, 2006 on instrument U.	
The following analyte recoveries were low: Bromomethane at 72% 1,1-Dichloroethane at 29% 2,2-Dichloropropane at 39% Bromochloromethane at 61%	AMEC UJ qualified the nondetected bromomethane, 1,1-dichloroethane, 2,2-dichloropropane, bromochloromethane, and 2-ethyl-1-hexanol results from sample WS-11-125 (601-01) because of possible low bias in the analytical results.
2-Ethyl-1-hexanol at 75%	AMEC UJ qualified the nondetected bromomethane, 1,1-dichloroethane, 2,2-dichloropropane, and bromochloromethane results and J qualified the detected 2-ethyl-1-hexanol results from samples WS-11-161 (602-01) and WS-12-125 (603-01) because of possible low bias in the analytical results.
CCAL analyzed March 23, 2006 on instrument U.	
The following analyte recoveries were low: Bromomethane at 79% 1,1-Dichloroethane at 34% 2,2-Dichloropropane at 31% Bromochloromethane at 68% Carbon Tetrachloride at 76%	AMEC J qualified the bromomethane results from WS-12-161 (604-01), RP-11-30 (605-01), and RP-11-216 (606-01) and UJ qualified the nondetected 1,1-dichloroethane, 2,2-dichloropropane, bromochloromethane, and carbon tetrachloride results because of possible low bias in the analytical results.
2-Ethyl-1-hexanol at 75%	AMEC J qualified the detected 2-ethyl-1-hexanol result from sample RP-11-30 (605-01) and UJ qualified the nondetected 2-ethyl-1-hexanol result from sample WS-12-161 (604-01) because of possible low bias in the analytical results.
CCAL analyzed March 27, 2006 on instrument U.	
2-Ethyl-1-hexanol was low at 76%	AMEC J qualified the detected 2-ethyl-1-hexanol results from samples RP-11-216 (606-01), RP-11-161 (607-01), RP-07-55 (608-01), RP-07-84 (609-01) and UJ qualified the nondetected 2-ethyl-1-hexanol results from sample RP-07-84 (609-06), RP-07-119 (610-01), RP-07-119 (610-02) because of possible low bias in the analytical results.
Bromomethane was high at 148%	Bromomethane recovery was high and this analyte was not detected in the associated samples. Data usability is not adversely affected.
CCAL analyzed March 28, 2006 on instrument U.	
Bromomethane was high at 148%	Bromomethane recovery was high and this analyte was not detected in the associated samples. Data usability is not adversely affected.
1,1-Dichloroethane recovery was low at 24%	AMEC UJ qualified the nondetected result from sample RP-07-30 (611-01) because of a possible low bias in the analytical result.
CCAL analyzed March 29, 2006 on instrument U.	
1,1-Dichloroethane recovery was low at 24% 2,2-Dichloropropane recovery was low at 32%	AMEC UJ qualified the nondetected results from samples RP-01-51 (613-01), RP-01-65 (614-01) because of a possible low bias in the analytical result.
2-Ethyl-1-hexanol recovery was low at 64%	AMEC UJ qualified the nondetected results from samples RP-01-51(613-01) and J qualified the detected result from sample RP-01-65 (614-01) because of a possible low bias in the analytical result.

TABLE 5.2
Continuing Calibration for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte/Problem	Effects on Data Usability
CCAL analyzed March 30, 2006 on instrument U.	
Chloromethane recovery was high at 123%	The recovery was high and this analyte was not detected in the associated samples. Data usability is not adversely affected.
Bromomethane recovery was low at 79% 1,1-Dichloroethane recovery was low at 13% 2,2-Dichloropropane recovery was low at 30% 2-Ethyl-1-hexanol recovery was low at 80%	AMEC UJ qualified the nondetected results from samples RP-01-31 (612-01) because of a possible low bias in the analytical result.
CCAL analyzed March 30, 2006 on instrument HP.	
Bromomethane recovery was high at 148%	The recovery was high and this analyte was not detected in the associated samples. Data usability is not adversely affected.
2-Ethyl-1-hexanol recovery was low at 60%	AMEC UJ qualified the nondetected results from samples W-03-I (615-01), W-03-D (616-01), W-04-89 (619-01), W-09 (620-01), W-09-86 (621-01) because of a possible low bias in the analytical result.
CCAL analyzed April 3, 2006 on instrument HP.	
Bromomethane recovery was high at 129%	The recovery was high and this analyte was not detected in the associated samples. Data usability is not adversely affected.
1,1-Dichloroethane recovery was low at 75% 2-Ethyl-1-hexanol recovery was low at 39%	AMEC UJ qualified the nondetected results from samples W-09-116 (622-01), W-11-B (623-01), W-11-D (624-01), W-11-I (626-01), W-11-D (627-01) because of a possible low bias in the analytical result.
1,2,3-Trichlorobenzene recovery was low at 78%	AMEC J qualified the detected results from sample W-11-S (625-01) because of a possible low bias in the analytical result.
Naphthalene recovery was low at 64%	AMEC J qualified the detected results from samples W-09-116 (622-01), W-11-B (623-01) and UJ qualified the nondetected result from sample W-11-D (624-01), W-11-I (626-01), W-11-D (627-01) because of a possible low bias in the analytical result.
CCAL analyzed April 4, 2006 on instrument 5973 Inert	
Hexachlorobutadiene recovery was high at 123%.	The recovery was high and this analyte was not detected in the associated samples. Data usability is not adversely affected.
CCAL Analyzed on April 6, 2006 on instrument HP	
2-Ethyl-1-hexanol recovery was high at 130%	AMEC J qualified the detected result from sample AL6-96 (635-01) because of a possible high bias in the analytical result.
CCAL Analyzed on April 6, 2006 on instrument AG	
Bromomethane recovery was high at 143% 2-Ethyl-1-hexanol recovery was high at 173%	The recoveries were high and these analytes were not detected in the associated samples. Data usability is not adversely affected.
Bromoform recovery was low at 77%	AMEC UJ qualified the nondetected bromoform results from samples W-09-86 (636-01), W-09-116 (637-01), and W-09 (638-01) because of possible low bias in the analytical results.

TABLE 5.3
Laboratory Blank Detections for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
MB 580-5002	1,3-Dichlorobenzene 1,2,3-Trichlorobenzene Naphthalene 2-Ethyl-1-Hexanol	0.051 0.094 0.083 3.0	WS-11-161 (602-01) WS-12-125 (603-01)	AMEC U qualified the naphthalene and 2-ethyl-1-hexanol results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5004	Cis-1,2-Dichloroethene 1,2,3-Trichlorobenzene Naphthalene	0.1 0.078 0.19	WS-11-125 (601-01) WS-12-161 (604-01) RP-11-30 (605-01) RP-11-216 (606-01)	AMEC U qualified the cis-1,2-Dichloroethene and naphthalene results from samples WS-12-161 (604-01) and RP-11-30 (605-01) and the naphthalene result from sample RP-11-216 (606-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5108	1,3-Dichlorobenzene 4-Isopropyltoluene n-Butylbenzene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene Hexachlorobutadiene Naphthalene	0.068 0.074 0.1 0.072 0.16 0.15 0.26 0.18	RP-11-161 (607-01) RP-07-55 (608-01)	AMEC U qualified the 4-isopropyltoluene, 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, 1,2,3-trichlorobenzene, hexachlorobutadiene, and naphthalene results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
			RP-07-84 (609-01) RP-07-84 (609-06) RP-07-119 (610-01) RP-07-119 (610-02)	AMEC U qualified the 1,2,4-trichlorobenzene, 1,2,3-trichlorobenzene, hexachlorobutadiene, and naphthalene results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5125	1,3-Dichlorobenzene 1,2-Dichlorobenzene 1,2,3-Trichlorobenzene Naphthalene	0.082 0.13 0.067 0.078	RP-07-30 (611-01)	AMEC U qualified the 1,2-dichlorobenzene, 1,2,3-trichlorobenzene, and naphthalene results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5203	1,2-Dichlorobenzene 1,2,3-Trichlorobenzene Hexachlorobutadiene Naphthalene	0.069 0.077 0.13 0.092	RP-01-51 (613-01) RP-01-65 (614-01)	AMEC U qualified the detected 1,2,3-trichlorobenzene results from samples RP-01-51 (613-01) and RP-01-65 (614-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5241	1,2-Dichlorobenzene 1,2,3-Trichlorobenzene Hexachlorobutadiene Naphthalene	0.11 0.068 0.15 0.084	RP-01-31 (612-01)	AMEC U qualified the detected 1,2-dichlorobenzene and hexachlorobutadiene results from sample RP-01-31 (612-01) because the sample concentrations were less than 5 times the concentration detected in the blank.

TABLE 5.3
Laboratory Blank Detections for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
MB 580-5308	Methylene Chloride 1,3-Dichlorobenzene 1,2,4-Trichlorobenzene	0.31 0.78 0.29	W-09-116 (622-01) W-11-B (623-01) W-11-S (625-01) W-11-D (627-01)	AMEC U qualified the detected 1,3-dichlorobenzene result from samples W-09-116 (622-01), W-11-B (623-01), W-11-S (625-01) , the detected 1,2,4-trichlorobenzene result from sample W-11-S (625-01), W-11-D (627-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5441	1,2,3-Trichlorobenzene	0.28	W-12-S (629-01) W-12-1 (630-01 W-12-D (631-01)	1,2,3-Trichlorobenzene was not detected in the associated samples. Data usability is not affected.
MB 580-5542	m&p-xylenes 1,2,4-Trimethylbenzene 1,3-Dichlorobenzene 1,2,3-Trichlorobenzene	0.27 0.21 0.086 0.29	AL6-96 (635-01) AL6-96 (635-02)	These analytes were either not detected in the assoicated samples or sample concentrations were greater than five times the concentration detected in the blank. Data usability is not adversely affected.
MB-580-5890	Toluene	0.089	W-09-86 (636-01)	AMEC U qualified the detected toluene result from sample W-09-86 (636-01) because the sample concentration was less than 5 times the concentration detected in the blank.

TABLE 5.4
Trip Blanks Detection for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Trip Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
602-03	cis-1,2-Dichloroethene	0.075	WS-11-161(602-01)	AMEC U qualified the detected cis-1,2-Dichloroethene result from this sample because the concentration detected in the sample was less than 5 times the concentration detected in the blank.
604-03	Bromomethane cis-1,2-Dichloroethene Naphthalene 2-Ethyl-1-hexanol	0.33 0.072 0.1 4.6	WS-12-161 (604-01) RP-11-30 (605-01) RP-11-216 (606-01)	AMEC U qualified the detected bromomethane results from these samples; the cis-1,2-dichloroethene results from samples WS-12-161 (604-01) and RP-11-30 (605-01); the naphthalene results from sample WS-12-161 (604-01) and RP-11-216 (606-01); and the 2-ethyl-1-hexanol result from sample RP-11-30 (605-01) because the concentrations detected in the samples were less than 5 times the concentrations detected in the blank.
607-03	1,3-Dichlorobenzene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene Hexachlorobutadiene Naphthalene 2-Ethyl-1-hexanol	0.069 0.051 0.12 0.11 0.17 0.13 6.5	RP-11-161 (607-01) RP-07-55 (608-01)	AMEC U qualified the 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, 1,2,3-trichlorobenzene, hexachlorobutadiene, and naphthalene results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
				AMEC U qualified the 2-Ethyl-1-hexanol result from sample RP-11-161 (607-01) because the sample concentration was less than 5 times the concentration detected in the blank.
609-03	4-Isopropyltoluene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene Hexachlorobutadiene Naphthalene 2-Ethyl-1-hexanol	0.074 0.07 0.14 0.13 0.2 0.16 6.5	RP-07-84 (609-01) RP-07-84 (609-06) RP-07-119 (610-01) RP-07-119 (610-02)	AMEC U qualified the 1,2,4-trichlorobenzene, 1,2,3-trichlorobenzene, hexachlorobutadiene, and naphthalene results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
			RP-07-84 (609-01)	AMEC U qualified the 2-ethyl-1-hexanol result from this sample because the sample concentration was less than 5 times the concentration detected in the blank.
			RP-07-30 (611-01)	AMEC U qualified the 1,2-dichlorobenzene, 1,2,3-trichlorobenzene, hexachlorobutadiene, naphthalene, and 2-ethyl-1-hexanol results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.

TABLE 5.4
Trip Blanks Detection for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Trip Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
612-03	1,2-Dichlorobenzene 1,2,3-Trichlorobenzene Hexachlorobutadiene 2-Ethyl-1-hexanol	0.073 0.061 0.1 2.7	RP-01-31 (612-01) RP-01-51 (613-01) RP-01-65 (614-01)	AMEC U qualified the detected 1,2,3-trichlorobenzene results from samples RP-01-51 (613-01) and RP-01-65 (614-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
				AMEC U qualified the detected 1,2-dichlorobenzene and hexachlorobutadiene results from sample RP-01-31 (612-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
622-03	Naphthalene	0.48	W-09-116 (622-01) W-11-B (623-01)	AMEC U qualified the detected naphthalene results from samples W-09-116 (622-01) and W-11-B (623-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
625-03	Dibromochloromethane Ethylbenzene Bromoform 1,2,3-Trichlorobenzene	0.097 0.12 0.32 0.27	W-11-S (625-01) W-11-I (626-01) W-11-D (627-01) W-11-B (628-01)	AMEC U qualified the detected ethylbenzene results from samples W-11-S (625-01), W-11-I (626-01), W-11-D (627-01), and W-11-B (628-01) and the detected 1,2,3-trichlorobenzene result from sample W-11-S (625-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
629-03	Chlorodibromomethane 1,2,4-Trichlorobenzene Naphthalene	0.052 0.28 0.42	W-12-S (629-01) W-12-1 (630-01) W-12-D (631-01)	AMEC U qualified the detected 1,2,4-trichlorobenzene results from sample W-12-S (629-01) and the detected naphtalene results from sample W-12-S (629-01), W-12-1 (630-01) and W-12-D (631-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
635-03	1,3-Dichlorobenzene 1,2-Dichlorobenzene 2-Ethyl-1-hexanol	0.091 0.19 5.5	AL6-96 (635-01) AL6-96 (635-02)	AMEC U qualified the detected 2-ethyl-1-hexanol result from sample AL6-96 (635-01) because the sample concentration was less than 5 times the concentration detected in the blank.

TABLE 5.5
Rinsate Blank Detections for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Rinsate Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
628-04	Toluene	0.065	W-12-S (629-01)	AMEC U qualified the detected 4-Isopropyltoluene and 1,2,4-Trichlorobenzene results from sample W-12-S (629-01), the detected toluene, m,p-xylene, o-xylene and naphtalene results from sample W-12-1 (630-01) and the detected m,p-xylene, o-xylene and naphtalene results from sample W-12-D (631-01), because sample concentrations were less than 5 times the concentration detected in the rinsate blank.
	m,p-xylene	0.27	W-12-1(630-01)	
	o-xylene	0.13	W-12-D (631-01)	
	4-Isopropyltoluene	0.24		
	1,2,4-Trichlorobenzene	0.27		
	Naphthalene	0.46		

TABLE 5.6
LCS/LCSD Recoveries for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Affected Samples	Analytes With Recoveries Outside Acceptance Limits	LCS Recovery	LCSD Recovery	Effects on Data Usability
LCS/LCSD 580-5002				
WS-11-125 (601-01) WS-11-161 (602-01) WS-12-125 (603-01)	Dichlorodifluoromethane	68%	65%	AMEC UJ qualified nondetected dichlorodifluoromethane results in the associated samples because of possible low bias in the analytical results.
	Chloromethane	76%	69%	The average chloroethane recovery was within acceptance limits. Data usability is not adversely affected.
LCS/LCSD 580-5004				
WS-12-161 (604-01) RP-11-30 (605-01) RP-11-216 (606-01)	Dichlorodifluoromethane	68%	67%	AMEC UJ qualified the nondetected results from samples WS-12-161 (604-01), RP-11-30 (605-01), and RP-11-216 (606-01) because of possible low bias in the analytical results.
LCS/LCSD 580-5229				
W-03-I (615-01) W-03-D (616-01) W-04-89 (619-01) W-09 (620-01) W-09-86 (621-01)	Dichlorodifluoromethane	74%	69%	The average recovery was within acceptance limits. Data usability is not adversely affected.
	Bromomethane	132%	129%	The recoveries were high and this analyte was not detected in the associated samples. Data usability is not adversely affected.
LCS/LCSD 580-5542				
AL6-96 (635-01) AL6-96 (635-02)	2-Ethyl-1-Hexanol	159%	153%	AMEC J qualified the detected result from sample AL6-96 (635-01) because of a possible high bias in the analytical result.
LCS/LCSD 580-5890				
	2-Ethyl-1-Hexanol Bromomethane	154% 150%	173% 143%	The recoveries were high and these analytes were not detected in the associated samples. Data usability is not adversely affected.

TABLE 5.7
Surrogate Standard Recoveries for Volatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample ID	Surrogates outside acceptance limits	Recovery	Effects on Data Usability
RP-01-65 (614-01)	Bromofluorobenzene (BFB)	75%	AMEC J qualified the detected isopropyl benzene, 1,2,4-trichlorobenzene, 1,2,3-trichlorobenzene, 1,3-dichlorobenzene, and 2-ethyl-1-hexanol results and UJ qualified the nondetected bromoform, bromobenzene, n-propylbenzene, isobutyl alcohol, 1,2,3-trichloropropane, 2-chlorotoluene, 1,3,5-trimethylbenzene, 4-chlorotoluene, tert-butylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene, 4-isopropyltoluene, n-butylbenzene, 1,2-dibromo-3-chloropropane, hexachlorobutadiene, and naphthalene results because of possible low bias in the analytical results.
W-04-89 (619-01)	Trifluorotoluene (TFT)	152%	The recovery was high and target analytes associated with this surrogate compound were not detected. Data usability is not adversely affected.

TABLE 5.8
MS/MSD Recovery and Precision for Volatile Organic Compounds
Winter 2006 Goundwater Monitoring Event
RP - Portland Site

Spiked Sample	Analytes with recoveries outside acceptance limits	Effect on Data Usability
W-11-D (624-01)	2-Ethyl-1-hexanol RPD > 30%	This analyte was not detected in the associated sample. Data usability is not adversely affected.
W-12-S (629-1)	Vnyl chloride (144%/142%) 2-Ethyl-1-hexanol (186%/242%)	The recoveries were high and these analytes are not detected in the associated sample. Data usability is not adversely affected.

TABLE 5.9
LCS/LCSD Recovery Chlorophenoxy Acid Herbicides
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Affected Samples	Analytes With Recoveries Outside Acceptance Limits	LCS Recovery	LCSD Recovery	Effects on Data Usability
LCS/LCSD 580-5036				
WS-11-125 (601-01) WS-11-161 (602-01) WS-12-125 (603-01) WS-12-161 (604-01) WS-11-216 (606-01)	Dalapon	47%	46%	AMEC UJ qualified the nondetected dalapon results from the associated samples because of possible low bias in the analytical results.
LCS/LCSD 580-5066				
RP-11-30 (605-01) RP-11-161 (607-01) RP-07-55 (608-01) RP-07-84 (609-01)	Dalapon	45%	46%	AMEC UJ qualified the nondetected dalapon results from the associated samples because of possible low bias in the analytical results.
RP-07-84 (609-06) RP-07-119 (610-01) RP-07-119 (610-02) RP-07-30 (611-01)	Silvex	66%	82%	The average silvex recovery was within acceptance limits at 74%. Data usability is not adversely affected.
LCS/LCSD 580-5212				
RP-01-31 (612-01) RP-01-51 (613-01) RP-01-65 (614-01)	Dinoseb	65%	65%	AMEC UJ qualified the nondetected dinoseb results from the associated samples because of possible low bias in the analytical results.
LCS/LCSD 580-5177				
W-03-I (615-01) W-03-D (616-01) W-04-89 (619-01) W-09 (620-01) W-09-86 (621-01)	Dalapon	61%	58%	AMEC UJ qualified the nondetected dalapon results from the associated samples because of possible low bias in the analytical results.
LCS/LCSD 580-5243				
W-09-116 (622-01) W-11-B (623-01) W-11-D (624-01)	Bromoxynil	66%	71%	AMEC UJ qualified the nondetected bromoxynil results from the associated samples because of possible low bias in the analytical results.

TABLE 5.10
Surrogate Recoveries for Chlorophenoxy Acid Herbicides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample ID	Surrogates outside acceptance limits	Recovery	Effects on Data Usability
RP-07-84 (609-06) RP-07-119 (610-02)	2,4-Dichlorophenylacetic acid	43% 37%	AMEC J qualified the detected results and UJ qualified all nondetected results because of possible low bias in the analytical results.

TABLE 5.11
MS/MSD Recovery and Precision for Chlorophenoxy Acid Herbicides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Spiked Sample	Analytes with recoveries outside acceptance limits	Effect on Data Usability
W-11-D (624-01)	Dalapon (70%/52%) Dinoseb (89%/52%)	AMEC UJ qualified the nondetected dalapon and dinoseb results from the spiked sample because of possible matrix interference.
W-12-S (629-01)	Dalapon (40%/46%) Bromoxynil (68%/57%)	AMEC UJ qualified the nondetected dalapon and bromoxynil results from the spiked sample because of possible matrix interference.

TABLE 5.12
Initial Calibration for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analytes with Unacceptable ICALs	Effects on Data Usability
ICAL analyzed on March 24, 2006 on instrument AT	
2-nitrophenol 2,4-dichlorophenol 2-nitroaniline pentachlorophenol	AMEC UJ qualified the nondetected results from sample WS-11-125 (601-01), WS-11-161 (602-1), and WS-12-125 (603-1) because of possible bias in the analytical results.
ICAL analyzed on March 27, 2006 on instrument AK	
3-nitroaniline coefficient of determination (COD) < 0.99	AMEC UJ qualified the nondetected results for this analyte from samples WS-12-161 (604-01), RP-11-30 (605-01), RP-11-216 (606-01), RP-11-161 (607-01), RP-07-55 (608-01), RP-07-84 (609-01), RP-07-84 (609-06), RP-07-119 (610-01), RP-07-119 (610-02), RP-07-30 (611-01), RP-01-31 (612-01), RP-01-51 (613-01), RP-01-65 (614-01), W-09-116 (622-01), W-11-B (623-01), W-11-D (624-01), W-11-S (625-01), W-11-I (626-01), W-11-D (627-01), W-11-B (628-01), Rinsate (628-04), W-12-S (629-01), W-12-1 (630-01), W-12-D (631-01), AL6-96 (635-01), AL6-96 (635-02), W-09-86 (636-01), W-09-116 (637-01), W-09 (638-01) because of possible bias in the analytical results.

TABLE 5.13
Continuing Calibration for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte/Problem	Effects on Data Usability
CCAL analyzed March 28, 2006 on instrument AT.	
Isophorone (79%) Benzoic acid (74%) 4-Chloroaniline (69%) 2-Nitroaniline (79%) 3-Nitroaniline (76%) 4-Nitrophenol (79%)	AMEC UJ qualified the nondetected results from samples WS-11-125 (601-01), WS-11-161 (602-01), and WS-12-125 (603-01) because of possible low bias in the analytical results.
CCAL analyzed March 29, 2006 on instrument AK at 10:13	
Benzyl alcohol (79%) n-Nitroso-di-n-propylamine (77%) 4-Nitrophenol (72%)	AMEC UJ qualified the nondetected results from samples RP-01-31 (612-01), RP-01-51 (613-01), RP-01-65 (614-01) because of possible low bias in the analytical results.
CCAL analyzed March 28, 2006 on instrument AK at 13:18.	
Benzyl alcohol (79%) 2-Methylphenol (79%) n-Nitroso-di-n-propylamine (78%) 4-Chloroaniline (75%) 4-Nitrophenol (69%) 4-Nitroaniline (77%) Dibenz (a,h) anthracene (77%)	AMEC UJ qualified the nondetected results from samples RP-07-84 (609-01), RP-07-84 (609-06), RP-07-119 (610-01), RP-07-119 (610-02), and RP-07-30 (611-01) because of possible low bias in the analytical results.
CCAL analyzed March 30, 2006 on instrument AK at 11:26	
Benzyl alcohol (78%) 4-Nitrophenol (73%)	AMEC UJ qualified the nondetected results from samples WS-12-161 (604-01, RP-11-216 (606-01), RP-11-161 (607-01), RP-07-55 (608-01), W-03-I (615-01), W-03-D (616-01), W-04-89 (619-01), W-09 (620-01), and W-09-86 (621-01) because of possible low bias in the analytical results.
CCAL analyzed March 31, 2006 on instrument AK at 9:22	
Benzyl alcohol (77%) 2,4-Dinitrophenol (78%) 4-Nitrophenol (73%)	AMEC UJ qualified the nondetected results from samples RP--11-30 (605-01), W-09-116 (622-01), W-11-B (623-01), W-11-D (624-01) because of possible low bias in the analytical results.
CCAL analyzed April 5, 2006 on instrument AK at 9:48	
4-Nitrophenol (78%)	AMEC UJ qualified the nondetected results from samples W-11-S (625-01), W-11-I (626-01), W-11-D (627-01), W-11-B (628-01), W-12-S (629-01), W-12-1(630-01), W-12-D (631-01), AL6-96 (635-01), AL6-96 (635-02) because of possible low bias in the analytical results.

TABLE 5.13
Continuing Calibration for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte/Problem	Effects on Data Usability
CCAL analyzed April 6, 2006 on instrument AK at 19:17	
n-Nitroso-di-n-propylamine (79%) Hexachlorocyclopentadiene (74%) 2,4_Dinitrophenol (70%) 4-Nitrophenol (73%) 4,6-Dinitro-2-methylphenol (70%) Pentachlorophenol (75%)	AMEC UJ qualified the nondetected results from samples W-09-86 (636-01), W-09-116 (637-01) and W-09 (638-01) because of possible low bias in the analytical results.

TABLE 5.14
Laboratory Blanks Detections for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
MB 580-4980	Di-n-butylphthalate	0.42	WS-11-125 (601-01) WS-11-161 (602-01) WS-12-125 (603-01)	AMEC U qualified the detected di-n-butylphthalate results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
	Bis(2-ethylhexyl)phthalate	0.63	WS-12-125 (603-01)	AMEC U qualified the detected bis(2-ethylhexyl)phthalate results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5033	Di-n-butylphthalate	0.36	WS-12-161 (604-01)	AMEC U qualified the detected di-n-butylphthalate results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
	Bis(2-ethylhexyl)phthalate	0.6	RP-11-216 (606-01)	Bis(2-ethylhexyl) phthalate was not detected in the associated samples. Data ussability is not adversely affected.
MB 580-5087	Di-n-butyl phthalate	0.36	RP-07-84 (609-01) RP--07-84 (609-06) RP-07-119 (610-01) RP-07-119 (610-02) RP-07-30 (611-01)	AMEC U qualified the detected di-n-butylphthalate results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5238	Di-n-butyl phthalate	0.37	W-09-116 (622-01) W-11-B (623-01) W-11-D (624-01)	AMEC U qualified the detected di-n-butylphthalate results from samples W-09-116 (622-01) and W-11-B (623-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
	Bis(2-ethylhexyl) phthalate	3.3		Bis(2-ethylhexyl) phthalate was not detected in the associated samples. Data ussability is not adversely affected.
MB 580-5359	Di-n-butyl phthalate	0.48	Rinsate (628-04) W-12-S (629-01) W-12-1 (630-01) W-12-D (631-01) AL6-96 (635-01) AL6-96 (635-02)	AMEC U qualified the detected di-n-butylphthalate results from samples W-12-S (629-01), W-12-1 (630-01), AL6-96 (635-01) and AL6-96 (635-02) because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5411	Di-n-butyl phthalate	2.4	W-09-86 (636-01) W-09-116 (637-01) W-09 (638-01)	AMEC U qualified the detecteddi-n-butylphthalate results from these samples because the sample concentrations were less than 5 times the concentration detected in the blank.

TABLE 5.15
LCS Recovery for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Affected Samples	Analytes With Recoveries Outside Acceptance Limits	LCS Recovery	LCSD Recovery	Effects on Data Usability
LCS/LCSD 580-4980				
WS-11-125 (601-01)	Phenol	28%	29%	AMEC UJ qualified nondetected for these analytes in the associated samples because of possible low bias in the analytical results.
WS-11-161 (602-01)	Benzyl alcohol	53%	61%	
WS-12-125 (603-01)	3&4-Methylphenol	62%	65%	
	Isophorone	62%	67%	
	Benzoic acid	14%	11%	
	4-Nitrophenol	58%		
	3-Nitroaniline	125%	134%	The recovery for this analyte was high and it was not detected in the associated samples. Data usability is not adversely affected.
LCS/LCSD 580-5033				
WS-12-161 (604-01)	Phenol	41%	39%	AMEC UJ qualified the nondetected results for these analytes in the associated samples because of possible low bias in the analytical results.
RP-11-30 (605-01)	4-Nitrophenol	61%	61%	
RP-11-216 (606-01)				
RP--11-161 (607-01)	3-Nitroaniline	124%	137%	The recoveries for these analytes were high and they were not detected in the associated samples. Data usability is not adversely affected.
RP-07-55 (608-01)	N-Nitrosodiphenylamine	136%	134%	
	Bis(2-ethylhexyl) phthalate	139%	133%	
	Carbazole	133%	133%	
LCS/LCSD 580-5087				
RP-07-84 (609-01)	Phenol	30%	34%	AMEC UJ qualified the nondetected results for these analytes in the associated samples because of possible low bias in the analytical results.
RP-07-84 (609-06)	Benzyl alcohol	60%	74%	
RP-07-119 (610-01)	3&4 Methylphenol	66%	76%	
RP-07-119 (610-02)	4-Nitrophenol	52%	50%	
RP-07-30 (611-01)	Bis(2-ethylhexyl) phthalate	147%	122%	The recovery for this analyte was high and it was not detected in the associated samples. Data usability is not adversely affected.
LCS/LCSD 580-5128				
RP-01-31 (612-01)	Phenol	35%	34%	AMEC UJ qualified the nondetected results for these analytes in the associated samples because of possible low bias in the analytical results.
RP-01-51 (613-01)	Benzyl alcohol	68%	69%	
RP-01-65 (614-01)	4-Nitrophenol	59%	61%	
	N-Nitrosodiphenylamine	135%	135%	AMEC J qualified the detected N-nitrosodiphenylamine in sample RP-01-51 (613-01) because of possible high bias in the analytical results.
	3-Nitroaniline	132%	125%	The recoveries for these analytes were high and they were not detected in the associated samples. Data usability is not adversely affected.
	Carbazole	130%	135%	

TABLE 5.15
LCS Recovery for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Affected Samples	Analytes With Recoveries Outside Acceptance Limits	LCS Recovery	LCSD Recovery	Effects on Data Usability
LCS/LCSD 580-5167				
W-03-I (615-01) W-03-D (616-01) W-04-89 (619-01) W-09 (620-01) W-09-86 (621-01)	Phenol Benzyl alcohol 2-Methylphenol 3 & 4 Methylphenol 4-Nitrophenol	28% 56% 70% 61% 41%	27% 50% 66% 57% 38%	AMEC UJ qualified the nondetected results for these analytes in the associated samples because of possible low bias in the analytical results.
	3-Nitroaniline 2,4-Dinitrophenol	130% 148%	135% 146%	The recoveries for these analytes were high and they were not detected in the associated samples. Data usability is not adversely affected.
LCS/LCSD 580-5238				
W-09-116 (622-01) W-11-B (623-01) W-11-D (624-01)	Phenol Benzyl alcohol 4-Nitrophenol Pentachlorophenol	32% 63% 47% 62%	35% 66% 43% 61%	AMEC UJ qualified the nondetected results for these analytes in the associated samples because of possible low bias in the analytical results.
	Di-n-octyl phthalate	71%	69%	The average di-n-octyl phthalate recovery was within acceptance limits at 70%. Data usability is not adversely affected.
LCS/LCSD 580-5285				
W-11-S (625-01) W-11-I (626-01) W-11-D (627-01) W-11-B (628-01)	Phenol Benzyl alcohol 4-Nitrophenol	34% 69% 59%	33% 64% 48%	AMEC UJ qualified the nondetected results for these analytes in the associated samples because of possible low bias in the analytical results.
	Pentachlorophenol Carbazole	79% 131%	67% 120%	The average pentachlorophenol and carbazole recoveries were within acceptance limits at 73% and 125%, respectively. Data usability is not adversely affected.
LCS/LCSD 580-5359				
W-12-S (629-01) W-12-1 (630-01) W-12-D (631-01) AL6-96 (635-01) AL6-96 (635-02)	Phenol 3&4 Methylphenol Benzyl alcohol 4-Chloroaniline	30% 63% 61% 89%	32% 72% 47% 15%	AMEC J qualified the detected phenol and 3&4-methylphenol results from sample W-12-S (629-01), the detected 3&4-methylphenol result from sample W-12-1(630-01), and the detected benzyl alcohol result from sample AL6-96 (635-02) because of possible low bias in the analitycal results.
	2-Nitroaniline 3-Nitroaniline 4-Nitrophenol 4-Nitroaniline Pentachlorophenol	94% 116% 51% 102% 70%	57% 22% 48% 35% 69%	AMEC UJ qualified the nondetected results for these analytes in the associated samples because of possible low bias in the analytical results.

TABLE 5.15
LCS Recovery for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Affected Samples	Analytes With Recoveries Outside Acceptance Limits	LCS Recovery	LCSD Recovery	Effects on Data Usability
LCS/LCSD 580-5411				
W-09-86 (636-01)	Di-n-butyl phthalate	151%	140%	AMEC J qualified the detected di-n-butyl phthalate results from samples W-09-86 (636-01), W-09-116 (637-01), and W-09 (638-01) because of possible high bias in the analitycal results.
W-09-116 (637-01) W-09 (638-01)	Phenol	30%	30%	AMEC UJ qualified the nondetected results for these analytes in the associated samples because of possible low bias in the analytical results.
	Benzyl alcohol	59%	56%	
	3&4 Methylphenol	65%	64%	
	Hexachlorocyclopentadiene	62%	65%	
	2,4-Dinitrophenol	55%	53%	
	4-Nitrophenol	44%	43%	
	4,6-Dinitro-2-methylphenol	62%	65%	
	Pentachlorophenol	64%	65%	
	N-Nitrosodiphenylamine	137%	128%	The recoveries for these analytes were high and they were not detected in the associated samples. Data usability is not adversely affected.
	Carbazole	136%	129%	

TABLE 5.16
MS/MSD Recovery and Precision for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Spiked Sample	Analytes with recoveries outside acceptance limits	Effect on Data Usability
W-11-D (624-01)	Phenol (11%/17%) 2-Chlorophenol (53%/67%) Benzyl alcohol (46%/48%) 2-Methylphenol (38%/51%) 3&4 Methylphenol (30%/44%) 4-Chloro-3-methylphenol (50%/63%) 2,4,6-Trichlorophenol (41%/67%) 2,4-Dinitrophenol (0%/134%) 4-Nitrophenol (24%/28%) 4,6-Dinitro-2-methylphenol (30%/70%) Pentachlorophenol (22%/61%)	AMEC UJ qualified the nondetected results for these analytes from the spiked sample because of possible matrix interference.
W-12-S (629-01)	Phenol(0%/0%)	AMEC R qualified and rejected the phenol result from this sample because of possible matrix interference. It should be noted that low recovery was observed in the associated LCS which may indicate problems in the analytical system rather than matrix interference contributed to the very low MS recoveries
	2-Chlorophenol (55%/58%) Benzyl alcohol (49%/48%) 2-Methylphenol (23%/50%) 3&4 Methylphenol (32%/45%) 2,4-Dichlorophenol (41%/72%) Naphthalene (53%/50%) 4-Nitrophenol (38%/39%) 4-Nitroaniline (62%/56%)	AMEC J qualified the detected 2-chlorophenol, 2-methylphenol, 3&4 methylphenol, 2,4-dichlorophenol and naphthaplene results from the spiked sample because of possible matrix interference. AMEC UJ qualified the nondetected benzyl alcohol, 4-nitrophenol, and 4-nitroaniline results from the spiked sample because of possible matrix interference.
	2,4-Dinitrophenol (161%/167%)	Recoveries were high and this analyte was not detected in the unspiked sample. Data usability is not adversely affected.

TABLE 5.17
Surrogate Recoveries for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample ID	Internal Standard Outside Acceptance Limits	Recovery	Effects on Data Usability
WS-11-125 (601-01)	2-Fluorophenol Phenol-d_5 (undiluted analysis)	52% 18%	AMEC UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
WS-11-161 (602-01)	Phenol-d_5 2-Fluorophenol	9% 17%	AMEC R qualified and rejected the nondetected acid extractable compounds (phenols) results the presence or absence of this analytical could not be definitively determined.
WS-12-125 (603-01)	Phenol-d_5 2-Fluorophenol	7% 16%	
WS-12-161 (604-01)	Phenol-d_5 2-Fluorophenol	9% 16%	
RP-11-30 (605-01)	Phenol-d_5 2-Fluorophenol	8% 17%	AMEC R qualified and rejected the nondetected acid extractable compounds (phenols) results the presence or absence of this analytical could not be definitively determined.
RP-11-216 (606-01)	Phenol-d_5 2-Fluorophenol	10% Matrix Interference	AMEC UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
RP-11-161 (607-01)	Phenol-d_5 2-Fluorophenol	10% 20%	AMEC J qualified the detected 3 & 4 methylphenol result and UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
RP-07-55 (608-01)	Phenol-d_5 2-Fluorophenol	9% 18%	AMEC R qualified and rejected the nondetected acid extractable compounds (phenols) results the presence or absence of this analytical could not be definitively determined.
RP-07-84 (609-01)	Phenol-d_5 2-Fluorophenol	19% Matrix Interference	AMEC J qualified the detected 2,4-dichlorophenol result and UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
RP-07-84 (609-06)	Phenol-d_5 2-Fluorophenol	18% Matrix Interference	
RP-07-119 (610-01)	Phenol-d_5	18%	AMEC UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
	2-Fluorophenol	195%	AMEC J qualified the detected 2,4-dichlorophenol result because of possible high or low bias in the analytical result.
RP-07-119 (610-02)	Phenol-d_5	16%	AMEC UJ qualified all nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
	2-Fluorophenol	185%	AMEC J qualified the detected 2,4-dichlorophenol result because of possible high or low bias in the analytical result.

TABLE 5.17
Surrogate Recoveries for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample ID	Internal Standard Outside Acceptance Limits	Recovery	Effects on Data Usability
RP-07-30 (611-01)	Phenol-d_5 2-Fluorophenol	15% 24%	AMEC UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
RP-01-31 (612-01)	Phenol-d_5 2-Fluorophenol	20% 37%	
RP-01-51 (613-01)	Phenol-d_5	7%	AMEC R qualified and rejected the nondetected acid extractable compounds (phenols) results the presence or absence of this analytical could not be definitively determined.
	2-Fluorophenol	Matrix Interference	AMEC J qualified the detected 2,4-dichlorophenol result because of possible low bias in the analytical result.
RP-01-65 (614-01)	Phenol-d_5 2-Fluorophenol	12% Matrix Interference	AMEC J qualified the detected 2,4-dichlorophenol result and UJ qualified all nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
W-09-116 (622-01)	Phenol-d_5 2-Fluorophenol	15% 29%	AMEC J qualified the detected 2-methylphenol and 3&4-methylphenol results and UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
W-11-B (623-01)	Phenol-d_5 2-Fluorophenol	15% 34%	AMEC UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
W-11-D (624-01)	Phenol-d_5 2-Fluorophenol	10% 24%	
W-11-S (625-01)	Phenol-d_5 2-Fluorophenol	27% 12%	AMEC J qualified the detected phenols results and UJ qualified the nondetected phenols results because of possible low bias in the analytical results.
W-11-I (626-01)	Phenol-d_5 2-Fluorophenol	40% 21%	
W-11-D (627-01)	Phenol-d_5	7%	AMEC R qualified and rejected the nondetected acid extractable compounds (phenols) results the presence or absence of this analytical could not be definitively determined.
	2-Fluorophenol	Matrix Interference	AMEC J qualified the detected 2,4-dichlorophenol result because of possible low bias in the analytical result.
W-11-B (628-01)	Phenol-d_5 2-Fluorophenol	18% Matrix Interference	AMEC J qualified the detected phenols results and UJ qualified the nondetected phenols results because of possible low bias in the analytical results.
W-12-S (629-01)	Phenol-d_5 2-Fluorophenol	12% 23%	AMEC J qualified the detected acid extractable compounds (phenols) results and UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias

TABLE 5.17
Surrogate Recoveries for Semivolatile Organic Compounds
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample ID	Internal Standard Outside Acceptance Limits	Recovery	Effects on Data Usability
W-12-1 (630-01)	Phenol-d_5 2-Fluorophenol 2,4,6-Tribromophenol	5% 11% 58%	AMEC R qualified and rejected the nondetected acid extractable compounds (phenols) results the presence or absence of this analytical could not be definitively determined. AMEC J qualified the detected 3&4-methylphenol result because of possible low bias in the analytical result.
W-12-D (631-01)	Phenol-d_5 2-Fluorophenol	12% 23%	AMEC UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results.
AL6-96 (635-01)	Phenol-d_5 2-Fluorophenol	10% Matrix Interference	AMEC UJ qualified the nondetected acid extractable compounds (phenols) results because of possible low bias in the analytical results. AMEC J qualified the detected 2-methylphenol, 2,4-dichlorophenol and 4-chloro-3-methylphenol results because of possible low bias in the analytical result.
AL6-96 (635-02)	Phenol-d_5 2-Fluorophenol	9% Matrix Interference	AMEC R qualified and rejected the nondetected acid extractable compounds (phenols) results the presence or absence of this analytical could not be definitively determined. AMEC J qualified the detected 2-methylphenol, 2,4-dichlorophenol and 4-chloro-3-methylphenol results because of possible low bias in the analytical result.
W-09-86 (636-01)	Phenol-d_5 2-Fluorophenol 2,4,6-Tribromophenol	5% Matrix Interference 43%	AMEC R qualified and rejected the nondetected acid extractable compounds (phenols) results the presence or absence of this analytical could not be definitively determined.
W-09-116 (637-01)	Phenol-d_5 2-Fluorophenol	6% Matrix Interference	AMEC R qualified and rejected the nondetected acid extractable compounds (phenols) results the presence or absence of this analytical could not be definitively determined. AMEC J qualified the detected acid extractable compounds (phenols) results because of possible low bias in the analytical result.
W-09 (638-01)	Phenol-d_5 2-Fluorophenol	18% 189%	AMEC UJ qualified all nondetected results for the acid extractable compounds (phenols) because of possible low bias in the analytical results. AMEC J qualified the detected 2-methylphenol and 2,4-dimethylphenol results because of possible low or high bias in the analytical result.

TABLE 5.18
Continuing Calibration for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte/Problem	Effects on Data Usability
CCAL analyzed March 30, 2006 on instrument ECD.	
Heptachlor (128%/124%)	AMEC J qualified the detected result from sample WS-11-125 (601-01) because of a possible high bias in the analytical result.
CCAL analyzed March 31, 2006 at 15:30 on instrument ECD	
4,4'-DDT (125%/125%)	AMEC J qualified the detected 4,4'-DDT result from sample WS-11-161 (602-01), RP-07-84 (609-06), RP-07-119 (610-01), RP-07-30 (611-01) because of a possible high bias in the analytical result.
Heptachlor (127%/124%)	AMEC J qualified the detected heptachlor result from sample RP-07-84 (609-01), RP-07-84 (609-06) because of a possible high bias in the analytical result.
Methoxychlor (137%/133%)	Methoxychlor recoveries were high and these analytes were not detected in the associated sample. Data usability is not adversely affected.
CCAL analyzed March 31, 2006 at 19:05 on instrument ECD.	
delta-BHC (79%/87%)	AMEC UJ qualified the nondetected results from samples RP-01-31 (612-01), RP-01-51 (613-01), and RP-01-65 (614-01) and J qualified the detected results from sample RP-07-84 (609-06) and RP-07-30 (611-01) because of possible low bias in the analytical results.
Heptachlor (125%/110%)	AMEC J qualified the detected heptachlor result from sample RP-07-84 (609-01), RP-07-84 (609-06), RP-01-51 (613-01) and RP-01-65 (614-01) because of a possible high bias in the analytical result.
CCAL analyzed April 4, 2006 on instrument ECD	
Endrin (122%)	The high recovery was observed on the primary column and the results were reported from the secondary column. Data usability is not adversely affected.
CCAL analyzed April 10, 2006 on instrument ECD at 16:48	
Endrin (78%/82%)	AMEC J qualified the detected endrin results from sample W-09-116 (622-01), W-11-B (623-01), W-11-D (624-01) because of possible low bias in the analytical results.
CCAL analyzed April 10, 2006 on instrument ECD at 17:07	
4,4'-DDT (119%/124%)	AMEC J qualified the detected results from samples W-11-I (626-01) and W-11-D (627-01) because of possible high bias in the analytical results.
Endrin Ketone (116%)	AMEC J qualified the detected results from samples W-11-S (625-01) and W-11-I (626-01) because of possible high bias in the analytical results.
Methoxychlor (116%/121%) Endrin Aldehyde (118%) Heptachlor (131%/130%)	The recoveries were high and these analytes were not detected in the associated samples. Data usability is not adversely affected.

TABLE 5.18
Continuing Calibration for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte/Problem	Effects on Data Usability
CCAL analyzed April 10, 2006 on instrument ECD at 18:45	
4,4'-DDT (129%/122%)	AMEC J qualified the detected results from samples W-11-I (626-01) and W-11-D (627-01) because of possible high bias in the analytical results.
Endrin Ketone (121%/118%)	AMEC J qualified the detected results from samples W-11-S (625-01) and W-11-I (626-01) because of possible high bias in the analytical results.
Methoxychlor (122%/128%) Endrin Aldehyde (118%/121%) Heptachlor (129%/122%)	The recoveries were high and these analytes were not detected in the associated samples. Data usability is not adversely affected.
CCAL analyzed April 13, 2006 on instrument ECD at 09:09	
4,4'-DDT (127%)	AMEC J qualified the detected results from samples W-11-B (628-01), because of possible high bias in the analytical results.
CCAL analyzed April 18, 2006 on instrument ECD at 15:44	
gamma-Chlordane (104%/83%)	AMEC J qualified the detected result from sample W-09-116 (637-01) because of a possible low bias in the analytical result.
Endrin (121%/101%)	AMEC J qualified the detected result from sample W-09-116 (637-01) because of a possible high bias in the analytical result.
CCAL analyzed April 18, 2006 on instrument ECD at 18:21	
Methoxychlor (121%/132%) Endrin (106%/116%)	AMEC J qualified the detected endrin results from samples W-09-86 (636-01) and W-09 (638-01) because of possible high bias in the analytical results.
Endrin Ketone (116%/119%)	AMEC J qualified the detected result from sample W-09 (638-01) because of possible high bias in the analytical results.
delta-BHC (113%116%)	AMEC J qualified the detected result from sample W-09-116 (637-01) because of possible high bias in the analytical results.
4,4'-DDT (112%/122%)	AMEC J qualified the detected result from sample W-09 (638-01) because of possible high bias in the analytical results.
CCAL analyzed April 19, 2006 on instrument ECD at 09:36	
alpha-BHC (117%) Heptachlor (128%/121%)	AMEC J qualified the detected results from samples AL6-96 (635-01) and AL6-96 (635-02) because of possible high bias in the analytical results.
Aldrin (118%)	AMEC J qualified the detected results from sample AL6-96 (635-02) because of possible high bias in the analytical results.

TABLE 5.19
Laboratory Blanks Detections for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
MB 580-5012	4,4'-DDT Endrin	0.002 0.0073	WS-11-125 (601-01) WS-12-125 (603-01) WS-12-161 (604-01) WS-11-216 (606-01) WS-11-161 (607-01) RP-07-55 (608-01)	AMEC U qualified the endrin results from these samples and the 4,4'-DDT results from samples WS-11-125 (601-01), WS-12-161 (604-01), WS-11-161 (607-01), RP-07-55 (608-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5072	4,4'-DDT	0.002	RP-07-119 (610-01)	AMEC U qualified the 4,4'-DDT results because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5187	4,4'-DDT Endrin	0.015 0.0042	W-03-I (615-01) W-09 (620-01) W-09-86 (621-01)	AMEC U qualified the endrin results from these samples and the 4,4'-DDT results from samples W-03-I (615-01), W-09-86 (621-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5253	4,4'-DDT Endrin Endrin Ketone	0.05 0.0084 0.0033	W-09-116 (622-01) W-11-B (623-01) W-11-D (624-01) W-11-S (625-01) W-11-I (626-01)	AMEC U qualified the 4,4'-DDT results from samples W-09-116 (622-01), W-11-B (623-01), W-11-I (626-01), W-11-B (628-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
			W-11-B (628-01)	AMEC U qualified the endrin result from sample W-11-D (624-01), W-11-B (628-01) and the endrin ketone results from samples W-11-B (623-01), W-11-D (624-01), W-11-S (625-01), W-11-I (626-01), W-11-B (628-01) because the sample concentrations were less than 5 times the concentration detected in the blank.
MB 580-5348	Endrin	0.0042	AL6-96 (635-01) AL6-96 (635-02)	Endrin was not detected in the associated samples. Data usability is not adversely affected.
			W-12-S(629-01) W-12-1(630-01) W-12-D(631-01)	AMEC U qualified the endrin results from samples W-12-S(629-01), W-12-1(630-01) and W-12-D(631-01), because the sample concentrations were less than 5 times the concentration detected in the blank
MB 580-5429	4,4'-DDT	0.0096	W-09-86 (636-01) W-09-116 (637-01) W-09 (638-01)	4,4'-DDT was not detected in the associated samples or was detected at a concentration greater than 5 times the concentration detected in the blank. Data usability is not adversely affected.

TABLE 5.20
LCS Recovery for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Affected Samples	Analytes With Recoveries Outside Acceptance Limits	LCS Recovery	LCSD Recovery	Effects on Data Usability
LCS/LCSD 580-5072				
WS-11-161 (602-01) RP-07-84 (609-01) RP-07-84 (609-06) RP-07-119 (610-01) RP-07-119 (610-02) RP-07-30 (611-01)	alpha-BHC	61%	66%	AMEC J qualified the detected results from samples RP-07-84 (609-01), RP-07-84 (609-06), RP-07-119 (610-01), RP-07-119 (610-02) and UJ qualified the nondetected results from sample WS-11-161 (602-01), RP-07-30 (611-01) because of possible low bias in the analytical results.
	Endosulfan sulfate	54%	61%	AMEC UJ qualified the nondetected results from sample WS-11-161 (602-01), RP-07-84 (609-01), RP-07-84 (609-06), RP-07-119 (610-01), RP-07-119 (610-02), RP-07-30 (611-01) because of possible low bias in the analytical results.
	delta-BHC	5%	5%	AMEC R qualified and rejected the nondetected delta-BHC results from sample WS-11-161 (602-01) because the presence or absence of this compound could not be determined.
				AMEC J qualified the detected results from samples RP-07-84 (609-01), RP-07-84 (609-06), RP-07-119 (610-01), RP-07-119 (610-02), and RP-07-30 (611-01) because of possible low bias in the analytical results.
LCS/LCSD 580-5150				
	Endosulfan sulfate	108%	132%	The LCSD recovery was high and this analyte was not detected in the associated samples. Data usability is not adversely affected
LCS/LCSD 580-5253				
W-09-116 (622-01) W-11-B (623-01) W-11-D (624-01) W-11-S (625-01) W-11-I (626-01) W-11-D (627-01) W-11-B (628-01)	Aldrin	120%	144%	AMEC J qualified the detected 4,4'-DDD and endosulfan II results from sample W-09-116 (622-01), the detected delta-BHC; 4,4'-DDD; endosulfan II; endrin ketone results from sample W-11-B (623-01), and the detected endrin ketone results from sample W-11-D (624-01), W-11-S (625-01), W-11-I (626-01), W-11-B (628-01); the detected alpha-BHC and 4,4'-DDD results from sample W-11-D (627-01) because of possible high bias in the analytical results.
	alpha-BHC	113%	134%	
	beta-BHC	109%	132%	
	delta-BHC	136%	167%	
	gamma-BHC	117%	139%	
	4,4'-DDD	113%	141%	
	Dieldrin	112%	138%	
	Endosulfan II	121%	149%	
	Endosulfan sulfate	114%	145%	
	Endrin Aldehyde	123%	155%	
	Methoxychlor	141%	165%	
	Endrin Ketone	114%	143%	

TABLE 5.20
LCS Recovery for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Affected Samples	Analytes With Recoveries Outside Acceptance Limits	LCS Recovery	LCSD Recovery	Effects on Data Usability
LCS/LCSD 580-5348				
	delta-BHC	69%	80%	The average recoveries (75%, 74%, 71%, and 74%) for these analytes were within acceptance limits. Data usability is not adversely affected.
	Endosulfan I	69%	78%	
	alpha-Chlordane	67%	75%	
	gamma-Chlordane	69%	78%	

TABLE 5.21
Surrogate Recoveries for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample ID	Surrogates outside acceptance limits	Recovery	Effects on Data Usability
WS-11-125 (601-01)	Decachlorobiphenyl (DBC)	29%/30%	AMEC J qualified the detected OCP results and UJ qualified the nondetected OCP results from this sample because of a possible low bias in the analytical results.
W-11-B (623-01)	DBC	50%/50%	AMEC J qualified the detected OCP results and UJ qualified the nondetected OCP results from this sample because of a possible low bias in the analytical results.
W-11-S (625-01)	DBC	58%/56%	AMEC J qualified the detected OCP results and UJ qualified the nondetected OCP results from this sample because of a possible low bias in the analytical results.
W-11-I (626-01)	DBC	40%/41%	AMEC J qualified the detected OCP results and UJ qualified the nondetected OCP results from this sample because of a possible low bias in the analytical results.
AL6-96 (635-01)	Tetrachloro-m-xylene (TCMX)	147%	AMEC J qualified the detected OCP results from this sample because of a possible high bias in the analytical results.
AL6-96 (635-02)	TCMX	149%	AMEC J qualified the detected OCP results from this sample because of a possible high bias in the analytical results.
W-12-S(629-01)	DBC	22%	AMEC J qualified the detected OCP results and UJ qualified the nondetected OCP results from this sample because of a possible low bias in the analytical results.
W-09 (638-01)	DBC	41%	AMEC J qualified the detected OCP results and UJ qualified the nondetected OCP results from this sample because of a possible low bias in the analytical results.

TABLE 5.22
MS/MSD Recovery and Precision for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Spiked Sample	Analytes with recoveries outside acceptance limits	Effect on Data Usability
W-11-D (624-01)	alpha-BHC (53%/56%)	AMEC UJ qualified the nondetected alpha-BHC and endosulfan sulfate results from this sample because of possible matrix interference.
	Endosulfan sulfate (42%/36%)	
	delta-BHC (4%/3%)	AMEC R qualified and rejected the nondetected delta-BHC result from this sample because of possible matrix interference.
W-12-S (629-01)	4,4'-DDD (54%/61%) alpha-Chlordane (56%/63%)	AMEC J qualified the detected 4,4'-DDD and alpha-chlordane results from this sample because of possible matrix interference.

TABLE 5.23
Data Reporting and Analitical Procedures for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample ID	Analytes with >40%D between results reported from the primary and secondary GC columns. AMEC N qualified the results for these analytes because their presence in the associated samples is uncertain.
WS-11-125 (601-01)	gamma-BHC (Lindane) 4,4'-DDT
WS-11-161 (602-01)	Endosulfan II 4,4'-DDT
WS-12-25 (603-01)	alpha-BHC Heptachlor epoxide
WS-12-161 (604-01)	Endosulfan I 4,4'-DDE Dieldrin Endrin 4,4'-DDD 4,4'-DDT
RP-11-216 (606-01)	alpha-BHC alpha-Chlordane
RP-07-55 (608-01)	Endosulfan II
RP-07-84 (609-01)	Aldrin alpha-BHC delta-BHC 4,4'-DDD 4,4'-DDE Heptachlor Epoxide
RP-07-84 (609-06)	alpha-BHC delta-BHC gamma-BHC (Lindane) 4,4'-DDD 4,4'-DDE 4,4'-DDT Endosulfan I Heptachlor Epoxide
RP-07-119 (610-01)	alpha-BHC delta-BHC 4,4'-DDT
RP-07-119 (610-02)	alpha-BHC delta-BHC

TABLE 5.23
Data Reporting and Analitical Procedures for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample ID	Analytes with >40%D between results reported from the primary and secondary GC columns. AMEC N qualified the results for these analytes because their presence in the associated samples is uncertain.
RP-07-30 (611-01)	4,4'-DDT
RP-01-51 (613-01)	alpha-BHC Heptachlor Endrin
W-03-I (615-01)	beta-BHC Heptachlor Endosulfan II 4,4'-DDT
W-04-89 (619-01)	beta-BHC
W-09 (620-01)	gamma-BHC (Lindane) Dieldrin Endrin Endrin Ketone
W-09-116 (622-01)	Heptachlor Heptachlor Epoxide alpha-Chlordane 4,4'-DDE 4,4'-DDD 4,4'-DDT
W-11-B (623-01)	delta-BHC Heptachlor Epoxide Endosulfan II 4,4'-DDT
W-11-D (624-01)	beta-BHC
W-11-I (626-01)	4,4'-DDT
W-11-D (627-01)	alpha-BHC Endrin 4,4'-DDD alpha-Chlordane
W-11-B (628-01)	4,4'-DDT Endrin Ketone

TABLE 5.23
Data Reporting and Analitical Procedures for Organochlorine Pesticides
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample ID	Analytes with >40%D between results reported from the primary and secondary GC columns. AMEC N qualified the results for these analytes because their presence in the associated samples is uncertain.
AL6-96 (635-01)	alpha-BHC delta-BHC Heptachlor alpha-Chlordane 4,4'-DDE Endrin Ketone
AL6-96 (635-02)	alpha-BHC Heptachlor Aldrin alpha-Chlordane
W-12-S(629-01)	gamma-Chlordane alpha-Chlordane 4,4'-DDE Endrin 4,4'-DDT endrin aldehyde
W-12-1(630-01)	Endosulfan II
W-09-116 (637-01)	beta-BHC delta-BHC Heptachlor gamma-Chlordane 4,4'-DDE Endrin Endosulfan II
W-09 (638-01)	gamma-Chlordane alpha-Chlordane Endrin Endosulfan II 4,4'-DDT Endosulfan sulfate Endrin Ketone

TABLE 5.24
Laboratory Blanks Detections for Metals
Winter 2006 Groundater Monitoring Event
RP - Portland Site

Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
MB 580-5040	Total Copper Total Lead	0.027 0.01	WS-11-125 (601-01) WS-11-161 (602-01) WS-12-125 (603-01)	Analytes were either not detected or concentrations in the associated samples were more than 5 times the concentrations detected in the blanks or; data usability is not adversely affected.
MB 580-5148	Dissolved Magnesium Dissolved Zinc	52 4.6		
MB 580-5060	Dissolved Chromium	0.031		
MB 580-5157	Dissolved Lead Dissolved Copper Dissolved Nickel	0.005 0.076 0.011	WS-12-161 (604-01) RP-11-30 (605-01) RP-11-216 (606-01) RP-11-161 (607-01) RP-07-55 (608-01) RP-07-84 (609-01) RP-07-84 (609-06) RP-07-119 (610-01)	AMEC U qualified the total lead and dissolved copper results from sample WS-12-161 (604-01), RP-11-161 (607-01) because the concentrations in the associated samples were less than 5 times the concentrations detected in the blank.
MB 580-5162	Dissolved Manganese	0.99	RP-07-119 (610-02)	Dissolved magnesium concentrations in the associated samples were more than 5 times the concentration detected in the blank; data usability is not adversely affected.
MB 580-5184	Total Iron Total Magnesium Total Potassium Total Zinc Total Arsenic Total Copper Total Lead Total Nickel	16 68 37 6.8 0.14 0.027 0.019 0.02	RP-07-30 (611-01)	AMEC U qualified the total arsenic result from sample RP-11-30 (605-01) and the total lead results from sample RP-07-55 (608-01), RP-07-84 (609-01), RP-07-84 (609-06), RP-07-119 (610-01), RP-07-119 (610-02), and RP-07-30 (611-01) because the concentrations in the associated samples were less than 5 times the concentrations detected in the blank.
MB 580-5263	Total Potassium Total Zinc Total Copper Total Lead Total Nickel	270 15 0.11 0.015 0.03	RP-01-31 (612-01) W-03-I (615-01) W-03-D (616-01) W-04-89 (619-01) W-09-86 (621-01) W-09-116 (622-01) W-11-B (623-01) W-11-D (624-01)	AMEC U qualified the total zinc results from sample RP-01-31 (612-01), W-03-I (615-01), W-03-D (616-01), W-04-89 (619-01), W-09-86 (621-01), W-09-116 (622-01), W-11-B (623-01), W-11-D (624-01) because the concentrations in the associated samples were less than 5 times the concentrations detected in the blank.

TABLE 5.24
Laboratory Blanks Detections for Metals
Winter 2006 Groundater Monitoring Event
RP - Portland Site

Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
MB 580-5373	Dissolved Magnesium Dissolved Potassium Dissolved Zinc	45 81 6	W-19 (620-01)	AMEC U qualified the total zinc results from sample W-19 (620-01) because the concentrations in the associated samples were less than 5 times the concentrations detected in the blank.
MB 580-5410	Dissolved Potassium	62	W-11-S (625-01) W-11-I (626-01) W-11-D (627-01) W-11-B (628-01) W-12-S (629-01) W-12-1 (630-01) W-12-D (631-01) AL6-96 (635-01) AL6-96 (635-02)	Potassium concentrations in the associated samples were more than 5 times the concentration detected in the blank; data usability is not adversely affected.
MB 580-5468	Total Copper Total Lead	0.039 0.013	W-12-S (629-01) W-12-1 (630-01) W-12-D (631-01) W-11-S (625-01) W-11-I (626-01) W-11-D (627-01) W-11-B (628-01) AL6-96 (635-01) AL6-96 (635-02)	Analyte concentrations in the associated samples were more than 5 times the concentration detected in the blank; data usability is not adversely affected.
MB 580-5718	Total Aluminum Total Lead Total Nickel	40 0.005 0.011	W-09-86 (636-01) W-09-116 (637-01)	AMEC U qualified the total aluminum results from samples W-09-86 (636-01) and W-09-116 (637-01) because the concentrations in the associated samples were less than 5 times the concentrations detected in the blank.
MB 580-5639	Dissolved Sodium	840	W-09-86 (636-01) W-09-116 (637-01) W-09 (638-01)	Sodium concentration in the associated samples were more than 5 times the concentration detected in the blank; data usability is not adversely affected.

TABLE 5.25
Rinsate Blank Detections for Metals
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Rinsate Blank ID	Detected Analytes	Analyte Concentration (µg/L)	Affected Samples	Effects on Data Usability
Rinsate (628-04)	Total Calcium	57	W-12-S (629-01)	AMEC U qualified the detected total chromium, total copper, dissolved lead, and dissolved copper results from samples W-12-S (629-01), W-12-1 (630-01), and W-12-D (631-01) and the detected total lead result from sample W-12-1 (630-01). The concentrations for these analytes in the samples were less than 5 times the blank concentration.
	Total Chromium	6.0	W-12-1 (630-01)	
	Total Copper	0.37	W-12-D (631-01)	
	Total Lead	0.06		
	Total Nickel	0.53		
	Dissolved Calcium	31		
	Dissolved Potassium	33		
	Dissolved Lead	0.14		
	Dissolved Copper	2.1		
	Dissolved Nickel	0.25		

TABLE 5.26
MS/MSD Recovery and Precision for Metals
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Spiked Sample	Analytes with recoveries outside acceptance limits	Effect on Data Usability
WS-11-125 (601-01)	Calcium (69%/122%) Potassium (144%/122%) Sodium (116%/133%) Dissolved Calcium (65%/45%) Dissolved Iron (80%/73%) Dissolved Magnesium (80%/64%)	The average calcium and sodium, and dissolved iron recoveries (96%, 125%, 76.5%) were within acceptance limits. Data usability is not adversely affected.
		AMEC J qualified the detected total potassium results from sample WS-11-125 (601-01) because of possible high bias in the analytical results.
		AMEC J qualified the detected dissolved magnesium result from sample WS-11-125 (601-01) because of a possible low bias in the analytical results.
		The background dissolved calcium (73500 µg/L) concentrations in the unspiked sample was more the 4 times the spike concentrations, data usability is not adversely affected.
W-11-D (624-01)	Total Calcium (89%/62%)	The average total recovery recoveries (75.5%) was within acceptance limits. Data usability is not adversely affected.
	Dissolved Calcium (675/86%)	The background dissolved calcium (75000 µg/L) concentration in the unspiked sample was more the 4 times the spike concentration, data usability is not adversely affected.
W-09-86 (636-01)	Total Calcium (139%)	AMEC J qualified the detected results because of possible high bias in the analytical results.
	Total Mangesium (129%)	
W-12-S (629-01)	Dissolved Sodum (61%)	The background dissolved sodium (94.8 µg/L) concentrations in the unspiked sample was more the 4 times the spike concentration (18.5 µg/L), data usability is not adversely affected.

TABLE 6
Definitions of Data Qualifiers Added as a Result of Data Validation Findings
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

U	The U qualifier indicates that the analyte must be considered to be nondetected at the concentration listed. U qualifiers added during validation are typically a result of detection of target analytes in field, trip, or laboratory blanks.
UJ	The UJ qualifier indicates the reporting limit is estimated. UJ qualifiers added during validation may indicate either a high or low bias related to a QC element that exceeds required acceptance limits.
J	The J qualifier indicates that the associated result is quantitatively uncertain. J qualifiers added during validation may indicate a concentration between the method detection limit (MDL) and the method reporting limit (MRL) or sample reporting limit (SRL), or a data limitation related to a QC element that exceeds required acceptance limits.
N	The N qualifier indicates an analyte has been presumptively identified. Presumptive detection means that a chromatographic peak was detected at the correct retention time for an analyte, but that not all required identification criteria were met. The associated result is both qualitatively and quantitatively uncertain.
R	The R qualifier indicates that a result has been rejected due to serious QC problems. It is not possible to definitively determine whether the analyte is present or absent in the sample.

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(601-01) WS-11-125	(602-01) WS-11-161	(603-01) WS-12-125	(604-01) WS-12-161
1,1,1,2-Tetrachloroethane	none	none	none	none
1,1,1-Trichloroethane	none	none	none	none
1,1,2,2-Tetrachloroethane	none	none	none	none
1,1,2-Trichloroethane	none	none	none	none
1,1-Dichloroethane	UJ LC	UJ LC	UJ LC	UJ LC
1,1-Dichloroethene	none	none	none	none
1,1-Dichloropropene	none	none	none	none
1,2,3-Trichlorobenzene	none	none	none	none
1,2,3-Trichloropropane	none	none	none	none
1,2,4-Trichlorobenzene	none	none	none	none
1,2,4-Trimethylbenzene	none	none	none	none
1,2-Dibromo-3-chloropropane	none	none	none	none
1,2-Dibromoethane	none	none	none	none
1,2-Dichlorobenzene	none	J DL	J DL	none
1,2-Dichloroethane	none	none	none	J DL
1,2-Dichloropropane	none	none	none	none
1,3,5-Trimethylbenzene	none	none	none	none
1,3-Dichlorobenzene	none	none	none	none
1,3-Dichloropropane	none	none	none	none
1,4-Dichlorobenzene	J DL	none	none	none
2,2-Dichloropropane	UJ LC	UJ LC	UJ LC	UJ LC
2-Chlorotoluene	J DL	none	none	none
2-Ethyl-1-hexanol	UJ LC	UJ LC, MB	UJ LC, MB	UJ LC
4-Chlorotoluene	J DL	none	none	none
4-Isopropyltoluene	J DL	none	none	none
Benzene	none	J DL	none	J DL
Bromobenzene	none	none	none	none
Bromochloromethane	UJ LC	UJ LC	UJ LC	UJ LC
Bromodichloromethane	none	none	none	none
Bromoform	none	none	none	none
Bromomethane	UJ LC	UJ LC	UJ LC	UJ LC, TB

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(601-01) WS-11-125	(602-01) WS-11-161	(603-01) WS-12-125	(604-01) WS-12-161
Carbon tetrachloride	none	none	none	UJ LC
Chlorobenzene	none	none	none	none
Chloroethane	J DL	none	none	none
Chloroform	none	none	none	none
Chloromethane	none	none	none	none
cis-1,2-Dichloroethene	none	U TB	none	U MB, TB
cis-1,3-Dichloropropene	none	none	none	none
Dibromochloromethane	none	none	none	none
Dibromomethane	none	none	none	none
Dichlorodifluoromethane	UJ LL	UJ LL	UJ LL	UJ LL
Ethylbenzene	none	none	none	none
Hexachlorobutadiene	none	none	none	none
Isobutylalcohol	R RF	R RF	R RF	R RF
Isopropylbenzene	none	none	J DL	none
m,p-Xylene	none	none	none	none
Methylene chloride	none	none	none	none
Methyl-t-Butyl Ether (MTBE)	none	none	none	none
Naphthalene	none	U MB	U MB	U MB, TB
n-Butylbenzene	none	none	none	none
n-Propylbenzene	J DL	none	none	none
o-Xylene	none	none	J DL	none
sec-Butylbenzene	none	none	none	none
Styrene	none	none	none	none
tert-Butylbenzene	none	none	none	none
Tetrachloroethene	none	none	none	none
Toluene	none	J DL	J DL	J DL
trans-1,2-Dichloroethene	J UC	none	none	none
trans-1,3-Dichloropropene	none	none	none	none
Trichloroethene	none	J DL	J DL	J DL
Trichlorofluoromethane	none	none	none	none
Vinyl chloride	none	none	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(605-01) RP-11-30	(606-01) RP-11-216	(607-01) RP-11-160	(608-01) RP-07-55
1,1,1,2-Tetrachloroethane	none	none	none	none
1,1,1-Trichloroethane	none	none	none	none
1,1,2,2-Tetrachloroethane	none	none	none	none
1,1,2-Trichloroethane	none	none	none	none
1,1-Dichloroethane	UJ LC	UJ LC	none	none
1,1-Dichloroethene	none	J DL	none	none
1,1-Dichloropropene	none	none	none	none
1,2,3-Trichlorobenzene	none	none	U MB, TB	U MB, TB
1,2,3-Trichloropropane	none	none	none	none
1,2,4-Trichlorobenzene	none	none	U MB, TB	U MB, TB
1,2,4-Trimethylbenzene	J DL	J DL	none	none
1,2-Dibromo-3-chloropropane	none	none	J DL	none
1,2-Dibromoethane	none	none	none	none
1,2-Dichlorobenzene	none	none	U MB, TB	U MB, TB
1,2-Dichloroethane	none	J DL	none	none
1,2-Dichloropropane	none	none	none	none
1,3,5-Trimethylbenzene	none	none	none	none
1,3-Dichlorobenzene	none	none	none	none
1,3-Dichloropropane	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none
2,2-Dichloropropane	UJ LC	UJ LC	none	none
2-Chlorotoluene	none	none	none	none
2-Ethyl-1-hexanol	UJ LC, TB	J LC	UJ LC, TB	J LC
4-Chlorotoluene	none	none	none	none
4-Isopropyltoluene	J DL	none	U MB	U MB
Benzene	none	J DL	none	none
Bromobenzene	none	none	none	none
Bromochloromethane	UJ LC	UJ LC	none	none
Bromodichloromethane	none	none	none	none
Bromoform	none	none	none	none
Bromomethane	UJ LC, TB	UJ LC, TB	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(605-01) RP-11-30	(606-01) RP-11-216	(607-01) RP-11-160	(608-01) RP-07-55
Carbon tetrachloride	UJ LC	UJ LC	J DL	none
Chlorobenzene	none	none	none	none
Chloroethane	none	none	none	none
Chloroform	none	J DL	J DL	none
Chloromethane	none	none	J DL	none
cis-1,2-Dichloroethene	U MB, TB	none	none	none
cis-1,3-Dichloropropene	none	none	none	none
Dibromochloromethane	none	none	none	none
Dibromomethane	none	none	none	none
Dichlorodifluoromethane	UJ LL	UJ LL	none	none
Ethylbenzene	J DL	J DL	J DL	none
Hexachlorobutadiene	none	none	U MB, TB	U MB, TB
Isobutylalcohol	R RF	R RF	R RF	R RF
Isopropylbenzene	J DL	none	none	none
m,p-Xylene	J DL	J DL	J DL	none
Methylene chloride	none	none	none	none
Methyl-t-Butyl Ether (MTBE)	none	none	none	none
Naphthalene	U MB	U MB, TB	U MB, TB	U MB, TB
n-Butylbenzene	J DL	none	none	none
n-Propylbenzene	none	none	none	none
o-Xylene	J DL	J DL	none	none
sec-Butylbenzene	none	none	none	none
Styrene	none	none	none	none
tert-Butylbenzene	none	none	none	none
Tetrachloroethene	none	none	none	none
Toluene	none	none	J DL	J DL
trans-1,2-Dichloroethene	none	J DL	none	none
trans-1,3-Dichloropropene	none	J DL	none	none
Trichloroethene	none	none	none	none
Trichlorofluoromethane	none	none	none	none
Vinyl chloride	none	none	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(609-01) RP-07-84	(609-06) RP-07-84	(610-01) RP-07-119	(610-02) RP-07-119
1,1,1,2-Tetrachloroethane	none	none	none	none
1,1,1-Trichloroethane	none	none	none	none
1,1,2,2-Tetrachloroethane	none	none	none	none
1,1,2-Trichloroethane	none	none	none	none
1,1-Dichloroethane	none	none	none	none
1,1-Dichloroethene	none	none	J DL	J DL
1,1-Dichloropropene	none	none	none	none
1,2,3-Trichlorobenzene	U MB, TB	U MB, TB	U MB, TB	U MB, TB
1,2,3-Trichloropropane	none	none	none	none
1,2,4-Trichlorobenzene	U MB, TB	U MB, TB	U MB, TB	U MB, TB
1,2,4-Trimethylbenzene	none	none	none	none
1,2-Dibromo-3-chloropropane	none	none	none	none
1,2-Dibromoethane	none	none	none	none
1,2-Dichlorobenzene	none	none	none	none
1,2-Dichloroethane	J DL	J DL	none	J DL
1,2-Dichloropropane	none	none	none	none
1,3,5-Trimethylbenzene	none	none	none	none
1,3-Dichlorobenzene	none	none	none	none
1,3-Dichloropropane	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none
2,2-Dichloropropane	none	none	none	none
2-Chlorotoluene	none	none	none	none
2-Ethyl-1-hexanol	UJ LC, TB	UJ LC	UJ LC	UJ LC
4-Chlorotoluene	none	none	none	none
4-Isopropyltoluene	none	none	none	none
Benzene	none	none	J DL	J DL
Bromobenzene	none	none	none	none
Bromochloromethane	none	none	none	none
Bromodichloromethane	none	none	none	none
Bromoform	none	none	none	none
Bromomethane	none	none	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(609-01) RP-07-84	(609-06) RP-07-84	(610-01) RP-07-119	(610-02) RP-07-119
Carbon tetrachloride	none	none	none	none
Chlorobenzene	none	none	none	none
Chloroethane	none	none	none	none
Chloroform	J DL	J DL	J DL	J DL
Chloromethane	J DL	J DL	none	none
cis-1,2-Dichloroethene	none	none	none	none
cis-1,3-Dichloropropene	none	none	none	none
Dibromochloromethane	none	none	none	none
Dibromomethane	none	none	none	none
Dichlorodifluoromethane	none	none	none	none
Ethylbenzene	none	J DL	none	none
Hexachlorobutadiene	U MB, TB	U MB, TB	U MB, TB	U MB, TB
Isobutylalcohol	R RF	R RF	R RF	R RF
Isopropylbenzene	J DL	J DL	none	none
m,p-Xylene	J DL	J DL	J DL	J DL
Methylene chloride	none	none	none	none
Methyl-t-Butyl Ether (MTBE)	none	none	none	none
Naphthalene	U MB, TB	U MB, TB	U MB, TB	U MB, TB
n-Butylbenzene	none	none	none	none
n-Propylbenzene	none	none	none	none
o-Xylene	J DL	J DL	J DL	J DL
sec-Butylbenzene	none	none	none	none
Styrene	none	none	none	none
tert-Butylbenzene	none	none	none	none
Tetrachloroethene	J DL	J DL	J DL	J DL
Toluene	J DL	J DL	J DL	J DL
trans-1,2-Dichloroethene	none	none	none	none
trans-1,3-Dichloropropene	none	none	none	none
Trichloroethene	none	none	none	none
Trichlorofluoromethane	none	none	none	none
Vinyl chloride	none	none	J DL	J DL

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(611-01) RP-07-30	(612-01) RP-01-31	(613-01) RP-01-51	(614-01) RP-01-65
1,1,1,2-Tetrachloroethane	none	none	none	none
1,1,1-Trichloroethane	none	none	none	none
1,1,2,2-Tetrachloroethane	none	none	none	none
1,1,2-Trichloroethane	none	none	none	none
1,1-Dichloroethane	UJ LC	UJ LC	UJ LC	UJ LC
1,1-Dichloroethene	none	none	none	none
1,1-Dichloropropene	none	none	none	none
1,2,3-Trichlorobenzene	U MB, TB	none	U MB, TB	U J MB, TB, LS
1,2,3-Trichloropropane	none	none	none	UJ LS
1,2,4-Trichlorobenzene	U TB	none	none	J LS, DL
1,2,4-Trimethylbenzene	none	none	none	UJ LS
1,2-Dibromo-3-chloropropane	none	none	none	UJ LS
1,2-Dibromoethane	none	none	none	none
1,2-Dichlorobenzene	U MB, TB	U MB, TB	none	none
1,2-Dichloroethane	none	none	J DL	J DL
1,2-Dichloropropane	none	none	none	none
1,3,5-Trimethylbenzene	none	none	none	UJ LS
1,3-Dichlorobenzene	none	none	none	J LS
1,3-Dichloropropane	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none
2,2-Dichloropropane	none	UJ LC	UJ LC	UJ LC
2-Chlorotoluene	none	none	none	UJ LS
2-Ethyl-1-hexanol	U TB	UJ LC	UJ LC	J LC, LS, DL
4-Chlorotoluene	none	none	none	UJ LS
4-Isopropyltoluene	none	none	none	UJ LS
Benzene	none	none	J DL	none
Bromobenzene	none	none	none	UJ LS
Bromochloromethane	none	none	none	none
Bromodichloromethane	none	none	none	none
Bromoform	none	none	none	UJ LS
Bromomethane	none	UJ LC	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(611-01) RP-07-30	(612-01) RP-01-31	(613-01) RP-01-51	(614-01) RP-01-65
Carbon tetrachloride	none	none	none	none
Chlorobenzene	none	none	none	none
Chloroethane	none	none	none	none
Chloroform	none	none	J DL	J DL
Chloromethane	none	none	none	none
cis-1,2-Dichloroethene	none	none	none	none
cis-1,3-Dichloropropene	none	none	none	none
Dibromochloromethane	none	none	none	none
Dibromomethane	none	none	none	none
Dichlorodifluoromethane	none	none	none	none
Ethylbenzene	none	none	none	none
Hexachlorobutadiene	U TB	U MB, TB	none	UJ LS
Isobutylalcohol	R RF	R RF	R RF	R RF
Isopropylbenzene	none	none	J DL	J LS, DL
m,p-Xylene	none	none	none	J DL
Methylene chloride	none	none	none	none
Methyl-t-Butyl Ether (MTBE)	none	none	none	none
Naphthalene	U MB, TB	none	none	UJ LS
n-Butylbenzene	J DL	none	none	UJ LS
n-Propylbenzene	none	none	none	UJ LS
o-Xylene	J DL	none	none	none
sec-Butylbenzene	none	none	none	UJ LS
Styrene	none	none	none	none
tert-Butylbenzene	none	none	none	UJ LS
Tetrachloroethene	none	none	none	J DL
Toluene	J DL	none	J DL	J DL
trans-1,2-Dichloroethene	none	none	J DL	none
trans-1,3-Dichloropropene	none	none	none	none
Trichloroethene	none	none	none	none
Trichlorofluoromethane	none	none	none	none
Vinyl chloride	none	none	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(615-01) RP-06-30	(616-01) RP-06-87	(619-01) W-03-S	(620-01) W-03-I
1,1,1,2-Tetrachloroethane	none	none	none	none
1,1,1-Trichloroethane	none	none	none	none
1,1,2,2-Tetrachloroethane	none	none	none	none
1,1,2-Trichloroethane	none	none	none	none
1,1-Dichloroethane	none	none	none	none
1,1-Dichloroethene	none	J DL	none	none
1,1-Dichloropropene	none	none	none	none
1,2,3-Trichlorobenzene	none	none	none	none
1,2,3-Trichloropropane	none	none	none	none
1,2,4-Trichlorobenzene	none	none	none	none
1,2,4-Trimethylbenzene	J DL	none	none	none
1,2-Dibromo-3-chloropropane	none	none	none	none
1,2-Dibromoethane	none	none	none	none
1,2-Dichlorobenzene	J DL	none	J DL	none
1,2-Dichloroethane	none	none	none	none
1,2-Dichloropropane	none	none	none	none
1,3,5-Trimethylbenzene	none	none	none	none
1,3-Dichlorobenzene	J DL	J DL	none	J DL
1,3-Dichloropropane	none	none	none	none
1,4-Dichlorobenzene	none	none	none	J DL
2,2-Dichloropropane	none	none	none	none
2-Chlorotoluene	none	none	none	none
2-Ethyl-1-hexanol	UJ LC	UJ LC	UJ LC	UJ LC
4-Chlorotoluene	none	none	none	none
4-Isopropyltoluene	none	none	none	none
Benzene	none	J DL	none	none
Bromobenzene	none	none	none	none
Bromochloromethane	none	none	none	none
Bromodichloromethane	none	none	none	none
Bromoform	none	none	none	none
Bromomethane	none	none	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(615-01) RP-06-30	(616-01) RP-06-87	(619-01) W-03-S	(620-01) W-03-I
Carbon tetrachloride	none	none	none	none
Chlorobenzene	none	none	J DL	J DL
Chloroethane	none	none	none	none
Chloroform	none	none	none	none
Chloromethane	J DL	J DL	J DL	none
cis-1,2-Dichloroethene	none	J DL	none	none
cis-1,3-Dichloropropene	none	none	none	none
Dibromochloromethane	none	none	none	none
Dibromomethane	none	none	none	none
Dichlorodifluoromethane	none	none	none	none
Ethylbenzene	none	none	none	none
Hexachlorobutadiene	none	none	none	none
Isobutylalcohol	none	none	none	none
Isopropylbenzene	none	none	none	none
m,p-Xylene	none	none	none	J DL
Methylene chloride	none	none	none	none
Methyl-t-Butyl Ether (MTBE)	none	none	none	none
Naphthalene	J DL	none	none	none
n-Butylbenzene	none	none	none	none
n-Propylbenzene	none	none	none	none
o-Xylene	none	none	none	none
sec-Butylbenzene	none	none	none	none
Styrene	none	none	none	none
tert-Butylbenzene	none	none	none	none
Tetrachloroethene	none	none	none	none
Toluene	none	none	none	none
trans-1,2-Dichloroethene	none	none	none	none
trans-1,3-Dichloropropene	none	none	none	none
Trichloroethene	none	none	none	none
Trichlorofluoromethane	none	none	none	none
Vinyl chloride	none	J DL	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(621-01) W-03-D	(622-01) W-04-S	(623-01) W-04-I	(624-01) W-04-89
1,1,1,2-Tetrachloroethane	none	none	none	none
1,1,1-Trichloroethane	none	none	none	none
1,1,2,2-Tetrachloroethane	none	none	none	none
1,1,2-Trichloroethane	none	none	none	none
1,1-Dichloroethane	none	UJ LC	UJ LC	UJ LC
1,1-Dichloroethene	none	none	none	none
1,1-Dichloropropene	none	none	none	none
1,2,3-Trichlorobenzene	none	none	none	none
1,2,3-Trichloropropane	none	none	none	none
1,2,4-Trichlorobenzene	none	none	none	none
1,2,4-Trimethylbenzene	none	none	none	none
1,2-Dibromo-3-chloropropane	none	none	none	none
1,2-Dibromoethane	none	none	none	none
1,2-Dichlorobenzene	J DL	none	J DL	none
1,2-Dichloroethane	none	none	none	none
1,2-Dichloropropane	none	none	none	none
1,3,5-Trimethylbenzene	none	none	none	none
1,3-Dichlorobenzene	none	U MB	U MB	none
1,3-Dichloropropane	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none
2,2-Dichloropropane	none	none	none	none
2-Chlorotoluene	none	none	none	none
2-Ethyl-1-hexanol	UJ LC	UJ LC	UJ LC	UJ LC
4-Chlorotoluene	none	none	none	none
4-Isopropyltoluene	none	none	none	none
Benzene	none	J DL	none	none
Bromobenzene	none	none	none	none
Bromochloromethane	none	none	none	none
Bromodichloromethane	none	none	none	none
Bromoform	none	none	none	none
Bromomethane	none	none	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(621-01) W-03-D	(622-01) W-04-S	(623-01) W-04-I	(624-01) W-04-89
Carbon tetrachloride	none	none	none	none
Chlorobenzene	none	J DL	none	none
Chloroethane	none	none	none	none
Chloroform	none	none	none	none
Chloromethane	none	none	J DL	none
cis-1,2-Dichloroethene	none	none	none	none
cis-1,3-Dichloropropene	none	none	none	none
Dibromochloromethane	none	none	none	none
Dibromomethane	none	none	none	none
Dichlorodifluoromethane	none	none	none	none
Ethylbenzene	none	J DL	none	J DL
Hexachlorobutadiene	none	none	none	none
Isobutylalcohol	none	none	none	none
Isopropylbenzene	none	none	none	none
m,p-Xylene	none	J DL	none	J DL
Methylene chloride	none	none	none	none
Methyl-t-Butyl Ether (MTBE)	none	none	none	none
Naphthalene	none	UJ LC, TB	UJ LC, TB	UJ LC
n-Butylbenzene	none	none	none	none
n-Propylbenzene	none	none	none	none
o-Xylene	none	J DL	none	none
sec-Butylbenzene	none	none	none	none
Styrene	none	none	none	none
tert-Butylbenzene	none	none	none	none
Tetrachloroethene	none	none	none	none
Toluene	none	none	none	none
trans-1,2-Dichloroethene	none	none	none	none
trans-1,3-Dichloropropene	none	none	none	none
Trichloroethene	none	none	none	none
Trichlorofluoromethane	none	none	none	none
Vinyl chloride	none	none	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(625-01) W-11-S	(626-01) W-11-I	(627-01) W-11-D	(628-01) W-11-B
1,1,1,2-Tetrachloroethane	none	none	none	none
1,1,1-Trichloroethane	none	none	none	none
1,1,2,2-Tetrachloroethane	none	none	none	none
1,1,2-Trichloroethane	none	none	none	none
1,1-Dichloroethane	J DL	UJ LC	UJ LC	none
1,1-Dichloroethene	none	none	none	J DL
1,1-Dichloropropene	none	none	none	none
1,2,3-Trichlorobenzene	UJ LC, TB	none	none	none
1,2,3-Trichloropropane	none	none	none	none
1,2,4-Trichlorobenzene	U MB	none	U MB	none
1,2,4-Trimethylbenzene	J DL	J DL	none	none
1,2-Dibromo-3-chloropropane	none	none	none	none
1,2-Dibromoethane	none	none	none	none
1,2-Dichlorobenzene	J DL	none	none	none
1,2-Dichloroethane	none	none	none	J DL
1,2-Dichloropropane	none	none	none	none
1,3,5-Trimethylbenzene	J DL	none	none	none
1,3-Dichlorobenzene	U MB	none	none	none
1,3-Dichloropropane	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none
2,2-Dichloropropane	none	none	none	none
2-Chlorotoluene	none	none	none	none
2-Ethyl-1-hexanol	none	UJ LC	UJ LC	none
4-Chlorotoluene	none	none	none	none
4-Isopropyltoluene	J DL	none	none	none
Benzene	J DL	none	J DL	none
Bromobenzene	none	none	none	none
Bromochloromethane	none	none	none	none
Bromodichloromethane	none	none	none	none
Bromoform	none	none	none	none
Bromomethane	none	none	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(625-01) W-11-S	(626-01) W-11-I	(627-01) W-11-D	(628-01) W-11-B
Carbon tetrachloride	none	none	none	none
Chlorobenzene	none	none	none	none
Chloroethane	none	none	none	none
Chloroform	none	none	none	none
Chloromethane	none	none	none	none
cis-1,2-Dichloroethene	none	none	J DL	none
cis-1,3-Dichloropropene	none	none	none	none
Dibromochloromethane	none	none	none	none
Dibromomethane	none	none	none	none
Dichlorodifluoromethane	none	none	none	none
Ethylbenzene	U TB	U TB	U TB	U TB
Hexachlorobutadiene	J DL	none	none	none
Isobutylalcohol	none	none	none	none
Isopropylbenzene	J DL	none	J DL	none
m,p-Xylene	J DL	none	J DL	none
Methylene chloride	none	none	none	none
Methyl-t-Butyl Ether (MTBE)	none	none	none	none
Naphthalene	J DL	UJ LC	UJ LC	none
n-Butylbenzene	none	none	none	none
n-Propylbenzene	J DL	none	none	none
o-Xylene	J DL	J DL	J DL	none
sec-Butylbenzene	none	none	none	none
Styrene	none	none	none	none
tert-Butylbenzene	J DL	none	none	none
Tetrachloroethene	none	none	none	none
Toluene	J DL	none	none	J DL
trans-1,2-Dichloroethene	none	none	J DL	J DL
trans-1,3-Dichloropropene	none	none	none	none
Trichloroethene	none	none	J DL	J DL
Trichlorofluoromethane	none	none	none	none
Vinyl chloride	none	none	J DL	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(629-01) W-12-S	(630-01) W-12-I	(631-01) W-12-D	(635-01) AL6-96
1,1,1,2-Tetrachloroethane	none	UJ AB	none	none
1,1,1-Trichloroethane	none	UJ AB	none	none
1,1,2,2-Tetrachloroethane	none	UJ AB	none	none
1,1,2-Trichloroethane	none	UJ AB	none	none
1,1-Dichloroethane	none	UJ AB	none	none
1,1-Dichloroethene	none	UJ AB	none	none
1,1-Dichloropropene	none	UJ AB	none	none
1,2,3-Trichlorobenzene	none	UJ AB	none	none
1,2,3-Trichloropropane	none	UJ AB	none	none
1,2,4-Trichlorobenzene	U TB, RB	UJ AB	none	J DL
1,2,4-Trimethylbenzene	none	UJ AB	none	none
1,2-Dibromo-3-chloropropane	none	UJ AB	none	none
1,2-Dibromoethane	none	UJ AB	none	none
1,2-Dichlorobenzene	none	J AB, DL	none	none
1,2-Dichloroethane	none	UJ AB	none	none
1,2-Dichloropropane	none	UJ AB	none	none
1,3,5-Trimethylbenzene	J DL	UJ AB	none	none
1,3-Dichlorobenzene	J DL	UJ AB	J DL	none
1,3-Dichloropropane	none	UJ AB	none	none
1,4-Dichlorobenzene	none	UJ AB	none	none
2,2-Dichloropropane	none	UJ AB	none	none
2-Chlorotoluene	none	UJ AB	none	none
2-Ethyl-1-hexanol	none	J AB, DL	none	UJ CH, TB, HL, DL
4-Chlorotoluene	none	UJ AB	none	none
4-Isopropyltoluene	U RB	UJ AB	none	none
Benzene	none	J AB, DL	none	J DL
Bromobenzene	none	UJ AB	none	none
Bromochloromethane	none	UJ AB	none	none
Bromodichloromethane	none	UJ AB	none	none
Bromoform	none	UJ AB	none	none
Bromomethane	none	UJ AB	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(629-01) W-12-S	(630-01) W-12-I	(631-01) W-12-D	(635-01) AL6-96
Carbon tetrachloride	none	UJ AB	none	none
Chlorobenzene	none	UJ AB	none	none
Chloroethane	none	UJ AB	none	none
Chloroform	none	UJ AB	none	none
Chloromethane	none	UJ AB	none	none
cis-1,2-Dichloroethene	none	J AB, DL	none	none
cis-1,3-Dichloropropene	none	UJ AB	none	none
Dibromochloromethane	none	UJ AB	none	none
Dibromomethane	none	UJ AB	none	none
Dichlorodifluoromethane	none	UJ AB	none	none
Ethylbenzene	J DL	UJ AB	none	J DL
Hexachlorobutadiene	none	UJ AB	none	none
Isobutylalcohol	none	UJ AB	none	none
Isopropylbenzene	J DL	UJ AB	none	none
m,p-Xylene	none	UJ AB, RB	U RB	none
Methylene chloride	none	UJ AB	none	none
Methyl-t-Butyl Ether (MTBE)	none	UJ AB	none	none
Naphthalene	U TB	UJ AB, TB, RB	U TB, RB	none
n-Butylbenzene	none	UJ AB	none	none
n-Propylbenzene	none	UJ AB	none	none
o-Xylene	none	UJ AB, RB	U RB	none
sec-Butylbenzene	none	UJ AB	none	none
Styrene	none	UJ AB	none	none
tert-Butylbenzene	none	UJ AB	none	none
Tetrachloroethene	none	UJ AB	none	none
Toluene	J DL	UJ AB, RB	none	J DL
trans-1,2-Dichloroethene	none	UJ AB	none	none
trans-1,3-Dichloropropene	none	UJ AB	none	none
Trichloroethene	J DL	UJ AB	none	none
Trichlorofluoromethane	none	UJ AB	none	none
Vinyl chloride	none	UJ AB	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(635-02) AL6-96	(636-01) W-09-86	(637-01) W-09-116	(638-01) W-09
1,1,1,2-Tetrachloroethane	none	none	none	none
1,1,1-Trichloroethane	none	none	none	none
1,1,2,2-Tetrachloroethane	none	none	none	none
1,1,2-Trichloroethane	none	none	none	none
1,1-Dichloroethane	none	none	none	none
1,1-Dichloroethene	none	J DL	J DL	none
1,1-Dichloropropene	none	none	none	none
1,2,3-Trichlorobenzene	none	none	none	none
1,2,3-Trichloropropane	none	none	none	none
1,2,4-Trichlorobenzene	J DL	none	none	none
1,2,4-Trimethylbenzene	none	none	none	J DL
1,2-Dibromo-3-chloropropane	none	none	none	none
1,2-Dibromoethane	none	none	none	none
1,2-Dichlorobenzene	none	J HT	J HT	none
1,2-Dichloroethane	none	none	J DL	none
1,2-Dichloropropane	none	none	none	none
1,3,5-Trimethylbenzene	none	none	none	J DL
1,3-Dichlorobenzene	none	none	none	none
1,3-Dichloropropane	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none
2,2-Dichloropropane	none	none	none	none
2-Chlorotoluene	none	none	none	none
2-Ethyl-1-hexanol	none	none	none	none
4-Chlorotoluene	none	none	none	none
4-Isopropyltoluene	none	none	none	J DL
Benzene	J DL	J DL	none	none
Bromobenzene	none	none	none	none
Bromochloromethane	none	none	none	none
Bromodichloromethane	none	none	none	none
Bromoform	none	UJ LC	UJ LC	UJ LC
Bromomethane	none	none	none	none

TABLE 7
Data Qualifiers for Volatile Organic Compounds by EPA Method 8260B
Winter 2006 Groundwater Mointoring Event
RP - Portland Site

Analyte	(635-02) AL6-96	(636-01) W-09-86	(637-01) W-09-116	(638-01) W-09
Carbon tetrachloride	none	none	none	none
Chlorobenzene	none	none	none	none
Chloroethane	none	none	none	none
Chloroform	none	none	none	none
Chloromethane	none	none	none	none
cis-1,2-Dichloroethene	none	J DL	J DL	none
cis-1,3-Dichloropropene	none	none	none	none
Dibromochloromethane	none	none	none	none
Dibromomethane	none	none	none	none
Dichlorodifluoromethane	none	none	none	none
Ethylbenzene	none	none	none	none
Hexachlorobutadiene	none	none	none	none
Isobutylalcohol	none	R RF	R RF	R RF
Isopropylbenzene	none	none	J DL	J DL
m,p-Xylene	none	none	none	none
Methylene chloride	none	none	none	none
Methyl-t-Butyl Ether (MTBE)	none	none	none	none
Naphthalene	none	none	none	J DL
n-Butylbenzene	none	none	none	none
n-Propylbenzene	none	none	none	J DL
o-Xylene	none	none	none	none
sec-Butylbenzene	none	none	none	none
Styrene	none	none	none	none
tert-Butylbenzene	none	none	none	none
Tetrachloroethene	none	none	none	none
Toluene	none	U MB	none	J DL
trans-1,2-Dichloroethene	none	none	none	none
trans-1,3-Dichloropropene	none	none	none	none
Trichloroethene	none	J DL	J DL	none
Trichlorofluoromethane	none	none	none	none
Vinyl chloride	none	J DL	J DL	none

TABLE 8
Data Qualifiers for Chlorinated Herbicides by EPA Method 8151A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(601-01) WS-11-125	(602-01) WS-11-161	(603-01) WS-12-125	(604-01) WS-12-161	(605-01) RP-11-30	(610-01) RP-07-119
2,4,5-T	none	none	none	none	none	none
2,4,5-TP (Silvex)	none	none	none	none	none	none
2,4-D	none	none	none	none	none	none
2,4-DB	none	none	none	none	none	none
4-Nitrophenol	none	none	none	none	none	none
Bromoxynil	none	none	none	none	none	none
Dalapon	UJ LL	UJ LL	UJ LL	UJ LL	UJ LL	UJ LL
Dicamba	none	none	none	none	none	none
Dichlorprop	none	none	none	none	none	none
Dinoseb	none	none	none	none	none	none
MCPA	none	none	none	none	none	none
MCPP	none	none	none	none	none	none
Pentachlorophenol	none	none	none	none	none	none
Analyte	**(636-01) W-09-86**	**(637-01) W-09-116**	**(638-01) W-09**	**(606-01) RP-11-216**	**(607-01) RP-11-160**	**(608-01) RP-07-55**
2,4,5-T	none	none	none	none	none	none
2,4,5-TP (Silvex)	none	none	none	none	none	none
2,4-D	UJ LC	UJ LC	UJ LC	J DL	none	none
2,4-DB	none	none	none	none	none	none
4-Nitrophenol	none	none	none	none	none	none
Bromoxynil	none	none	none	none	none	none
Dalapon	none	none	none	UJ LL	UJ LL	UJ LL
Dicamba	none	none	none	none	none	none
Dichlorprop	J DL	none	none	none	none	none
Dinoseb	none	none	none	none	none	none
MCPA	none	none	none	J DL	none	none
MCPP	none	none	none	none	none	none
Pentachlorophenol	none	none	none	none	none	none

TABLE 8
Data Qualifiers for Chlorinated Herbicides by EPA Method 8151A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(610-02) RP-07-119	(611-01) RP-07-30	(612-01) RP-01-31	(613-01) RP-01-51
2,4,5-T	UJ LS	none	none	none
2,4,5-TP (Silvex)	J LS	none	none	none
2,4-D	J LS, DL	none	none	none
2,4-DB	UJ LS	none	none	none
4-Nitrophenol	UJ LS	none	none	none
Bromoxynil	UJ LS	none	none	none
Dalapon	UJ LL, LS	UJ LL	none	none
Dicamba	UJ LS	none	none	none
Dichlorprop	J LS	none	none	none
Dinoseb	UJ LS	none	UJ LL	UJ LL
MCPA	UJ LS	none	none	none
MCPP	J LS	none	none	none
Pentachlorophenol	J LS, DL	none	none	J DL
Analyte	**(609-01) RP-07-84**	**(609-06) RP-07-84**	**(614-01) RP-01-65**	**(615-01) RP-06-30**
2,4,5-T	none	UJ LS	none	none
2,4,5-TP (Silvex)	none	J LS	none	none
2,4-D	J DL	UJ LS	none	none
2,4-DB	none	UJ LS	none	none
4-Nitrophenol	none	UJ LS	none	none
Bromoxynil	none	UJ LS	none	none
Dalapon	UJ LL	UJ LL, LS	none	UJ LL
Dicamba	none	UJ LS	none	none
Dichlorprop	none	J LS	none	none
Dinoseb	none	UJ LS	UJ LL	none
MCPA	none	UJ LS	none	none
MCPP	none	J LS	none	none
Pentachlorophenol	none	J LS, DL	none	none

TABLE 8
Data Qualifiers for Chlorinated Herbicides by EPA Method 8151A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(621-01) W-03-D	(622-01) W-04-S	(623-01) W-04-I	(624-01) W-04-89
2,4,5-T	none	none	none	none
2,4,5-TP (Silvex)	none	none	none	none
2,4-D	none	none	none	none
2,4-DB	none	none	none	none
4-Nitrophenol	none	none	none	none
Bromoxynil	none	UJ LL	UJ LL	UJ LL
Dalapon	UJ LL	none	none	UJ LM
Dicamba	none	none	none	none
Dichlorprop	none	none	none	none
Dinoseb	none	none	none	UJ LM
MCPA	none	none	none	none
MCPP	none	none	none	none
Pentachlorophenol	none	none	none	none
Analyte	**(616-01) RP-06-87**	**(619-01) W-03-S**	**(620-01) W-03-I**	**(627-01) W-11-D**
2,4,5-T	none	none	none	none
2,4,5-TP (Silvex)	none	none	none	none
2,4-D	none	none	none	none
2,4-DB	none	none	none	none
4-Nitrophenol	none	none	none	none
Bromoxynil	none	none	none	none
Dalapon	UJ LL	UJ LL	UJ LL	none
Dicamba	none	none	none	none
Dichlorprop	none	none	J DL	none
Dinoseb	none	none	none	none
MCPA	J DL	none	none	none
MCPP	none	none	none	none
Pentachlorophenol	none	none	none	none

TABLE 8
Data Qualifiers for Chlorinated Herbicides by EPA Method 8151A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(625-01) W-11-S	(626-01) W-11-I	(635-01) AL6-96	(635-02) AL6-96
2,4,5-T	none	none	none	none
2,4,5-TP (Silvex)	none	none	none	none
2,4-D	none	none	none	none
2,4-DB	none	none	none	none
4-Nitrophenol	none	none	none	none
Bromoxynil	none	none	none	none
Dalapon	none	none	none	none
Dicamba	none	none	none	none
Dichlorprop	none	none	none	none
Dinoseb	none	none	none	none
MCPA	none	none	none	none
MCPP	none	none	none	none
Pentachlorophenol	none	none	none	none
Analyte	**(628-01) W-11-B**	**(629-01) W-12-S**	**(630-01) W-12-I**	**(631-01) W-12-D**
2,4,5-T	none	none	none	none
2,4,5-TP (Silvex)	none	none	none	none
2,4-D	none	none	none	none
2,4-DB	none	none	none	none
4-Nitrophenol	none	none	none	none
Bromoxynil	none	UJ LM	none	none
Dalapon	none	UJ LM	none	none
Dicamba	none	none	none	none
Dichlorprop	none	none	none	none
Dinoseb	none	none	none	none
MCPA	none	none	none	none
MCPP	none	none	none	none
Pentachlorophenol	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(601-01) WS-11-125	(602-01) WS-11-161	(603-01) WS-12-125	(604-01) WS-12-161	(605-01) RP-11-30
1,2,4-Trichlorobenzene	none	none	none	none	none
1,2-Dichlorobenzene	none	none	none	none	none
1,3-Dichlorobenzene	none	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none	none
1-Methylnaphthalene	none	none	none	none	none
2,4,5-Trichlorophenol	UJ LS	R LS	R LS	R LS	R LS
2,4,6-Trichlorophenol	UJ LS	R LS	R LS	R LS	R LS
2,4-Dichlorophenol	UJ BC, LS	R BC, LS	R BC, LS	R LS	R LS
2,4-Dimethylphenol	UJ LS	R LS	R LS	R LS	R LS
2,4-Dinitrophenol	UJ LS	R LS	R LS	R LS	R LS
2,4-Dinitrotoluene	none	none	none	none	none
2,6-Dinitrotoluene	none	none	none	none	none
2-Chloronapthalene	none	none	none	none	none
2-Chlorophenol	UJ LS	R LS	R LS	R LS	R LS
2-Methyl-4,6-dinitrophenol	UJ LS	R LS	R LS	R LS	R LS
2-Methylnaphthalene	none	none	none	none	none
2-Methylphenol	UJ LS	R LS	R LS	R LS	R LS
2-Nitroaniline	UJ BC, LC	UJ BC, LC	UJ BC, LC	none	none
2-Nitrophenol	UJ BC, LS	R BC, LS	R BC, LS	R LS	R LS
3,3'-Dichlorobenzidine	J DL	none	none	none	none
3/4-Cresol	UJ LS, LL	R LS, LL	UJ LL	R LS	R LS
3-Nitroaniline	none	UJ LC	UJ LC	UJ BC	UJ BC
4-Bromophenylphenyl ether	none	none	none	none	none
4-Chloro-3-methylphenol	UJ LS	R LS	R LS	R LS	R LS
4-Chloroaniline	UJ LC	UJ LC	UJ LC	none	none
4-Chlorophenylphenyl ether	none	none	none	none	none
4-Nitroaniline	none	none	none	none	none
4-Nitrophenol	UJ LS	R LS	R LS	R LL, LS	R LS
Acenaphthene	none	none	J DL	none	none
Acenaphthylene	none	none	none	none	none
Anthracene	none	none	J DL	none	J DL
Benzo(a)anthracene	none	none	none	none	none
Benzo(a)pyrene	none	none	none	none	none
Benzo(ghi)perylene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(601-01) WS-11-125	(602-01) WS-11-161	(603-01) WS-12-125	(604-01) WS-12-161	(605-01) RP-11-30
Benzofluorantthenes	none	none	none	none	none
Benzoic acid	UJ LC	UJ LC	UJ LC	R LS	none
Benzyl alcohol	none	none	none	UJ LC	none
Bis(2-Chloroethoxy) methane	none	none	none	none	none
Bis(2-Chloroethyl) ether	none	none	none	none	none
Bis(2-chloroisopropyl) Ether	none	none	none	none	none
Bis(2-Ethylhexyl) pthalate	none	J DL	J DL	none	none
Butylbenzylphthalate	J DL	J DL	J DL	J DL	none
Carbazole	none	none	none	none	none
Chrysene	none	none	none	none	none
Dibenzo(a,h)anthracene	none	none	none	none	none
Dibenzofuran	J DL	none	none	none	none
Diethylphthalate	none	J DL	J DL	none	none
Dimethylphthalate	none	none	none	none	none
Di-n-butylphthalate	J DL	J DL	J DL	U MB	J DL
Di-n-octyl phthalate	none	none	none	none	none
Fluoranthene	none	none	none	none	none
Fluorene	none	none	J DL	none	none
Hexachlorobenzene	none	none	none	none	none
Hexachlorobutadiene	none	none	none	none	none
Hexachlorocyclopentadiene	none	none	none	none	none
Hexachloroethane	none	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	none	none	none
Isophorone	UJ LC	UJ LC	UJ LC	none	none
Naphthalene	none	none	none	none	J DL
Nitrobenzene	none	none	none	none	none
N-Nitrosodi-n-propyl amine	none	none	none	none	none
N-Nitrosodiphenylamine	none	none	none	none	none
Pentachlorophenol	UJ BC, LS	R BC, LS	R BC, LS	R LS	R LS
Phenanthrene	none	none	none	none	none
Phenol	UJ LS	R LS	R LS	R LL, LS	R LS
Pyrene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(606-01) RP-11-216	(607-01) RP-11-160	(608-01) RP-07-55	(609-01) RP-07-84	(609-06) RP-07-84
1,2,4-Trichlorobenzene	none	none	none	none	none
1,2-Dichlorobenzene	none	none	none	none	none
1,3-Dichlorobenzene	none	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none	none
1-Methylnaphthalene	none	none	none	none	none
2,4,5-Trichlorophenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
2,4,6-Trichlorophenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
2,4-Dichlorophenol	UJ MI	UJ LS	R LS	J MI	J MI, DL
2,4-Dimethylphenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
2,4-Dinitrophenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
2,4-Dinitrotoluene	none	none	none	none	none
2,6-Dinitrotoluene	none	none	none	none	none
2-Chloronapthalene	none	none	none	none	none
2-Chlorophenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
2-Methyl-4,6-dinitrophenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
2-Methylnaphthalene	none	none	none	none	none
2-Methylphenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
2-Nitroaniline	none	none	none	none	none
2-Nitrophenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
3,3'-Dichlorobenzidine	none	none	none	none	none
3/4-Cresol	UJ MI	J LS, DL	R LS	UJ MI, LL	UJ MI, LL
3-Nitroaniline	UJ BC	UJ BC	UJ BC	UJ BC	UJ BC
4-Bromophenylphenyl ether	none	none	none	none	none
4-Chloro-3-methylphenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
4-Chloroaniline	none	none	none	none	none
4-Chlorophenylphenyl ether	none	none	none	none	none
4-Nitroaniline	none	none	none	none	none
4-Nitrophenol	UJ LL, MI	UJ LS	R LS	UJ MI	UJ MI
Acenaphthene	none	none	none	none	none
Acenaphthylene	none	none	none	none	none
Anthracene	none	none	none	none	none
Benzo(a)anthracene	none	none	none	none	none
Benzo(a)pyrene	none	none	none	none	none
Benzo(ghi)perylene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(606-01) RP-11-216	(607-01) RP-11-160	(608-01) RP-07-55	(609-01) RP-07-84	(609-06) RP-07-84
Benzofluorantthenes	none	none	none	none	none
Benzoic acid	UJ MI	none	none	none	none
Benzyl alcohol	UJ LC	none	none	none	none
Bis(2-Chloroethoxy) methane	none	none	none	none	none
Bis(2-Chloroethyl) ether	none	none	none	none	none
Bis(2-chloroisopropyl) Ether	none	none	none	none	none
Bis(2-Ethylhexyl) pthalate	none	none	none	none	none
Butylbenzylphthalate	J DL	none	none	none	J DL
Carbazole	none	none	none	none	none
Chrysene	none	none	none	none	none
Dibenzo(a,h)anthracene	none	none	none	none	none
Dibenzofuran	none	none	none	none	none
Diethylphthalate	none	none	none	none	none
Dimethylphthalate	none	none	none	none	none
Di-n-butylphthalate	U MB	none	J DL	J DL	J DL
Di-n-octyl phthalate	none	none	none	none	none
Fluoranthene	none	none	none	none	none
Fluorene	none	none	none	none	none
Hexachlorobenzene	none	none	none	none	none
Hexachlorobutadiene	none	none	none	none	none
Hexachlorocyclopentadiene	none	none	none	none	none
Hexachloroethane	none	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	none	none	none
Isophorone	none	none	none	none	none
Naphthalene	none	none	none	none	none
Nitrobenzene	none	none	none	none	none
N-Nitrosodi-n-propyl amine	none	none	none	none	none
N-Nitrosodiphenylamine	none	none	none	none	none
Pentachlorophenol	UJ MI	UJ LS	R LS	UJ MI	UJ MI
Phenanthrene	none	none	none	none	none
Phenol	UJ LL, MI	UJ LS	R LS	UJ MI	UJ MI
Pyrene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(610-01) RP-07-119	(610-02) RP-07-119	(611-01) RP-07-30	(612-01) RP-01-31	(613-01) RP-01-51
1,2,4-Trichlorobenzene	none	none	none	none	none
1,2-Dichlorobenzene	none	none	none	none	none
1,3-Dichlorobenzene	none	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none	none
1-Methylnaphthalene	none	none	none	none	none
2,4,5-Trichlorophenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
2,4,6-Trichlorophenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
2,4-Dichlorophenol	J MI, DL	J MI, DL	UJ LS	UJ LS	UJ LS
2,4-Dimethylphenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
2,4-Dinitrophenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
2,4-Dinitrotoluene	none	none	none	none	none
2,6-Dinitrotoluene	none	none	none	none	none
2-Chloronapthalene	none	none	none	none	none
2-Chlorophenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
2-Methyl-4,6-dinitrophenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
2-Methylnaphthalene	none	none	none	none	none
2-Methylphenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
2-Nitroaniline	none	none	none	none	none
2-Nitrophenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
3,3'-Dichlorobenzidine	none	none	none	none	none
3/4-Cresol	UJ LS, LL	UJ LS, LL	UJ LS, LL	UJ LS	UJ LS
3-Nitroaniline	UJ BC	UJ BC	UJ BC	UJ BC	UJ BC
4-Bromophenylphenyl ether	none	none	none	none	none
4-Chloro-3-methylphenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
4-Chloroaniline	none	none	none	none	none
4-Chlorophenylphenyl ether	none	none	none	none	none
4-Nitroaniline	none	none	none	none	none
4-Nitrophenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
Acenaphthene	none	none	none	none	none
Acenaphthylene	none	none	none	none	none
Anthracene	none	none	J DL	none	none
Benzo(a)anthracene	none	none	none	none	none
Benzo(a)pyrene	none	none	none	none	none
Benzo(ghi)perylene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(610-01) RP-07-119	(610-02) RP-07-119	(611-01) RP-07-30	(612-01) RP-01-31	(613-01) RP-01-51
Benzofluorantthenes	none	none	none	none	none
Benzoic acid	none	none	none	none	none
Benzyl alcohol	none	none	none	none	none
Bis(2-Chloroethoxy) methane	none	none	none	none	none
Bis(2-Chloroethyl) ether	none	none	none	none	none
Bis(2-chloroisopropyl) Ether	none	none	none	none	none
Bis(2-Ethylhexyl) pthalate	none	none	none	none	none
Butylbenzylphthalate	J DL	none	J DL	none	none
Carbazole	none	none	none	none	none
Chrysene	none	none	none	none	none
Dibenzo(a,h)anthracene	none	none	none	none	none
Dibenzofuran	none	none	none	none	none
Diethylphthalate	J DL	J DL	none	none	none
Dimethylphthalate	none	none	none	none	none
Di-n-butylphthalate	J DL	J DL	J DL	J DL	J DL
Di-n-octyl phthalate	none	none	none	none	none
Fluoranthene	none	none	none	none	none
Fluorene	none	none	none	none	none
Hexachlorobenzene	none	none	none	none	none
Hexachlorobutadiene	none	none	none	none	none
Hexachlorocyclopentadiene	none	none	none	none	none
Hexachloroethane	none	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	none	none	none
Isophorone	none	none	none	none	none
Naphthalene	none	none	none	none	none
Nitrobenzene	none	none	none	none	none
N-Nitrosodi-n-propyl amine	none	none	none	none	none
N-Nitrosodiphenylamine	none	none	none	none	J DL
Pentachlorophenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
Phenanthrene	none	none	none	none	none
Phenol	UJ LS	UJ LS	UJ LS	UJ LS	UJ LS
Pyrene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(614-01) RP-01-65	(615-01) RP-06-30	(616-01) RP-06-87	(619-01) W-03-S	(620-01) W-03-I
1,2,4-Trichlorobenzene	none	none	none	none	none
1,2-Dichlorobenzene	none	none	none	J DL	none
1,3-Dichlorobenzene	none	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none	none
1-Methylnaphthalene	none	none	none	none	none
2,4,5-Trichlorophenol	UJ MI	none	none	none	none
2,4,6-Trichlorophenol	UJ MI	none	none	none	none
2,4-Dichlorophenol	J MI, DL	none	none	J DL	none
2,4-Dimethylphenol	UJ MI	none	none	none	none
2,4-Dinitrophenol	UJ MI	none	none	none	none
2,4-Dinitrotoluene	none	none	none	none	none
2,6-Dinitrotoluene	none	none	none	none	none
2-Chloronapthalene	none	none	none	none	none
2-Chlorophenol	UJ MI	none	none	none	none
2-Methyl-4,6-dinitrophenol	UJ MI	none	none	none	none
2-Methylnaphthalene	none	none	none	none	none
2-Methylphenol	UJ MI	none	none	none	none
2-Nitroaniline	none	none	none	none	none
2-Nitrophenol	UJ MI	none	none	none	none
3,3'-Dichlorobenzidine	none	none	none	none	none
3/4-Cresol	UJ MI	UJ LL	UJ LL	UJ LL	UJ LL
3-Nitroaniline	UJ BC	none	none	none	none
4-Bromophenylphenyl ether	none	none	none	none	none
4-Chloro-3-methylphenol	UJ MI	none	J DL	none	none
4-Chloroaniline	none	none	none	none	none
4-Chlorophenylphenyl ether	none	none	none	none	none
4-Nitroaniline	none	none	none	none	none
4-Nitrophenol	UJ MI	none	none	none	none
Acenaphthene	none	J DL	none	none	none
Acenaphthylene	none	none	none	none	none
Anthracene	none	none	none	none	none
Benzo(a)anthracene	none	none	none	none	none
Benzo(a)pyrene	none	none	none	none	none
Benzo(ghi)perylene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(614-01) RP-01-65	(615-01) RP-06-30	(616-01) RP-06-87	(619-01) W-03-S	(620-01) W-03-I
Benzofluorantthenes	none	none	none	none	none
Benzoic acid	UJ MI	none	none	none	none
Benzyl alcohol	none	none	none	none	none
Bis(2-Chloroethoxy) methane	none	none	none	none	none
Bis(2-Chloroethyl) ether	none	none	none	none	none
Bis(2-chloroisopropyl) Ether	none	none	none	none	none
Bis(2-Ethylhexyl) pthalate	none	none	J DL	none	none
Butylbenzylphthalate	J DL	J DL	none	J DL	J DL
Carbazole	none	none	none	none	none
Chrysene	none	none	none	none	none
Dibenzo(a,h)anthracene	none	none	none	none	none
Dibenzofuran	none	none	none	none	none
Diethylphthalate	none	none	none	none	none
Dimethylphthalate	none	none	none	none	none
Di-n-butylphthalate	J DL	J DL	J DL	J DL	J DL
Di-n-octyl phthalate	none	none	none	none	none
Fluoranthene	none	none	none	none	none
Fluorene	none	none	none	none	none
Hexachlorobenzene	none	none	none	none	none
Hexachlorobutadiene	none	none	none	none	none
Hexachlorocyclopentadiene	none	none	none	none	none
Hexachloroethane	none	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	none	none	none
Isophorone	none	none	none	none	none
Naphthalene	none	none	none	none	none
Nitrobenzene	none	none	none	none	none
N-Nitrosodi-n-propyl amine	none	none	none	none	none
N-Nitrosodiphenylamine	none	none	none	none	none
Pentachlorophenol	UJ MI	none	none	none	none
Phenanthrene	none	none	none	none	none
Phenol	UJ MI	none	none	none	none
Pyrene	none	J DL	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(621-01) W-03-D	(622-01) W-04-S	(623-01) W-04-I	(624-01) W-04-89	(625-01) W-11-S
1,2,4-Trichlorobenzene	none	none	none	none	none
1,2-Dichlorobenzene	none	J DL	J DL	none	none
1,3-Dichlorobenzene	none	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none	none
1-Methylnaphthalene	none	none	none	none	J DL
2,4,5-Trichlorophenol	none	UJ LS	UJ LS	UJ LS	UJ LS
2,4,6-Trichlorophenol	none	UJ LS	UJ LS	UJ LS	UJ LS
2,4-Dichlorophenol	none	UJ LS	UJ LS	UJ LS	UJ LS
2,4-Dimethylphenol	none	UJ LS	UJ LS	UJ LS	J LS, DL
2,4-Dinitrophenol	none	UJ LS	UJ LS	UJ LS	UJ LS
2,4-Dinitrotoluene	none	none	none	none	none
2,6-Dinitrotoluene	none	none	none	none	none
2-Chloronapthalene	none	none	none	none	none
2-Chlorophenol	none	UJ LS	UJ LS	UJ LS	UJ LS
2-Methyl-4,6-dinitrophenol	none	UJ LS	UJ LS	UJ LS	UJ LS
2-Methylnaphthalene	none	none	none	none	none
2-Methylphenol	none	J LS	UJ LS	UJ LS	J LS, DL
2-Nitroaniline	none	none	none	none	none
2-Nitrophenol	none	UJ LS	UJ LS	UJ LS	none
3,3'-Dichlorobenzidine	none	none	none	none	none
3/4-Cresol	UJ LL	J LS	UJ LS	UJ LS, MI	J LS, DL
3-Nitroaniline	none	UJ BC	UJ BC	UJ BC	UJ BC
4-Bromophenylphenyl ether	none	none	none	none	none
4-Chloro-3-methylphenol	none	UJ LS	UJ LS	UJ LS	UJ LS
4-Chloroaniline	none	none	none	none	none
4-Chlorophenylphenyl ether	none	none	none	none	none
4-Nitroaniline	none	none	none	none	none
4-Nitrophenol	none	UJ LS	UJ LS	UJ LS	UJ LS
Acenaphthene	none	none	none	none	none
Acenaphthylene	none	none	J DL	none	none
Anthracene	none	none	none	none	none
Benzo(a)anthracene	none	none	none	none	none
Benzo(a)pyrene	none	none	none	none	none
Benzo(ghi)perylene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(621-01) W-03-D	(622-01) W-04-S	(623-01) W-04-I	(624-01) W-04-89	(625-01) W-11-S
Benzofluorantthenes	none	none	none	none	none
Benzoic acid	none	UJ LS	UJ LS	UJ LS	none
Benzyl alcohol	none	none	none	none	none
Bis(2-Chloroethoxy) methane	none	none	none	none	none
Bis(2-Chloroethyl) ether	none	none	none	none	none
Bis(2-chloroisopropyl) Ether	none	none	none	none	none
Bis(2-Ethylhexyl) pthalate	none	none	none	none	none
Butylbenzylphthalate	none	none	none	none	none
Carbazole	none	none	none	none	none
Chrysene	none	none	none	none	none
Dibenzo(a,h)anthracene	none	none	none	none	none
Dibenzofuran	none	none	none	none	none
Diethylphthalate	none	none	none	none	none
Dimethylphthalate	none	none	none	none	none
Di-n-butylphthalate	J DL	J DL	J DL	none	J DL
Di-n-octyl phthalate	none	none	none	none	none
Fluoranthene	none	none	none	none	none
Fluorene	none	none	none	none	none
Hexachlorobenzene	none	none	none	none	none
Hexachlorobutadiene	none	none	none	none	none
Hexachlorocyclopentadiene	none	none	none	none	none
Hexachloroethane	none	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	none	none	none
Isophorone	none	none	none	none	none
Naphthalene	none	none	none	none	none
Nitrobenzene	none	none	none	none	none
N-Nitrosodi-n-propyl amine	none	none	none	none	none
N-Nitrosodiphenylamine	none	none	none	none	none
Pentachlorophenol	none	UJ LS	UJ LS	UJ LS	UJ LS
Phenanthrene	none	none	none	none	none
Phenol	none	UJ LS	UJ LS	UJ LS	UJ LS
Pyrene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(626-01) W-11-I	(627-01) W-11-D	(628-01) W-11-B	(629-01) W-12-S	(630-01) W-12-I
1,2,4-Trichlorobenzene	none	none	none	none	none
1,2-Dichlorobenzene	none	none	none	none	none
1,3-Dichlorobenzene	none	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none	none
1-Methylnaphthalene	none	none	none	J DL	none
2,4,5-Trichlorophenol	UJ LS	R MI	UJ MI	J LS, DL	R LS
2,4,6-Trichlorophenol	UJ LS	R MI	UJ MI	J LS, DL	R LS
2,4-Dichlorophenol	UJ LS	J MI, DL	J MI, DL	J LS	R LS
2,4-Dimethylphenol	UJ LS	R MI	UJ MI	J LS, DL	R LS
2,4-Dinitrophenol	UJ LS	R MI	UJ MI	UJ LS	R LS
2,4-Dinitrotoluene	none	none	none	none	none
2,6-Dinitrotoluene	none	none	none	none	none
2-Chloronapthalene	none	none	none	none	none
2-Chlorophenol	UJ LS	R MI	J MI, DL	J LS, DL	R LS
2-Methyl-4,6-dinitrophenol	UJ LS	R MI	UJ MI	UJ LS	R LS
2-Methylnaphthalene	none	none	none	none	none
2-Methylphenol	UJ LS	R MI	UJ MI	J LS	R LS
2-Nitroaniline	none	none	none	none	none
2-Nitrophenol	UJ LS	R MI	UJ MI	UJ LS	R LS
3,3'-Dichlorobenzidine	none	none	none	none	none
3/4-Cresol	UJ LS	R MI	UJ MI	J LS, LL, MI	J LS, LL, DL
3-Nitroaniline	UJ BC	UJ BC	UJ BC	UJ BC	UJ BC
4-Bromophenylphenyl ether	none	none	none	none	none
4-Chloro-3-methylphenol	UJ LS	R MI	UJ MI	UJ LS	R LS
4-Chloroaniline	none	none	none	none	none
4-Chlorophenylphenyl ether	none	none	none	none	none
4-Nitroaniline	none	none	none	none	none
4-Nitrophenol	UJ LS	R MI	UJ MI	UJ LS	R LS
Acenaphthene	none	none	none	none	none
Acenaphthylene	none	none	none	none	none
Anthracene	none	none	none	none	none
Benzo(a)anthracene	none	none	none	none	none
Benzo(a)pyrene	none	none	none	none	none
Benzo(ghi)perylene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(626-01) W-11-I	(627-01) W-11-D	(628-01) W-11-B	(629-01) W-12-S	(630-01) W-12-I
Benzofluorantthenes	none	none	none	none	none
Benzoic acid	UJ LS	R MI	UJ MI	UJ LS	R LS
Benzyl alcohol	none	none	none	none	none
Bis(2-Chloroethoxy) methane	none	none	none	none	none
Bis(2-Chloroethyl) ether	none	none	none	none	none
Bis(2-chloroisopropyl) Ether	none	none	none	none	none
Bis(2-Ethylhexyl) pthalate	none	none	none	J DL	none
Butylbenzylphthalate	none	none	none	none	none
Carbazole	none	none	none	none	none
Chrysene	none	none	none	none	none
Dibenzo(a,h)anthracene	none	none	none	none	none
Dibenzofuran	none	none	none	none	none
Diethylphthalate	none	none	none	none	none
Dimethylphthalate	none	none	none	none	none
Di-n-butylphthalate	none	J DL	none	J DL	J DL
Di-n-octyl phthalate	none	none	none	none	none
Fluoranthene	none	none	none	J DL	none
Fluorene	none	none	none	none	none
Hexachlorobenzene	none	none	none	none	none
Hexachlorobutadiene	none	none	none	none	none
Hexachlorocyclopentadiene	none	none	none	none	none
Hexachloroethane	none	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	none	none	none
Isophorone	none	none	none	none	none
Naphthalene	none	none	J DL	none	none
Nitrobenzene	none	none	none	none	none
N-Nitrosodi-n-propyl amine	none	none	none	none	none
N-Nitrosodiphenylamine	none	none	none	none	none
Pentachlorophenol	UJ LS	R MI	UJ MI	UJ LS	R LS
Phenanthrene	none	none	none	none	none
Phenol	UJ LS	R MI	UJ MI	UJ LS	R LS
Pyrene	none	none	none	J DL	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(631-01) W-12-D	(635-01) AL6-96	(635-02) AL6-96	(636-01) W-09-86	(637-01) W-09-116
1,2,4-Trichlorobenzene	none	J DL	J DL	none	J DL
1,2-Dichlorobenzene	none	none	none	none	none
1,3-Dichlorobenzene	none	none	none	none	none
1,4-Dichlorobenzene	none	none	none	none	none
1-Methylnaphthalene	none	none	none	none	none
2,4,5-Trichlorophenol	UJ LS	UJ LS	R LS	R LS	R LS
2,4,6-Trichlorophenol	UJ LS	UJ LS	R LS	R LS	J LS, DL
2,4-Dichlorophenol	UJ LS	J LS	J LS	R LS	J LS
2,4-Dimethylphenol	UJ LS	UJ LS	R LS	R LS	R LS
2,4-Dinitrophenol	UJ LS	UJ LS	R LS	R LC, LL, LS	R LC, LL, LS
2,4-Dinitrotoluene	none	none	none	none	none
2,6-Dinitrotoluene	none	none	none	none	none
2-Chloronapthalene	none	none	none	none	none
2-Chlorophenol	UJ LS	UJ LS	R LS	R LS	R LS
2-Methyl-4,6-dinitrophenol	UJ LS	UJ LS	R LS	R LC, LL, LS	R LC, LL, LS
2-Methylnaphthalene	none	none	none	none	none
2-Methylphenol	UJ LS	J LS, DL	J LS, DL	R LS	R LS
2-Nitroaniline	none	none	none	none	none
2-Nitrophenol	UJ LS	UJ LS	R LS	R LS	R LS
3,3'-Dichlorobenzidine	none	none	none	none	none
3/4-Cresol	UJ LS, LL	UJ LS, LL	R LS, LL	R LL, LS	R LL, LS
3-Nitroaniline	UJ BC	UJ BC	UJ BC	UJ BC	UJ BC
4-Bromophenylphenyl ether	none	none	none	none	none
4-Chloro-3-methylphenol	UJ LS	J LS	J LS	R LS	J LS, DL
4-Chloroaniline	none	none	none	none	none
4-Chlorophenylphenyl ether	none	none	none	none	none
4-Nitroaniline	none	none	none	none	none
4-Nitrophenol	UJ LS	UJ LS	R LS	R LC, LL, LS	R LC, LL, LS
Acenaphthene	none	none	none	none	none
Acenaphthylene	none	none	none	none	none
Anthracene	none	none	none	none	none
Benzo(a)anthracene	none	none	none	none	none
Benzo(a)pyrene	none	none	none	none	none
Benzo(ghi)perylene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(631-01) W-12-D	(635-01) AL6-96	(635-02) AL6-96	(636-01) W-09-86	(637-01) W-09-116
Benzofluorantthenes	none	none	none	none	none
Benzoic acid	UJ LS	UJ LS	R LS	R LS	R LS
Benzyl alcohol	none	none	J DL	UJ LL	UJ LL
Bis(2-Chloroethoxy) methane	none	none	none	none	none
Bis(2-Chloroethyl) ether	none	none	none	none	none
Bis(2-chloroisopropyl) Ether	none	none	none	none	none
Bis(2-Ethylhexyl) pthalate	none	none	none	none	J DL
Butylbenzylphthalate	none	none	none	none	none
Carbazole	none	none	none	none	none
Chrysene	none	none	none	none	none
Dibenzo(a,h)anthracene	none	none	none	none	none
Dibenzofuran	none	none	none	none	none
Diethylphthalate	none	none	none	none	none
Dimethylphthalate	none	none	none	none	none
Di-n-butylphthalate	none	J DL	J DL	U HL, MB	U HL, MB
Di-n-octyl phthalate	none	none	none	none	none
Fluoranthene	none	none	none	none	none
Fluorene	none	none	none	none	none
Hexachlorobenzene	none	none	none	none	none
Hexachlorobutadiene	none	none	none	none	none
Hexachlorocyclopentadiene	none	none	none	UJ LC, LL	UJ LC, LL
Hexachloroethane	none	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	none	none	none
Isophorone	none	none	none	none	none
Naphthalene	none	J DL	J DL	none	none
Nitrobenzene	none	none	none	none	none
N-Nitrosodi-n-propyl amine	none	none	none	UJ LC	UJ LC
N-Nitrosodiphenylamine	none	none	none	none	none
Pentachlorophenol	UJ LS	UJ LS	R LS	R LC, LL, LS	R LC, LL, LS
Phenanthrene	none	none	none	none	none
Phenol	UJ LS	UJ LS	R LS	R LL, LS	R LL, LS
Pyrene	none	none	none	none	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(638-01) W-09
1,2,4-Trichlorobenzene	none
1,2-Dichlorobenzene	none
1,3-Dichlorobenzene	J DL
1,4-Dichlorobenzene	none
1-Methylnaphthalene	none
2,4,5-Trichlorophenol	UJ LS
2,4,6-Trichlorophenol	UJ LS
2,4-Dichlorophenol	UJ LS
2,4-Dimethylphenol	J LS, DL
2,4-Dinitrophenol	UJ LC, LL, LS
2,4-Dinitrotoluene	none
2,6-Dinitrotoluene	none
2-Chloronapthalene	none
2-Chlorophenol	UJ LS
2-Methyl-4,6-dinitrophenol	UJ LC, LL, LS
2-Methylnaphthalene	J DL
2-Methylphenol	J LS
2-Nitroaniline	none
2-Nitrophenol	UJ LS
3,3'-Dichlorobenzidine	none
3/4-Cresol	UJ LL, LS
3-Nitroaniline	UJ BC
4-Bromophenylphenyl ether	none
4-Chloro-3-methylphenol	UJ LS
4-Chloroaniline	none
4-Chlorophenylphenyl ether	none
4-Nitroaniline	none
4-Nitrophenol	UJ LC, LL, LS
Acenaphthene	J DL
Acenaphthylene	none
Anthracene	none
Benzo(a)anthracene	none
Benzo(a)pyrene	none
Benzo(ghi)perylene	none

Table 9
Data Qualifiers for Semivolatile Organic Compounds by EPA Method 8270C
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(638-01) W-09
Benzofluorantthenes	none
Benzoic acid	UJ LS
Benzyl alcohol	UJ LL
Bis(2-Chloroethoxy) methane	none
Bis(2-Chloroethyl) ether	none
Bis(2-chloroisopropyl) Ether	none
Bis(2-Ethylhexyl) pthalate	J DL
Butylbenzylphthalate	none
Carbazole	none
Chrysene	none
Dibenzo(a,h)anthracene	none
Dibenzofuran	none
Diethylphthalate	none
Dimethylphthalate	none
Di-n-butylphthalate	U HL, MB
Di-n-octyl phthalate	J DL
Fluoranthene	none
Fluorene	none
Hexachlorobenzene	none
Hexachlorobutadiene	none
Hexachlorocyclopentadiene	UJ LC, LL
Hexachloroethane	none
Indeno(1,2,3-cd)pyrene	none
Isophorone	none
Naphthalene	none
Nitrobenzene	none
N-Nitrosodi-n-propyl amine	UJ LC
N-Nitrosodiphenylamine	none
Pentachlorophenol	UJ LC, LL, LS
Phenanthrene	none
Phenol	UJ LL, LS
Pyrene	none

TABLE 10
Data Qualifiers for Organochlorine Pesticides by EPA Method 8081A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(601-01) WS-11-125	(602-01) WS-11-161	(603-01) WS-12-125	(604-01) WS-12-161	(605-01) RP-11-30
4,4'-DDD	UJ LS	none	none	N SC	none
4,4'-DDE	UJ LS	none	none	NJ SC, DL	none
4,4'-DDT	UJ MB, LS	NJ CH, SC	none	U MB	none
Aldrin	UJ LS	none	none	none	none
alpha-BHC	UJ LS	UJ LL	NJ SC, DL	none	none
alpha-Chlordane	UJ LS	none	none	none	none
beta-BHC	J LS, DL	none	none	J DL	none
delta-BHC	UJ LS	R LL	none	none	none
Dieldrin	UJ LS	none	none	NJ SC, DL	none
Endosulfan I	UJ LS	none	none	N SC	none
Endosulfan II	UJ LS	NJ SC, DL	none	none	J DL
Endosulfan sulfate	UJ LS	UJ LL	none	none	none
Endrin	UJ MB, LS	J DL	U MB	U MB	none
Endrin aldehyde	UJ LS	none	none	none	none
Endrin Ketone	UJ LS	none	none	none	none
gamma-BHC (Lindane)	NJ LS, SC	none	none	none	J DL
gamma-Chlordane	UJ LS	none	none	none	none
Heptachlor	J CH, LS, DL	none	none	none	none
Heptachlor epoxide	UJ LS	none	NJ SC, DL	none	none
Methoxychlor	UJ LS	none	none	none	none
Toxaphene	UJ LS	none	none	none	none

TABLE 10
Data Qualifiers for Organochlorine Pesticides by EPA Method 8081A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(606-01) RP-11-216	(607-01) RP-11-160	(608-01) RP-07-55	(609-01) RP-07-84	(609-06) RP-07-84
4,4'-DDD	none	none	none	NJ SC, DL	NJ SC, DL
4,4'-DDE	J DL	none	none	NJ SC, DL	NJ SC, DL
4,4'-DDT	none	U MB	U MB	none	NJ CH, SC
Aldrin	none	none	none	NJ SC, DL	none
alpha-BHC	NJ SC, DL	none	none	NJ LL, SC	NJ LL, SC
alpha-Chlordane	NJ SC, DL	none	none	J DL	J DL
beta-BHC	none	none	none	none	none
delta-BHC	none	none	none	NJ LL, SC	NJ LL, SC, LC
Dieldrin	none	none	none	none	none
Endosulfan I	none	none	none	none	N SC
Endosulfan II	none	none	NJ SC, DL	none	none
Endosulfan sulfate	none	none	none	UJ LL	UJ LL
Endrin	U MB	U MB	U MB	J DL	J DL
Endrin aldehyde	none	none	none	none	none
Endrin Ketone	none	none	none	none	none
gamma-BHC (Lindane)	none	none	none	none	NJ SC, DL
gamma-Chlordane	none	none	none	none	none
Heptachlor	none	none	none	J CH, DL	J CH, DL
Heptachlor epoxide	none	none	J DL	NJ SC, DL	NJ SC, DL
Methoxychlor	none	none	none	none	none
Toxaphene	none	none	none	none	none

TABLE 10
Data Qualifiers for Organochlorine Pesticides by EPA Method 8081A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(610-01) RP-07-119	(610-02) RP-07-119	(611-01) RP-07-30	(612-01) RP-01-31	(613-01) RP-01-51
4,4'-DDD	none	none	none	none	none
4,4'-DDE	none	none	J DL	none	none
4,4'-DDT	none	none	NJ CH, SC	none	J DL
Aldrin	none	none	none	none	none
alpha-BHC	NJ LL, SC, DL	NJ LL, SC, DL	UJ LL	none	NJ SC, DL
alpha-Chlordane	none	J DL	none	none	none
beta-BHC	none	none	J DL	none	none
delta-BHC	NJ LL, SC, DL	NJ LL, SC	J LL, DL, LC	UJ LC	UJ LC
Dieldrin	none	none	none	none	none
Endosulfan I	none	none	none	none	none
Endosulfan II	none	none	J DL	none	none
Endosulfan sulfate	UJ LL	UJ LL	UJ LL	none	none
Endrin	none	J DL	none	none	NJ SC, DL
Endrin aldehyde	none	none	none	none	none
Endrin Ketone	none	none	none	none	J DL
gamma-BHC (Lindane)	none	none	none	none	none
gamma-Chlordane	none	none	none	none	none
Heptachlor	none	none	none	none	NJ SC, DL, CH
Heptachlor epoxide	none	none	none	none	none
Methoxychlor	none	none	none	none	none
Toxaphene	none	none	none	none	none

TABLE 10
Data Qualifiers for Organochlorine Pesticides by EPA Method 8081A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(614-01) RP-01-65	(615-01) RP-06-30	(616-01) RP-06-87	(619-01) W-03-S	(620-01) W-03-I	(621-01) W-03-D
4,4'-DDD	none	none	none	none	J DL	none
4,4'-DDE	none	none	none	none	none	none
4,4'-DDT	none	U MB	none	none	none	U MB
Aldrin	none	none	none	none	none	none
alpha-BHC	none	none	none	none	J DL	none
alpha-Chlordane	none	none	none	none	none	none
beta-BHC	none	NJ SC	none	NJ SC	none	none
delta-BHC	UJ LC	none	none	none	none	none
Dieldrin	none	none	none	none	NJ SC, DL	none
Endosulfan I	none	none	none	none	none	none
Endosulfan II	none	NJ SC, DL	none	none	none	none
Endosulfan sulfate	none	none	none	none	none	none
Endrin	none	U MB	none	none	U MB	U MB
Endrin aldehyde	none	none	none	none	none	none
Endrin Ketone	none	J DL	none	none	NJ SC	none
gamma-BHC (Lindane)	none	none	none	none	NJ SC, DL	none
gamma-Chlordane	none	none	none	none	none	none
Heptachlor	J DL, CH	NJ SC	none	none	none	J DL
Heptachlor epoxide	none	none	none	none	none	none
Methoxychlor	none	none	none	none	none	none
Toxaphene	none	none	none	none	none	none

TABLE 10
Data Qualifiers for Organochlorine Pesticides by EPA Method 8081A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(622-01) W-04-S	(623-01) W-04-I	(624-01) W-04-89	(625-01) W-11-S	(626-01) W-11-I	(627-01) W-11-D
4,4'-DDD	NJ HL, SC, DL	J HL, DL, LS	none	UJ LS	UJ LS	NJ HL, SC
4,4'-DDE	NJ SC, DL	UJ LS	none	UJ LS	UJ LS	none
4,4'-DDT	U MB	UJ MB, LS	none	UJ LS	UJ MB, LS	J CH
Aldrin	none	UJ LS	none	UJ LS	UJ LS	none
alpha-BHC	none	UJ LS	UJ LM	UJ LS	UJ LS	NJ HL, SC
alpha-Chlordane	NJ SC, DL	UJ LS	none	UJ LS	UJ LS	N SC
beta-BHC	none	UJ LS	N SC	UJ LS	UJ LS	none
delta-BHC	none	NJ HL, LS, SC, DL	R LM	UJ LS	UJ LS	none
Dieldrin	none	UJ LS	none	UJ LS	UJ LS	none
Endosulfan I	none	UJ LS	none	UJ LS	UJ LS	none
Endosulfan II	NJ HL, SC	NJ HL, LS, SC, DL	none	UJ LS	UJ LS	none
Endosulfan sulfate	none	UJ LS	UJ LM	UJ LS	UJ LS	none
Endrin	J LC	J LC, LS	UJ LC, MB	J LS	J LS	N SC
Endrin aldehyde	none	UJ LS	none	UJ LS	UJ LS	none
Endrin Ketone	none	UJ MB, LS	UJ MB	UJ MB, LS	UJ MB, LS	none
gamma-BHC (Lindane)	none	UJ LS	none	UJ LS	UJ LS	none
gamma-Chlordane	none	UJ LS	none	UJ LS	UJ LS	none
Heptachlor	NJ SC, DL	UJ LS	none	UJ LS	UJ LS	none
Heptachlor epoxide	NJ SC, DL	NJ LS, SC, DL	none	UJ LS	UJ LS	none
Methoxychlor	none	UJ LS	none	UJ LS	UJ LS	none
Toxaphene	none	UJ LS	none	UJ LS	UJ LS	none

TABLE 10
Data Qualifiers for Organochlorine Pesticides by EPA Method 8081A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(628-01) W-11-B	(629-01) W-12-S	(630-01) W-12-I	(631-01) W-12-D	(635-01) AL6-96	(635-02) AL6-96
4,4'-DDD	none	J LS, LM	J DL	none	J HS	J HS
4,4'-DDE	none	NJ LS, SC, DL	none	none	NJ HS, SC, DL	none
4,4'-DDT	U MB	NJ LS, SC, DL	none	none	J HS	J HS
Aldrin	none	UJ LS	none	none	none	NJ CH, HS, SC, DL
alpha-BHC	none	UJ LS, LS	none	none	NJ CH, HS, SC, DL	NJ CH, HS, SC, DL
alpha-Chlordane	none	NJ LS, MI, SC	none	none	NJ HS, SC	NJ HS, SC
beta-BHC	none	UJ LS	none	none	none	none
delta-BHC	none	UJ LS	none	none	NJ HS, SC, DL	none
Dieldrin	none	UJ LS	none	none	none	none
Endosulfan I	none	UJ LS	none	none	none	none
Endosulfan II	none	UJ LS	NJ SC, DL	none	J HS, DL	none
Endosulfan sulfate	none	UJ LS	none	none	none	none
Endrin	U MB	UJ MB, LS	U MB	U MB	none	none
Endrin aldehyde	none	UJ LS, SC	none	none	none	none
Endrin Ketone	U MB	UJ LS	none	none	NJ HS, SC, DL	none
gamma-BHC (Lindane)	none	UJ LS	none	none	none	none
gamma-Chlordane	none	NJ LS, SC, DL	none	none	none	none
Heptachlor	none	UJ LS	none	none	NJ CH, HS, SC	NJ CH, HS, SC
Heptachlor epoxide	none	UJ LS	none	none	J HS	J HS
Methoxychlor	none	UJ LS	none	none	none	none
Toxaphene	none	UJ LS	none	none	none	none

TABLE 10
Data Qualifiers for Organochlorine Pesticides by EPA Method 8081A
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(636-01) W-09-86	(637-01) W-09-116	(638-01) W-09
4,4'-DDD	none	none	J LS
4,4'-DDE	none	N SC	UJ LS
4,4'-DDT	none	none	NJ CH, LS, SC
Aldrin	none	none	UJ LS
alpha-BHC	none	none	UJ LS
alpha-Chlordane	none	none	NJ LS, SC
beta-BHC	none	N SC	UJ LS
delta-BHC	none	NJ CH, SC, DL	UJ LS
Dieldrin	none	none	UJ LS
Endosulfan I	none	none	UJ LS
Endosulfan II	none	N SC	NJ LS, SC
Endosulfan sulfate	none	none	NJ LS, SC
Endrin	J CH, DL	NJ CH, SC, DL	NJ CH, LS, SC
Endrin aldehyde	none	none	UJ LS
Endrin Ketone	none	none	NJ CH, LS, SC
gamma-BHC (Lindane)	none	none	UJ LS
gamma-Chlordane	none	NJ LC, SC	NJ LS, SC
Heptachlor	none	N SC	J LS
Heptachlor epoxide	none	none	UJ LS
Methoxychlor	none	none	UJ LS
Toxaphene	none	none	UJ LS

TABLE 11
Data Qualifiers for Semivolatile Petroleum Products by NWTPH-Dx
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	(601-01) WS-11-125	(602-01) WS-11-161	(603-01) WS-12-125	(604-01) WS-12-161
Diesel Range Organics	none	J DL	none	J DL
Residual Range Organics	U MB	U MB	U MB	none
Analyte	**(605-01) RP-11-30**	**(606-01) RP-11-216**	**(607-01) RP-11-160**	**(608-01) RP-07-55**
Diesel Range Organics	J DL	none	none	J DL
Residual Range Organics	none	none	none	J DL
Analyte	**(609-01) RP-07-84**	**(610-01) RP-07-119**	**(611-01) RP-07-30**	**(612-01) RP-01-31**
Diesel Range Organics	none	J DL	none	none
Residual Range Organics	none	J DL	none	none
Analyte	**(613-01) RP-01-51**	**(614-01) RP-01-65**	**(615-01) RP-06-30**	**(616-01) RP-06-87**
Diesel Range Organics	none	none	J DL	none
Residual Range Organics	J DL	J DL	J DL	none
Analyte	**(619-01) W-03-S**	**(620-01) W-03-I**	**(621-01) W-03-D**	**(622-01) W-04-S**
Diesel Range Organics	J DL	none	J DL	none
Residual Range Organics	J DL	J DL	none	J DL
Analyte	**(623-01) W-04-I**	**(624-01) W-04-89**	**(625-01) W-11-S**	**(626-01) W-11-I**
Diesel Range Organics	J DL	none	none	J DL
Residual Range Organics	J DL	none	J DL	none
Analyte	**(627-01) W-11-D**	**(628-01) W-11-B**	**(629-01) W-12-S**	**(630-01) W-12-I**
Diesel Range Organics	none	none	none	J DL
Residual Range Organics	J DL	none	none	J DL
Analyte	**(631-01) W-12-D**	**(635-01) AL6-96**	**(635-02) AL6-96**	**(636-01) W-09-86**
Diesel Range Organics	UJ LE	none	none	J DL
Residual Range Organics	UJ LE	J DL	J DL	none
Analyte	**(637-01) W-09-116**	**(638-01) W-09**		
Diesel Range Organics	none	none		
Residual Range Organics	J DL	none		

TABLE 12
Data Qualifiers for Metals by EPA 6000/7000 Methods
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte		(601-01) WS-11-125	(602-01) WS-11-161	(603-01) WS-12-125	(604-01) WS-12-161
Dissolved	Aluminum	none	none	J DL	J DL
Dissolved	Calcium	none	none	none	none
Dissolved	Iron	none	none	none	none
Dissolved	Magnesium	J LM	none	none	none
Dissolved	Manganese	none	none	none	none
Dissolved	Potassium	none	none	none	none
Dissolved	Sodium	none	none	none	none
Dissolved	Zinc	none	none	none	none
Dissolved	Arsenic	none	none	none	J DL
Dissolved	Cadmium	none	none	none	none
Dissolved	Chromium	none	none	none	none
Dissolved	Copper	J DL	J DL	J DL	U MB
Dissolved	Lead	J DL	J DL	J DL	J DL
Dissolved	Nickel	none	none	none	J DL
Dissolved	Vanadium	none	J DL	none	J DL
Dissolved	Mercury	none	none	none	none
Total	Aluminum	none	none	J DL	none
Total	Calcium	none	none	none	none
Total	Iron	none	none	none	none
Total	Magnesium	none	none	none	none
Total	Manganese	none	none	none	none
Total	Potassium	J HM	none	none	none
Total	Sodium	none	none	none	none
Total	Zinc	none	none	none	none
Total	Arsenic	none	none	J DL	none
Total	Cadmium	none	none	none	none
Total	Chromium	none	none	none	none
Total	Copper	J DL	J DL	J DL	J DL
Total	Lead	J DL	J DL	J DL	U MB
Total	Nickel	J DL	none	none	none
Total	Vanadium	J DL	J DL	J DL	none
Total	Mercury	none	none	none	none

TABLE 12
Data Qualifiers for Metals by EPA 6000/7000 Methods
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte		(605-01) RP-11-30	(606-01) RP-11-216	(607-01) RP-11-160	(608-01) RP-07-55
Dissolved	Aluminum	J DL	J DL	none	J DL
Dissolved	Calcium	none	none	none	none
Dissolved	Iron	none	none	none	none
Dissolved	Magnesium	none	none	none	none
Dissolved	Manganese	none	none	none	none
Dissolved	Potassium	J DL	none	J DL	none
Dissolved	Sodium	none	none	none	none
Dissolved	Zinc	none	none	none	J DL
Dissolved	Arsenic	none	J DL	none	none
Dissolved	Cadmium	none	none	none	none
Dissolved	Chromium	none	none	none	none
Dissolved	Copper	J DL	J DL	U MB	J DL
Dissolved	Lead	J DL	J DL	J DL	J DL
Dissolved	Nickel	none	none	none	none
Dissolved	Vanadium	none	none	J DL	none
Dissolved	Mercury	none	none	none	none
Total	Aluminum	none	J DL	J DL	none
Total	Calcium	none	none	none	none
Total	Iron	none	none	none	none
Total	Magnesium	none	none	none	none
Total	Manganese	none	none	none	none
Total	Potassium	none	none	J DL	none
Total	Sodium	J DL	none	none	none
Total	Zinc	none	none	none	J DL
Total	Arsenic	U MB	none	none	none
Total	Cadmium	none	none	none	none
Total	Chromium	none	none	none	none
Total	Copper	none	J DL	J DL	J DL
Total	Lead	J DL	J DL	U MB	U MB
Total	Nickel	none	none	none	none
Total	Vanadium	none	J DL	J DL	none
Total	Mercury	none	none	none	none

TABLE 12
Data Qualifiers for Metals by EPA 6000/7000 Methods
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte		(609-01) RP-07-84	(609-06) RP-07-84	(610-01) RP-07-119	(610-02) RP-07-119
Dissolved	Aluminum	J DL	J DL	J DL	J DL
Dissolved	Calcium	none	none	none	none
Dissolved	Iron	none	none	J DL	J DL
Dissolved	Magnesium	none	none	none	none
Dissolved	Manganese	none	none	none	none
Dissolved	Potassium	none	none	none	none
Dissolved	Sodium	none	none	none	none
Dissolved	Zinc	none	none	J DL	none
Dissolved	Arsenic	none	none	J DL	J DL
Dissolved	Cadmium	J DL	none	J DL	none
Dissolved	Chromium	none	none	none	none
Dissolved	Copper	J DL	J DL	J DL	J DL
Dissolved	Lead	J DL	J DL	J DL	J DL
Dissolved	Nickel	none	none	none	none
Dissolved	Vanadium	none	none	none	none
Dissolved	Mercury	none	none	none	none
Total	Aluminum	J DL	J DL	J DL	J DL
Total	Calcium	none	none	none	none
Total	Iron	none	none	none	none
Total	Magnesium	none	none	none	none
Total	Manganese	none	none	none	none
Total	Potassium	none	none	none	none
Total	Sodium	none	none	none	none
Total	Zinc	none	none	none	none
Total	Arsenic	J DL	J DL	none	none
Total	Cadmium	none	none	none	none
Total	Chromium	none	none	none	none
Total	Copper	none	none	J DL	J DL
Total	Lead	U MB	U MB	U MB	U MB
Total	Nickel	none	none	none	none
Total	Vanadium	J DL	J DL	J DL	J DL
Total	Mercury	none	none	none	none

TABLE 12
Data Qualifiers for Metals by EPA 6000/7000 Methods
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte		(611-01) RP-07-30	(612-01) RP-01-31	(613-01) RP-01-51	(614-01) RP-01-65
Dissolved	Aluminum	none	J DL	none	J DL
Dissolved	Calcium	none	none	none	none
Dissolved	Iron	none	none	J DL	J DL
Dissolved	Magnesium	none	none	none	none
Dissolved	Manganese	none	none	none	none
Dissolved	Potassium	none	J DL	none	none
Dissolved	Sodium	none	none	none	none
Dissolved	Zinc	none	none	none	none
Dissolved	Arsenic	none	none	none	none
Dissolved	Cadmium	none	none	J DL	J DL
Dissolved	Chromium	none	none	none	none
Dissolved	Copper	J DL	J DL	none	none
Dissolved	Lead	J DL	J DL	J DL	J DL
Dissolved	Nickel	none	J DL	none	none
Dissolved	Vanadium	none	none	none	none
Dissolved	Mercury	none	none	none	none
Total	Aluminum	none	none	none	J DL
Total	Calcium	none	none	none	none
Total	Iron	none	none	J DL	none
Total	Magnesium	none	none	none	none
Total	Manganese	none	none	none	none
Total	Potassium	none	J DL	none	none
Total	Sodium	none	none	none	none
Total	Zinc	none	U MB	none	none
Total	Arsenic	none	none	none	none
Total	Cadmium	none	none	J DL	J DL
Total	Chromium	none	none	J DL	none
Total	Copper	J DL	none	none	none
Total	Lead	U MB	J DL	J DL	J DL
Total	Nickel	none	none	none	none
Total	Vanadium	J DL	none	none	none
Total	Mercury	none	none	none	none

TABLE 12
Data Qualifiers for Metals by EPA 6000/7000 Methods
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte		(615-01) RP-06-30	(616-01) RP-06-87	(619-01) W-03-S	(620-01) W-03-I
Dissolved	Aluminum	none	J DL	J DL	none
Dissolved	Calcium	none	none	none	none
Dissolved	Iron	none	none	none	none
Dissolved	Magnesium	none	none	none	none
Dissolved	Manganese	none	none	none	none
Dissolved	Potassium	J DL	none	none	none
Dissolved	Sodium	none	none	none	none
Dissolved	Zinc	none	none	none	J DL
Dissolved	Arsenic	none	none	none	none
Dissolved	Cadmium	none	J DL	none	none
Dissolved	Chromium	none	none	none	none
Dissolved	Copper	J DL	none	J DL	none
Dissolved	Lead	J DL	J DL	J DL	J DL
Dissolved	Nickel	J DL	none	none	none
Dissolved	Vanadium	none	none	J DL	J DL
Dissolved	Mercury	none	none	none	none
Total	Aluminum	J DL	J DL	J DL	none
Total	Calcium	none	none	none	none
Total	Iron	none	none	none	none
Total	Magnesium	none	none	none	none
Total	Manganese	none	none	none	none
Total	Potassium	J DL	none	none	none
Total	Sodium	none	none	none	none
Total	Zinc	U MB	U MB	UJ MB, DL	U MB
Total	Arsenic	none	none	none	none
Total	Cadmium	none	J DL	none	none
Total	Chromium	J DL	J DL	none	none
Total	Copper	J DL	none	none	none
Total	Lead	J DL	J DL	J DL	J DL
Total	Nickel	J DL	none	none	none
Total	Vanadium	none	none	J DL	none
Total	Mercury	none	none	none	none

TABLE 12
Data Qualifiers for Metals by EPA 6000/7000 Methods
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte		(621-01) W-03-D	(622-01) W-04-S	(623-01) W-04-I	(624-01) W-04-89
Dissolved	Aluminum	J DL	none	J DL	none
Dissolved	Calcium	none	none	none	none
Dissolved	Iron	none	J DL	none	none
Dissolved	Magnesium	none	none	none	none
Dissolved	Manganese	none	none	none	none
Dissolved	Potassium	none	none	none	none
Dissolved	Sodium	none	none	none	none
Dissolved	Zinc	none	none	none	none
Dissolved	Arsenic	none	none	none	none
Dissolved	Cadmium	none	J DL	J DL	none
Dissolved	Chromium	none	none	none	none
Dissolved	Copper	J DL	J DL	none	J DL
Dissolved	Lead	J DL	J DL	J DL	J DL
Dissolved	Nickel	J DL	J DL	none	none
Dissolved	Vanadium	J DL	none	none	J DL
Dissolved	Mercury	none	none	none	none
Total	Aluminum	J DL	J DL	J DL	J DL
Total	Calcium	none	none	none	none
Total	Iron	none	J DL	none	none
Total	Magnesium	none	none	none	none
Total	Manganese	none	none	none	none
Total	Potassium	none	none	none	none
Total	Sodium	none	none	none	none
Total	Zinc	U MB	U MB	U MB	U MB
Total	Arsenic	none	J DL	none	none
Total	Cadmium	none	J DL	none	J DL
Total	Chromium	J DL	none	J DL	none
Total	Copper	J DL	J DL	none	none
Total	Lead	J DL	none	J DL	J DL
Total	Nickel	J DL	none	none	none
Total	Vanadium	J DL	none	J DL	none
Total	Mercury	none	none	none	none

TABLE 12
Data Qualifiers for Metals by EPA 6000/7000 Methods
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte		(625-01) W-11-S	(626-01) W-11-I	(627-01) W-11-D	(628-01) W-11-B
Dissolved	Aluminum	none	none	J DL	J DL
Dissolved	Calcium	none	none	none	none
Dissolved	Iron	none	none	none	none
Dissolved	Magnesium	none	none	none	none
Dissolved	Manganese	J DL	none	none	none
Dissolved	Potassium	none	none	none	none
Dissolved	Sodium	none	none	none	none
Dissolved	Zinc	none	none	none	none
Dissolved	Arsenic	none	none	none	none
Dissolved	Cadmium	J DL	none	none	none
Dissolved	Chromium	J DL	none	none	none
Dissolved	Copper	J DL	J DL	none	none
Dissolved	Lead	J DL	J DL	J DL	J DL
Dissolved	Nickel	none	none	none	none
Dissolved	Vanadium	none	none	none	J DL
Dissolved	Mercury	none	none	none	none
Total	Aluminum	none	none	none	none
Total	Calcium	none	none	none	none
Total	Iron	none	none	none	none
Total	Magnesium	none	none	none	none
Total	Manganese	none	none	none	none
Total	Potassium	none	none	none	none
Total	Sodium	none	none	none	none
Total	Zinc	none	none	none	none
Total	Arsenic	none	none	none	J DL
Total	Cadmium	J DL	none	none	none
Total	Chromium	none	none	none	none
Total	Copper	J DL	J DL	none	J DL
Total	Lead	J DL	J DL	J DL	J DL
Total	Nickel	none	none	none	none
Total	Vanadium	none	none	none	J DL
Total	Mercury	none	none	none	none

TABLE 12
Data Qualifiers for Metals by EPA 6000/7000 Methods
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte		(629-01) W-12-S	(630-01) W-12-I	(631-01) W-12-D	(635-01) AL6-96
Dissolved	Aluminum	none	none	none	none
Dissolved	Calcium	none	none	none	none
Dissolved	Iron	none	none	none	none
Dissolved	Magnesium	J DL	none	none	none
Dissolved	Manganese	J DL	none	none	none
Dissolved	Potassium	none	none	none	none
Dissolved	Sodium	none	none	none	none
Dissolved	Zinc	none	none	none	none
Dissolved	Arsenic	none	none	none	none
Dissolved	Cadmium	J DL	none	none	none
Dissolved	Chromium	J DL	none	J DL	none
Dissolved	Copper	U RB	U RB	U RB	J DL
Dissolved	Lead	U RB	U RB	U RB	J DL
Dissolved	Nickel	none	none	none	none
Dissolved	Vanadium	none	J DL	J DL	none
Dissolved	Mercury	none	none	none	none
Total	Aluminum	none	none	J DL	none
Total	Calcium	none	none	none	none
Total	Iron	J DL	none	none	none
Total	Magnesium	J DL	none	none	none
Total	Manganese	J DL	none	none	none
Total	Potassium	none	J DL	none	none
Total	Sodium	none	none	none	none
Total	Zinc	none	none	none	none
Total	Arsenic	none	none	none	none
Total	Cadmium	J DL	none	none	none
Total	Chromium	U RB	U RB	U RB	none
Total	Copper	U RB	U RB	U RB	none
Total	Lead	J DL	U RB	J DL	J DL
Total	Nickel	none	none	none	none
Total	Vanadium	none	none	J DL	J DL
Total	Mercury	none	none	none	none

TABLE 12
Data Qualifiers for Metals by EPA 6000/7000 Methods
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte		(635-02) AL6-96	(636-01) W-09-86	(637-01) W-09-116	(638-01) W-09
Dissolved	Aluminum	none	none	none	J DL
Dissolved	Calcium	none	none	none	none
Dissolved	Iron	none	J DL	none	none
Dissolved	Magnesium	none	none	none	none
Dissolved	Manganese	none	none	none	none
Dissolved	Potassium	none	none	none	J DL
Dissolved	Sodium	none	none	none	none
Dissolved	Zinc	none	none	none	none
Dissolved	Arsenic	none	none	none	none
Dissolved	Cadmium	none	J DL	none	none
Dissolved	Chromium	none	J DL	J DL	none
Dissolved	Copper	J DL	J DL	J DL	none
Dissolved	Lead	J DL	J DL	J DL	none
Dissolved	Nickel	none	none	none	none
Dissolved	Vanadium	none	none	J DL	none
Dissolved	Mercury	none	none	none	none
Total	Aluminum	none	U MB	U MB	none
Total	Calcium	none	J HM	none	none
Total	Iron	none	J DL	none	none
Total	Magnesium	none	J HM	none	none
Total	Manganese	none	none	none	none
Total	Potassium	none	none	none	J DL
Total	Sodium	none	none	none	none
Total	Zinc	none	none	none	J DL
Total	Arsenic	none	none	none	none
Total	Cadmium	none	J DL	J DL	none
Total	Chromium	none	none	none	none
Total	Copper	none	none	J DL	none
Total	Lead	J DL	J DL	J DL	none
Total	Nickel	none	none	none	none
Total	Vanadium	none	J DL	none	none
Total	Mercury	none	none	none	none

TABLE 13
Data Validation Reason Codes
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

AB	Headspace in VOA vials. Analytical result may be biased low.
BC	Bad calibration curve. Analytical results may be biased.
CH	High CCV recovery. Analytical result may be biased high.
DL	Value between MDL and RL.
HL	High LCS recovery. Analytical result may be biased high.
HM	High matrix spike recovery. Analytical result may be biased high.
HS	High surrogate recovery. Analytical result may be biased high.
HT	Holding time exceeded. Analytical result may be biased low.
LC	Low CCV recovery. Analytical result may be biased low.
LE	Laboratory error. Analytical result may be biased low.
LL	Low LCS recovery. Analytical result may be biased low.
LM	Low matrix spike recovery. Analytical result may be biased low.
LS	Low surrogate recovery. Analytical result may be biased low.
MB	Method blank contamination.
MI	Matrix Interference. Analytical result may be biased.
RB	Rinsate blank contamination.
RF	Relative response factor <0.01.
SC	Difference between dual-column results > 40%.
TB	Trip blank contamination.
UC	Upper calibration level exceeded.

ATTACHMENT D-2

DATA VALIDATION REPORT FOR THE WINTER 2006 GROUNDWATER MONITORING EVENT PCDD/PCDF RESULTS RP - Portland Site

August 3, 2006

Submitted to:

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0-61M-107030/Phase 43

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Table 2 Summary of Data Qualifiers for PCDD/PCDF Congeners

1.0 INTRODUCTION

A total of 37 groundwater samples from the Rhône-Poulenc (RP) Portland Site Winter 2006 Groundwater Monitoring Event were submitted to Severn Trent Laboratories, Inc. (STL) in Sacramento, California, or Frontier Analytical Laboratory (Frontier) in El Dorado Hills, California, for analysis of polychlorinated dioxins (PCDD) and dibenzofurans (PCDF) using United States Environmental Protection Agency (EPA) Method 1613B. The 37 water samples consisted of 33 primary samples, 3 field duplicates, and 1 rinsate blank. An aliquot of one of the primary samples was also submitted to Frontier as an interlaboratory split sample. A list of all samples by sample location, field sample identification (ID), sample collection date, STL sample ID, and Frontier sample ID may be found in Table 1.

2.0 DATA VALIDATION METHODOLOGY

Validation of these data followed the EPA Region 10 Standard Operating Procedure (SOP) for the Validation of PCDD and PCDF Data (EPA, 1996) and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (EPA, 2002), with reference to EPA Method 1613B (EPA, 1997) and EPA Method 8290 (EPA, 1994), and exceeded the level of validation specified in the Oregon Department of Environmental Quality (DEQ)-approved Revised Quality Assurance Project Plan (QAPP) dated June 13, 2001.

In general, it is important to recognize that no analytical data are guaranteed to be correct, even if all quality control (QC) audits are passed. Strict QC serves to increase confidence in data, but any reported value may potentially contain error.

3.0 CHAIN OF CUSTODY AND SAMPLE RECEIPT CONDITION DOCUMENTATION

3.1 Sample Receipt at STL

Samples were received at STL with acceptable chain of custody (COC) documentation, intact, and within the EPA-recommended 4 degrees centigrade (°C) +/- 2°C temperature range, except as described below:

- Samples WS-11-125 (601-01), WS-11-161 (602-01), WS-12-125 (603-01), WS-12-161 (604-01), RP-11-30 (605-01), RP-11-216 (606-01), RP-11-161 (607-01), RP-07-55 (608-01), RP-01-31 (612-01), RP-01-51 (613-01),

RP-01-65 (614-01), W-11-S (625-01), W-11-I (626-01), W-11-D (627-01), W-11-B (628-01), W-12-S (629-01), W-12-I (630-01), W-12-D (631-01), AL6-96 (635-01 and 635-02), W-09-86 (636-01), W-09-116 (637-01), W-09 (638-01), and rinsate blank 628-04 were received at the recorded temperature of 0°C. There is no indication that sample containers were broken due to the sample freezing and data usability is not adversely affected.

- Samples RP-06-30 (615-01), RP-06-87 (616-01), W-03-30 (619-01), W-03-I (620-01), W-03-D (621-01), W-04-S (622-01), W-04-I (623-01), and W-04-89 (624-01) were received at the recorded temperature of 1°C. One out of two bottles of sample RP-06-87 (616-01) were received broken. There was sufficient sample in the second bottle for analysis to proceed and data usability is not adversely affected.
- According to the sample receipt documentation, two bottles of sample RP-07-119 (610-02) were received, not one as indicated on the COC.
- According to the sample receipt documentation, the collection time for sample RP-01-31 (612-01) was listed as 10:46 on the COC and 10:45 on the sample label. Additionally, one of two bottles of this sample was received broken. There was sufficient sample in the second bottle for analysis to proceed and data usability is not adversely affected.

3.2 Sample Receipt at Frontier

Sample W-09-86 (636-05) was received by Frontier at the recorded temperature of 0°C. There is no indication that the sample container was broken due to the sample freezing and data usability is not adversely affected.

4.0 EPA METHOD 1613B

4.1 Holding Times

All samples were extracted within the method-specified holding time of one year from sample collection until extraction and all extracts were analyzed within the method specified time of one year from extraction until analysis.

4.2 GC/MS Performance Checks and Initial Calibration

Analysis of PCDD/PCDF in these samples on the primary DB-5 column was conducted under internal calibration (ICAL) 16130317061D5, ICAL 16130105069D5, and

ICAL 16130418065D5. 2,3,7,8-Tetrachlorodibenzofuran (TCDF) detections were confirmed on the DB-225 column under ICAL DB2250915057D2. Ion abundance ratios and percent relative standard deviation for all target compounds met EPA Method 1613B requirements.

4.3 Calibration Verification

All compounds in the calibration verification standards (VER) met method requirements for percent drift in relative response (%D) and ion abundance ratios.

4.4 Laboratory Blanks

Target analytes were not detected in the laboratory and rinsate blanks associated with the analysis of these samples, except as described below:

- Total pentachlorodibenzo-p-dioxin (PeCDD) and octachlorodibenzo-p-dioxin (OCDD) were detected in the method blank associated with preparation batch 6094464 at concentrations of 7.6 picograms per liter (pg/L) and 23 pg/L, respectively. AMEC Earth & Environmental, Inc. (AMEC) U qualified the total PeCDD detection from sample RP-07-119 (610-02) and the OCDD detection from sample RP-07-30 (611-01) because the concentrations detected in the blank were more than 20% the concentrations detected in the samples.
- 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (3.6 pg/L), total HpCDD (6.1 pg/L), and OCDD (18 pg/L) were detected in the method blank associated with preparation batch 6203573. AMEC U qualified the 1,2,3,4,6,7,8-HpCDD, total HpCDD, and OCDD detections from sample W-12-D (631-01); the 1,2,3,4,6,7,8-HpCDD and total HpCDD detections from sample W-12-S (629-01); and the OCDD detection from sample W-12-I (630-01) because the concentrations detected in the method blank were more than 20% the concentrations detected in the samples.
- OCDD (15 pg/L), 1,2,3,4,6,7,8-hexachlorodibenzofuran (HxCDF) (4.9 pg/L), and total HxCDF (4.9 pg/L) were detected in the method blank associated with preparation batch 6109340. AMEC U qualified the OCDD detections from samples W-09-86 (636-01) and W-09 (638-01) because the concentration detected in the method blank was more than 20% the concentrations detected in the samples.

4.5 Rinsate Blank

1,2,3,4,6,7,8-HpCDD (12 pg/L), total HpCDD (20 pg/L), OCDD (85 pg/L), total heptachlorodibenzofuran (HpCDF)(3.2 pg/L), and octachlorodibenzofuran (OCDF) (6.2 pg/L) were detected in rinsate blank 628-04. AMEC U qualified the detected total HpCDF and OCDF detections in sample W-12-D (631-01) because the concentrations detected in the rinsate blank were more than 20% the concentrations detected in the sample.

4.6 Recovery of C-13 Labeled Isotope Dilution Standards Used as Internal Standards

EPA Method 1613B uses an isotope dilution procedure for calculation of analyte concentrations. A total of 18 carbon or chlorine labeled PCDD and PCDF isomers are added to the sample or extract to monitor different aspects of the procedure. Of the 18 labeled isomers added, 15 are used as internal standards (IS) for calculation of analytical results. IS recovery problems affect all analytical results that are calculated using the affected IS, and not just the corresponding nonlabeled isomer.

Qualification of data based on IS results can seem counterintuitive in that low IS recovery implies a possible high bias in the calculated result, and high IS recovery can imply a possible low bias. The reason for this lies in the fact that low recovery implies lower than expected area counts for the IS, and high recovery implies higher than expected area counts. Because the area of the IS appears in the denominator of the equation for calculation of results using the IS technique, low IS area counts lead to high results for any calculation based on that IS, and high IS area counts lead to low results for any calculation based on that IS.

Recovery and performance of carbon labeled isotope dilution standards used as IS in all field and QC samples were within method-specified limits.

4.7 Instrument Recovery Internal Standards

The instrument recovery standards $^{13}C_{12}$-1,2,3,4-tetrachlorodibenzo-p-dioxin (TCDD) (DB-5 and DB-225 analyses) and $^{13}C_{12}$-1,2,3,7,8,9-HxCDD (DB-5 analysis only) are added to sample extracts and standards before injection into the gas chromatography/mass spectrometry (GC/MS). The instrument recovery standards are used to determine the recovery efficiency of the extraction and cleanup procedures, to determine if the GC/MS sensitivity and response are stable during the analytical run,

and to determine if the same amount of extract was injected into the GC/MS (EPA, 1996). The $^{13}C_{12}$-1,2,3,4-TCDD recovery standard is used to calculate recoveries of the TCDD, TCDF, PeCDD, and pentachlorodibenzofuran (PeCDF). The $^{13}C_{12}$-1,2,3,7,8,9-HxCDD recovery standard is used to calculate recoveries of the HxCDD, HxCDF, HpCDD, HpCDF, OCDD, and OCDF IS.

Recovery of the sums of the instrument recovery standards in all field and QC samples were within method requirements of 25 to 400% of initial area counts.

4.8 Ongoing Precision and Recovery Samples

STL extracted and analyzed a minimum of one ongoing precision and recovery sample (OPR) with each extraction batch. This equates to a total of 9 OPR results for 33 primary samples, or approximately 27%, which exceeds the rate of 5% specified in the DEQ-approved QAPP. Recovery and precision in OPR samples associated with this project were acceptable.

4.9 Surrogate Recovery

Because STL includes additional labeled isomers beyond those used as IS in the spiking solution added to samples, the additional isomers can be used in a manner analogous to surrogate compounds in order to monitor extraction and cleanup efficiency. Qualification of data based on recovery of these isomers is more straightforward than qualification based on IS. When recovery of one of these isomers falls outside acceptance limits, only the result from the corresponding nonlabeled isomer is qualified. No data are qualified based on recovery of the $^{37}Cl_4$-2,3,7,8-TCDD cleanup standard unless recoveries of other labeled compounds are also outside acceptance limits.

4.10 Matrix Spikes

Matrix spikes (MS) are not required QC for EPA Method 1613B. In order to evaluate MS recoveries, AMEC compared them against method-specified OPR acceptance limits.

STL performed MS on samples W-04-89 (624-01) and W-12-S (629-01). All analyte recoveries were within acceptance limits.

4.11 Data Reporting

STL J qualified data when the individual congener concentration was less than the instrument's lowest calibration level. All of STL's J qualifiers are appropriate and should be applied to the final data.

STL did not apply J qualifiers to the total homolog results. AMEC J qualified all total homolog results less than the reported sample-specific detection limit.

AMEC N qualified 2,3,7,8-TCDF results from samples RP-11-30 (605-01) and AL6-96 (635-01) because STL did not confirm the detections on a DB-225 column. The detection should be considered presumptive.

STL did not report the detected total HpCDD result from sample RP-11-30 (605-01). The concentration should be 38 pg/L, not nondetected (ND) at a concentration of 20 pg/L.

5.0 FIELD DUPLICATES

Samples RP-07-84 (609-01 and 609-06), RP-07-119 (610-01 and 610-02), and AL6-96 (635-01 and 635-02) were collected in duplicate. Target analytes were not detected in either the primary samples or in the field duplicates of RP-07-84 and RP-07-119.

2,3,7,8-TCDF and total TCDF were detected in the primary AL6-96 sample (635-01) at concentrations of 2.3 pg/L and 19 pg/L, respectively. Total TCDD was detected in the duplicate AL6-96 sample (635-02) at a concentration of 2.5 pg/L. Individual congeners were not detected in either sample at concentrations greater than the reporting limit and data usability is not adversely affected.

6.0 INTERLABORATORY SPLIT SAMPLE

Sample W-09-86 (636-01 and 636-05) was submitted to both STL and Frontier for analysis. The sample was labeled blindly, so that the primary laboratory (i.e., STL) was not aware which sample was also submitted to the QC laboratory (i.e., Frontier). Primary samples were coded with -01 appended to the blind sample ID, and split samples were coded with -05 appended to the blind sample ID. Target analytes were not detected in either the primary sample or in the interlaboratory split sample.

7.0 SUMMARY

PCDD/PCDF data generated for the Winter 2006 Groundwater Monitoring Event are of acceptable quality and are usable with the addition of the qualifiers listed in Table 2. Most data were qualified because of analyte detections in the method blanks or analyte detections below the instrument's lowest calibration level. No data were rejected based on analytical issues.

REFERENCES

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AMEC, 2006. *Winter 2006 Groundwater Monitoring Work Plan*, prepared by AMEC Earth & Environmental, Inc., submitted to Oregon Department of Environmental Quality, March 10, 2006.

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EPA, 1997. *Method 1613, Revision B. Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS*. Federal Register, Volume 62, Number 178. September 15, 1997.

EPA, 2002. *National Functional Guidelines for Chlorinated Dioxin/Furan Data Review*, Draft Final, EPA 540-R-02-003, March 2002.

LIMITATIONS

This report was prepared exclusively for SLLI by AMEC Earth & Environmental, Inc. (AMEC). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in AMEC services and based on:
i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This Data Validation Report for the Winter 2006 Groundwater Sampling Event, PCDD/PCDF Results is intended to be used by SLLI for the RP - Portland Site, 6200 N.W. St. Helens Road, Portland, Oregon only, subject to the terms and conditions of its contract with AMEC. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

TABLES

TABLE 1
Field Samples Submitted to Severn Trent Laboratories and Frontier Analytical Laboratory with Corresponding Laboratory IDs
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Sample Location	Field Sample ID	Sample Date	STL Sample ID	STL Batch ID	Frontier Sample ID	Notes
WS-11-125	601-01	03/20/2006	G6C250183-001	6090301	-	
WS-11-161	602-01	03/20/2006	G6C250183-002		-	
WS-12-125	603-01	03/20/2006	G6C250183-003		-	
WS-12-161	604-01	03/21/2006	G6C250181-001		-	
RP-11-30	605-01	03/21/2006	G6C250181-002		-	
RP-11-216	606-01	03/21/2006	G6C250181-003		-	
RP-11-161	607-01	03/22/2006	G6C2520179-001		-	
RP-07-55	608-01	03/22/2006	G6C2520179-002		-	
RP-07-84	609-01	03/23/2006	G6C280165-001	6094464	-	
RP-07-84	609-06	03/23/2006	G6C280165-002		-	Field duplicate
RP-07-119	610-01	03/23/2006	G6C280165-003		-	
RP-07-119	610-02	03/23/2006	G6C280165-004		-	Field duplicate
RP-07-30	611-01	03/23/2006	G6C280165-005		-	
RP-01-31	612-01	03/24/2006	G6C300233-001	6096542	-	
RP-01-51	613-01	03/24/2006	G6C300233-002		-	
RP-01-65	614-01	03/24/2006	G6C300233-003		-	
RP-06-30	615-01	03/27/2006	G6C300224-001		-	
RP-06-87	616-01	03/27/2006	G6C300224-002		-	
W-03-30	619-01	03/27/2006	G6C300224-003		-	
W-03-I	620-01	03/27/2006	G6C300224-004		-	
W-03-D	621-01	03/27/2006	G6C300224-005		-	
W-04-S	622-01	03/28/2006	G6C310253-001	6101387	-	
W-04-I	623-01	03/28/2006	G6C310253-002		-	
W-04-89	624-01	03/28/2006	G6C310253-003		-	
W-11-S	625-01	03/29/2006	G6D040291-001		-	
W-11-I	626-01	03/29/2006	G6D040291-002		-	
W-11-D	627-01	03/29/2006	G6D040291-003		-	
W-11-B	628-01	03/29/2006	G6D040291-004		-	
Rinsate Blank	628-04	03/30/2006	G6D050278-001	6103573	-	Rinsate blank
W-12-S	629-01	03/30/2006	G6D050278-002		-	
W-12-I	630-01	03/30/2006	G6D050278-003		-	
W-12-D	631-01	03/30/2006	G6D050278-004		-	
AL6-96	635-01	03/31/2006	G6D050289-001		-	
AL6-96	635-02	03/31/2006	G6D050289-002		-	Field duplicate
W-09-86	636-01	04/03/2006	G6D070215-001	6109340	-	
W-09-116	637-01	04/03/2006	G6D070215-002		-	
W-09	638-01	04/03/2006	G6D070215-003		-	
W-09-86	636-05	04/03/2006	-	-	3799-001-SA	Interlaboratory split

TABLE 2
Summary of Data Qualifiers for PCDD/PCDF Congeners
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	WS-11-125 601-01	WS-11-161 602-01	WS-12-125 603-01	WS-12-161 604-01	RP-11-30 605-01	RP-11-216 606-01
2,3,7,8-TCDD	none	none	none	none	none	none
1,2,3,7,8-PeCDD	none	none	none	none	none	none
1,2,3,4,7,8-HxCDD	none	none	none	none	none	none
1,2,3,6,7,8-HxCDD	none	none	none	none	none	none
1,2,3,7,8,9-HxCDD	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDD	**J**-DL	none	none	none	none	none
OCDD	none	none	none	none	none	none
2,3,7,8-TCDF	none	none	none	none	**NJ**-SC/DL	none
1,2,3,7,8-PeCDF	none	none	none	none	none	none
2,3,4,7,8-PeCDF	none	none	none	none	none	none
1,2,3,4,7,8-HxCDF	none	none	none	none	**J**-DL	none
1,2,3,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,7,8,9-HxCDF	none	none	none	none	none	none
2,3,4,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDF	none	none	none	none	**J**-DL	none
1,2,3,4,7,8,9-HpCDF	none	none	none	none	none	none
OCDF	none	none	none	none	**J**-DL	none
Total TCDD	none	none	none	none	none	none
Total PeCDD	none	none	none	none	none	none
Total HxCDD	none	none	none	none	none	none
Total HpCDD	none	none	none	none	**38**	none
Total TCDF	none	none	none	none	**J**-DL	none
Total PeCDF	none	none	none	none	none	none
Total HxCDF	none	none	none	none	**J**-DL	none
Total HpCDF	**J**-DL	none	none	none	**J**-DL	none

TABLE 2
Summary of Data Qualifiers for PCDD/PCDF Congeners
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	RP-11-161 607-01	RP-07-55 608-01	RP-07-84 609-01	RP-07-84 609-06	RP-07-119 610-01	RP-07-119 610-02
2,3,7,8-TCDD	none	none	none	none	none	none
1,2,3,7,8-PeCDD	none	none	none	none	none	none
1,2,3,4,7,8-HxCDD	none	none	none	none	none	none
1,2,3,6,7,8-HxCDD	none	none	none	none	none	none
1,2,3,7,8,9-HxCDD	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDD	none	none	none	none	none	none
OCDD	**J**-DL	none	none	none	none	none
2,3,7,8-TCDF	none	none	none	none	none	none
1,2,3,7,8-PeCDF	none	none	none	none	none	none
2,3,4,7,8-PeCDF	none	none	none	none	none	none
1,2,3,4,7,8-HxCDF	none	none	none	none	none	none
1,2,3,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,7,8,9-HxCDF	none	none	none	none	none	none
2,3,4,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDF	none	none	none	none	none	none
1,2,3,4,7,8,9-HpCDF	none	none	none	none	none	none
OCDF	none	none	none	none	none	none
Total TCDD	none	none	none	none	none	none
Total PeCDD	none	none	none	none	none	**U**-MB
Total HxCDD	none	none	none	none	none	none
Total HpCDD	none	none	none	none	none	none
Total TCDF	none	none	none	none	none	none
Total PeCDF	none	none	none	none	none	none
Total HxCDF	none	none	none	none	none	none
Total HpCDF	none	none	none	none	none	none

TABLE 2
Summary of Data Qualifiers for PCDD/PCDF Congeners
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	RP-07-30 611-01	RP-01-31 612-01	RP-01-51 613-01	RP-01-65 614-01	RP-06-30 615-01	RP-06-87 616-01
2,3,7,8-TCDD	none	none	none	none	none	none
1,2,3,7,8-PeCDD	none	none	none	none	none	none
1,2,3,4,7,8-HxCDD	none	none	none	none	none	none
1,2,3,6,7,8-HxCDD	none	none	none	none	none	none
1,2,3,7,8,9-HxCDD	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDD	none	none	none	none	none	none
OCDD	**U**-MB	none	none	none	none	none
2,3,7,8-TCDF	none	none	none	none	none	none
1,2,3,7,8-PeCDF	none	none	none	none	none	none
2,3,4,7,8-PeCDF	none	none	none	none	none	none
1,2,3,4,7,8-HxCDF	none	none	none	none	none	none
1,2,3,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,7,8,9-HxCDF	none	none	none	none	none	none
2,3,4,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDF	none	none	none	none	none	none
1,2,3,4,7,8,9-HpCDF	none	none	none	none	none	none
OCDF	none	none	none	none	none	none
Total TCDD	none	none	none	none	none	none
Total PeCDD	none	none	none	none	none	none
Total HxCDD	none	none	none	none	none	none
Total HpCDD	none	none	none	none	none	none
Total TCDF	none	none	none	none	none	none
Total PeCDF	none	none	none	none	none	none
Total HxCDF	none	none	none	none	none	none
Total HpCDF	none	none	none	none	none	none

TABLE 2
Summary of Data Qualifiers for PCDD/PCDF Congeners
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	W-03-30 619-01	W-03-I 620-01	W-03-D 621-01	W-04-S 622-01	W-04-I 623-01	W-04-89 624-01
2,3,7,8-TCDD	none	none	none	none	none	none
1,2,3,7,8-PeCDD	none	none	none	none	none	none
1,2,3,4,7,8-HxCDD	none	none	none	none	none	none
1,2,3,6,7,8-HxCDD	none	none	none	none	none	none
1,2,3,7,8,9-HxCDD	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDD	none	none	none	none	none	none
OCDD	none	none	none	**J**-DL	**J**-DL	none
2,3,7,8-TCDF	none	none	none	none	none	none
1,2,3,7,8-PeCDF	none	none	none	none	none	none
2,3,4,7,8-PeCDF	none	none	none	none	none	none
1,2,3,4,7,8-HxCDF	none	none	none	none	none	none
1,2,3,6,7,8-HxCDF	none	none	none	none	**J**-DL	none
1,2,3,7,8,9-HxCDF	none	none	none	none	none	none
2,3,4,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDF	none	none	none	none	none	none
1,2,3,4,7,8,9-HpCDF	none	none	none	none	none	none
OCDF	none	none	none	none	none	none
Total TCDD	none	none	none	none	none	none
Total PeCDD	none	none	none	none	none	none
Total HxCDD	none	none	none	none	none	none
Total HpCDD	none	none	none	none	none	none
Total TCDF	none	none	none	**J**-DL	none	none
Total PeCDF	none	none	none	none	none	none
Total HxCDF	none	none	none	none	none	none
Total HpCDF	none	none	none	none	none	none

TABLE 2
Summary of Data Qualifiers for PCDD/PCDF Congeners
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	W-11-S 625-01	W-11-I 626-01	W-11-D 627-01	W-11-B 628-01	W-12-S 629-01	W-12-I 630-01
2,3,7,8-TCDD	none	none	none	none	none	none
1,2,3,7,8-PeCDD	none	none	none	none	none	none
1,2,3,4,7,8-HxCDD	none	none	none	none	none	none
1,2,3,6,7,8-HxCDD	none	none	none	none	none	none
1,2,3,7,8,9-HxCDD	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDD	none	**J**-DL	none	none	**U**-MB	none
OCDD	none	none	**J**-DL	**J**-DL	none	**U**-MB
2,3,7,8-TCDF	none	none	none	none	none	none
1,2,3,7,8-PeCDF	none	none	none	none	none	none
2,3,4,7,8-PeCDF	none	none	none	none	none	none
1,2,3,4,7,8-HxCDF	none	none	none	none	none	none
1,2,3,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,7,8,9-HxCDF	none	none	none	none	none	none
2,3,4,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDF	none	none	none	none	none	none
1,2,3,4,7,8,9-HpCDF	none	none	none	none	none	none
OCDF	none	**J**-DL	none	none	none	none
Total TCDD	none	none	none	none	none	none
Total PeCDD	none	none	none	none	none	none
Total HxCDD	none	none	none	none	none	none
Total HpCDD	none	**J**-DL	none	none	**U**-MB	none
Total TCDF	none	none	none	none	none	none
Total PeCDF	none	none	none	none	none	none
Total HxCDF	none	none	none	none	none	none
Total HpCDF	none	**J**-DL	none	none	none	none

TABLE 2
Summary of Data Qualifiers for PCDD/PCDF Congeners
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Analyte	W-12-D 631-01	AL6-96 635-01	AL6-96 635-02	W-09-86 636-01	W-09-116 637-01	W-09 638-01
2,3,7,8-TCDD	none	none	none	none	none	none
1,2,3,7,8-PeCDD	none	none	none	none	none	none
1,2,3,4,7,8-HxCDD	none	none	none	none	none	none
1,2,3,6,7,8-HxCDD	none	none	none	none	none	none
1,2,3,7,8,9-HxCDD	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDD	**U**-MB	none	none	none	none	none
OCDD	**U**-MB	none	none	**U**-MB	none	**U**-MB
2,3,7,8-TCDF	none	**NJ**-SC/DL	none	none	none	none
1,2,3,7,8-PeCDF	none	none	none	none	none	none
2,3,4,7,8-PeCDF	none	none	none	none	none	none
1,2,3,4,7,8-HxCDF	none	none	none	none	none	none
1,2,3,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,7,8,9-HxCDF	none	none	none	none	none	none
2,3,4,6,7,8-HxCDF	none	none	none	none	none	none
1,2,3,4,6,7,8-HpCDF	none	none	none	none	none	none
1,2,3,4,7,8,9-HpCDF	none	none	none	none	none	none
OCDF	**U**-FB	none	none	none	none	none
Total TCDD	none	none	**J**-DL	none	none	none
Total PeCDD	none	none	none	none	none	none
Total HxCDD	none	none	none	none	none	none
Total HpCDD	**U**-MB	none	none	none	none	none
Total TCDF	none	none	none	none	none	none
Total PeCDF	none	none	none	none	none	none
Total HxCDF	none	none	none	none	none	none
Total HpCDF	**U**-FB	none	none	none	none	**J**-DL

PCDD/PCDF = polychlorinated dioxins/dibenzofurans

TABLE 2
Summary of Data Qualifiers for PCDD/PCDF Congeners
Winter 2006 Groundwater Monitoring Event
RP - Portland Site

Data Qualifiers

U The U qualifier indicates that the analyte must be considered to be nondetected at the concentration listed. U qualifiers added during validation are typically a result of detections of target analytes in rinsate or laboratory blanks.

J The J qualifier indicates that the associated result is quantitatively uncertain. J qualifiers added during validation may indicate a data limitation related to a quality control element that exceeds required acceptance limits.

N The N qualifier indicates that an analyte has been presumptively identified. Presumptive detection means that a chromatographic peak was detected at the correct retention time for an analyte but that not all required identification criteria were met. The associated result is both qualitatively and quantitatively uncertain.

UJ The analyte was not detected at a concentration above the method reporting limit. However, the reporting limit is approximate and may be inaccurate or imprecise.

NJ The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.

Qualification Rationale Abbreviations

AS An instrument recovery internal standard was outside the 25% to 400% acceptance limits.
DL Analyte concentration is between the MDL and MRL.
FB Analyte was detected in the rinsate blank at a concentration greater than 10% or 20% of the concentration detected in the sample.
MB Analyte was detected in a method blank at a concentration greater than 10% or 20% of the concentration detected in the sample.
SC 2,3,7,8-TCDF result did not undergo second column confirmation.