2007 Annual Groundwater Monitoring Results
Swan Island Upland Facility Remedial Investigation

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SECTION 1

INTRODUCTION

Purpose

The purpose of this report is to summarize the results of annual groundwater sampling performed as part of the Swan Island Upland Facility Remedial Investigation (RI). The Port of Portland (Port) entered into a Voluntary Agreement for Remedial Investigation, Source Control Measures, and Feasibility Study (Agreement) with the Oregon Department of Environmental Quality (DEQ) for the Swan Island Upland Facility (SIUF). The Agreement covers the Cascade General Ship Repair Yard (CSGRY), formerly known as the Portland Shipyard (PSY), and certain adjacent uplands owned by the Port on Swan Island. Together, the CSGRY and Port-owned uplands are referred to in the Agreement as the Swan Island Upland Facility. Figure 1 shows the location of the Swan Island Upland Facility. The Swan Island Upland Facility was previously referred to by DEQ as the Portland Shipyard, ECSI No. 217.

As is discussed below, groundwater elevation measurements were made in September and again in December 2007; annual groundwater samples were collected in late December 2007. Groundwater samples were collected in response to an August 12, 2003 letter from the Oregon Department of Environmental Quality (DEQ).[1]

Report Organization

This report is divided into three additional sections. Section 2 presents the 2006 annual groundwater sampling results. Section 3 provides a comparison of the 2006 sampling results to the results from prior groundwater sampling events. Section 4 provides a list of references.

This report also includes two appendices:

- Appendix A – September 21, 2007 Groundwater Elevation Measurements
- Appendix B – Well Monitoring Data Sheets
- Appendix C – Annual Groundwater Sampling Analytical Report

[1] Letter from J. Anderson/DEQ to A. Summers/Port of Portland regarding 3rd and 4th Quarter 2002 Groundwater Monitoring, Portland Shipyard Remedial Investigation, August 12, 2003.

SECTION 2

2007 ANNUAL GROUNDWATER SAMPLING RESULTS

Groundwater Elevations

Water levels were measured in each monitoring well on September 21, 2007, during dry season, low river stage conditions, and again on December 17, 2007, during wet season, higher river stage conditions. Figure 2 shows the locations of the SIUF monitoring wells. Table 1 summarizes the water levels measured in each well on both dates, as well as during prior sampling events. Appendices A and B contain the groundwater elevation measurement field logs for September 21, 2007 and December 17, 2007, respectively.

On September 21, 2007, the elevation of the Willamette River was relatively low (i.e., 2.4 feet National Geodetic Vertical Datum [NGVD] 29 with the 1947 adjustment). On December 17, 2007 the river elevation was five feet higher than it was in September (i.e., 7.4 feet). Figure 3 presents a groundwater hydrograph for each monitoring well, along with the hydrograph for the Willamette River.

Note that MW-6 was covered by construction equipment and large pieces of steel making it impossible to access the well on both of the days when water levels were collected. Given that MW-6 is located near and bounded by MW-5 and MW-7, the lack of water level data for this monitoring well did not impact the interpretation of groundwater flow directions.

The depth to groundwater ranged from approximately 18 to 30 feet below ground surface (bgs). Consistent with prior rounds of water level measurements, groundwater elevations were highest at MW-8 and MW-9, near the interior of Swan Island, and decreased to the north toward Swan Island Lagoon and to the west and south toward the Willamette River. The measured water levels indicate that the direction of groundwater flow is radially outward towards the river and the Lagoon (see Figures 4 and 5).

Annual Groundwater Sampling Activities

Annual groundwater sampling was conducted on December 26 and 27, 2007. Groundwater sampling was not performed at the same time water levels were measured because: 1) Port surveyors had to locate MW-6 (located under piles of steel) and 2) there was a field sampling equipment malfunction. Ash Creek Associates, Inc. (Ash Creek) performed groundwater sampling on behalf of the Port.

In accordance with DEQ's August 12, 2003 comment letter, the samples were collected from the following wells and analyzed for the following constituents:

- MW-1 (total metals and polynuclear aromatic hydrocarbons [PAHs])
- MW-3 (total metals)
- MW-4 (volatile organic compounds [VOCs])
- MW-6 (total metals)
- MW-7 (total metals)
- MW-8 (PAHs)
- MW-11 (total metals)

Duplicate samples were collected from the following wells and analyzed for the following constituents:

- MW-1 (total metals and PAHs)
- MW-4 (VOCs)

Low-flow sampling techniques were used. The wells were purged using a stainless-steel, bladder pump at rates less than 0.25 liters per minute. Conductivity, temperature, pH, oxygen reduction potential, dissolved oxygen, and turbidity were measured throughout the purging process.

Appendix B contains the Well Monitoring Data Sheets.

Groundwater Sampling Results

Annual groundwater sampling results are summarized in Tables 2 through 4. The tables include, for initial screening purposes, U.S. Environmental Protection Agency (EPA) ambient water quality criteria (AWQC) for priority pollutants (both protection of human health and protection of freshwater aquatic organisms), DEQ freshwater Level II ecological screening level values (SLVs), and DEQ risk-based concentrations (RBCs) for occupational vapor intrusion into buildings.[2]

The analysis data sheets for the annual groundwater sampling event are included in Appendix C. The complete analytical reports, including the quality assurance and quality control portions of the reports, will be submitted to DEQ when the RI is completed.

Total Metals

Total antimony, arsenic, cadmium, chromium, copper, lead, nickel, silver and zinc were detected in groundwater samples collected during the annual groundwater sampling event (see Table 2).

[2] AWQCs were obtained from EPA, 2006. SLVs were obtained from DEQ, 2001. RBCs were obtained from DEQ, 2003, as updated in March 2007.

Total arsenic exceeded its human health fish consumption screening level in the groundwater samples collected from MW-1, MW-3 and MW-7. Total arsenic concentrations did not exceed ecological screening levels (i.e., AWQCs for protection of freshwater aquatic organisms or SLVs) in any of the groundwater samples.

None of the other metals were detected at concentrations exceeding their human health or ecological screening levels.

Volatile Organic Compounds

VOC analytical results for the groundwater sample collected from MW-4 are presented in Table 3. Trichloroethene (TCE) was the only VOC that was detected. The TCE concentrations detected in both the initial and duplicate samples collected from MW-4 did not exceed human health or ecological screening levels.

Polynuclear Aromatic Hydrocarbons

PAH analytical results are presented in Table 4. Acenaphthene, phenanthrene, anthracene and pyrene were detected in the initial and/or duplicate samples collected from MW-1. None of the PAH concentrations detected at MW-1 exceeded their human health or ecological screening levels.

No PAHs were detected in the sample collected from MW-8.

SECTION 3

SUMMARY AND RECOMMENDATION

Summary

2007 annual groundwater sampling was performed as part of the SIUF RI. Groundwater elevations were measured in ten of the eleven monitoring wells in September and December. Water levels could not be collected in MW-6 because it was covered by construction equipment and large pieces of steel making it impossible to access the well. Groundwater samples were collected using low-flow sampling techniques from six of the eleven monitoring wells (consistent with the DEQ-approved scope of work) in late December 2007. Groundwater samples were collected approximately one week after water levels were measured because: 1) Port surveyors had to locate MW-6 (located under piles of steel) and 2) there was a field sampling equipment malfunction. Groundwater samples were selectively analyzed for metals, VOCs, and PAHs at the request of DEQ.

Water levels measured in September and December indicate that groundwater elevations decrease from the interior of Swan Island to the north, west, and south, in the direction of the Willamette River and Swan Island Lagoon. The direction of groundwater flow is radially outward toward the river and the Lagoon.

The following general trends were observed based on a comparison of the annual groundwater sampling results with the results from prior sampling events, as reported in Bridgewater Group (2003, 2004, 2005, 2006a and 2007):

- **MW-1, MW-3, and MW-4 (Ballast Water Treatment Plant [BWTP] and Building 72 area) –** Total antimony, arsenic, cadmium, chromium, copper, lead, nickel, silver and zinc concentrations detected in MW-1 were comparable to the concentrations detected in prior rounds of annual groundwater sampling.

  At MW-3, total arsenic, chromium, copper, lead, nickel and zinc concentrations were comparable to prior rounds of annual sampling. Cadmium and silver were not detected at MW-3 during this round of annual sampling.

  TCE concentrations continued to decrease in MW-4.

  Fewer PAHs were detected in the initial and duplicate groundwater samples collected at MW-1. For those PAHs that were detected, the concentrations were comparable to or slightly lower than those detected during prior rounds of annual sampling.

Total arsenic was the only metal detected above a human health screening level in MW-1 and MW-3. No metals were detected above their ecological screening levels in either well.

No VOCs or PAHs were detected above human health or ecological screening levels.

- **MW-6 and MW-7 (paint shed/blast booth and Building 73 area) –** Total chromium, copper, lead, nickel and zinc concentrations detected at MW-6 were comparable to or lower than those detected in prior rounds of annual groundwater sampling; arsenic and cadmium were not detected at MW-6 during this round of sampling.

  At MW-7, total cadmium, copper, lead and zinc concentrations were comparable to those detected during prior sampling rounds; total arsenic, chromium and nickel concentrations were lower.

  Arsenic was detected above its human health screening level in MW-7 but at the lowest relative concentration over the historical sampling period; arsenic was not detected at MW-6. No other metals were detected above their human health screening levels.

  No metals were detected above their ecological screening levels in samples collected from MW-6 and MW-7.

- **MW-8 (Building 4 area) –** No PAHs were detected in the 2007 groundwater sample collected at MW-8.

- **MW-11 (North Channel Avenue Fabrication Site) –** Total chromium, copper, nickel and zinc concentrations detected at MW-11 were comparable to those detected in prior rounds of annual groundwater sampling. Unlike some of the prior rounds of sampling, total arsenic, cadmium and lead were not detected.

  No metals were detected at concentrations above their human health or ecological screening levels in the sample collected from MW-11.

Recommendation

Since late 2001, four quarterly and five annual sampling events have been performed. Total arsenic is the only constituent that was detected above either a human health or ecological screening level during the most recent annual sampling event. As was discussed in the Phase II RI Work Plan Addendum, Operable Unit 1, Swan Island Upland Facility, the arsenic detected in groundwater beneath the SIUF appears to be naturally occurring because soil samples collected on OU1 are below the DEQ default background concentration of 7 mg/kg (Bridgewater Group, 2006b). In addition, TCE concentrations in MW-4 have steadily declined and have been below screening levels for the last three years. It is recommended that annual groundwater monitoring at the SIUF be discontinued.

SECTION 4

REFERENCES

Bridgewater Group. Phase II Third and Fourth Quarter Groundwater and Low-Flow Sampling Results, Portland Shipyard Remedial Investigation, prepared for the Port of Portland, June 12, 2003.

Bridgewater Group. 2003 Annual Groundwater Monitoring Results, Portland Shipyard Remedial Investigation, prepared for the Port of Portland, February 13, 2004.

Bridgewater Group. 2004 Annual Groundwater Monitoring Results, Portland Shipyard Remedial Investigation, prepared for the Port of Portland, November 2005.

Bridgewater Group. 2005 Annual Groundwater Monitoring Results, Portland Shipyard Remedial Investigation, prepared for the Port of Portland, April 2006a.

Bridgewater Group. Phase II Remedial Investigation, Work Plan Addendum, Operable Unit 1, Swan Island Upland Facility, Portland, Oregon, prepared for the Port of Portland, October 2006b.

Bridgewater Group. 2006 Annual Groundwater Monitoring Results, Portland Shipyard Remedial Investigation, prepared for the Port of Portland, April 2007.

Oregon Department of Environmental Quality. Guidance for Ecological Risk Assessment, Level II Screening Level Values, December 2001.

Oregon Department of Environmental Quality. Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.

U.S. Environmental Protection Agency. National Recommended Water Quality Criteria, Office of Water, Office of Science and Technology, 2006.

Table 1
Summary of Water Level Measurements and Elevations
2007 Annual Groundwater Sampling
Swan Island Upland Facility Remedial Investigation

Relative Elevation of Top of Casing

Survey Date	Elevation of Top of Casing										
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11
10/18/01	33.01	33.02	32.80	32.69	32.77	32.78	32.62	33.38	33.62	31.69	35.46

Measured Water Level

Date Measured	Measured By:	Measured Water Level (feet btc)										
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11
12/18/01	HAI	22.89	22.60	22.25	21.80	22.22	22.45	22.13	19.20	21.18	22.57	24.83
3/26/02	HAI	27.31	22.58	27.59	21.31	27.57	27.59	27.58	18.67	21.11	25.81	30.45
7/1/02	HAI	22.21	21.46	21.99	20.72	22.64	22.48	22.46	18.13	20.26	21.14	24.82
10/7/02	HAI	29.95	22.51	29.79	21.27	29.75	29.46	29.47	18.75	20.84	27.68	31.45
3/26/03	HAI	24.65	21.95	24.32	20.99	24.45	24.35	24.30	18.51	20.84	23.29	27.04
9/22/03	HAI	30.87	22.24	30.61	21.05	30.44	30.02	30.03	18.55	20.64	28.31	32.07
12/1/03	HAI	27.07	22.47	26.82	21.39	26.68	26.69	26.55	18.65	20.78	26.03	29.73
1/4/05 [1]	HAI	26.51	22.23	26.19	21.16	26.29	26.09	26.23	18.08	20.72	25.70	29.69
10/12/05	BBL	30.11	22.38	30.00	21.15	29.88	29.47	29.60	18.49	20.94	27.52	31.45
12/13/05	HAI	28.42	22.25	27.92	21.14	28.02	27.89	27.90	18.57	21.05	26.40	30.30
9/26/06	ACA	28.78	21.31	28.68	19.97	28.83	28.46	28.73	17.89	19.71	27.60	31.43
12/19/06	ACA	23.92	21.12	23.31	20.00	23.75	23.45	23.56	18.00	19.22	22.53	26.21
9/21/07	ACA	30.24	21.57	30.13	20.31	29.95	NM	29.66	18.09	19.13	28.18	31.95
12/17/07	ACA	26.38	21.80	25.86	20.56	26.11	NM	26.35	18.34	19.65	25.45	29.62

Table 1
Summary of Water Level Measurements and Elevations
2007 Annual Groundwater Sampling
Swan Island Upland Facility Remedial Investigation

Elevation Data

Date Measured		Groundwater Elevation (feet) [2]											Willamette River Elevation (feet) [3]
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	
12/18/01		10.12	10.42	10.55	10.89	10.55	10.33	10.49	14.18	12.44	9.12	10.63	11.1
3/26/02		5.70	10.44	5.21	11.38	5.20	5.19	5.04	14.71	12.51	5.88	5.01	5.5
7/1/02		10.80	11.56	10.81	11.97	10.13	10.30	10.16	15.25	13.36	10.55	10.64	10.1
10/7/02		5.94	10.55	5.98	11.30	6.09	6.09	6.07	14.73	12.84	5.66	5.73	5.5
3/26/03		8.36	11.07	8.48	11.70	8.32	8.43	8.32	14.87	12.78	8.40	8.42	8.3
9/22/03		2.14	10.78	2.19	11.64	2.33	2.76	2.59	14.83	12.98	3.38	3.39	2.3
12/1/03		5.94	10.55	5.98	11.30	6.09	6.09	6.07	14.73	12.84	5.66	5.73	6.1
1/4/05		6.50	10.79	6.61	11.53	6.48	6.69	6.39	15.30	12.90	5.99	5.77	5.6
10/12/05		2.90	10.64	2.80	11.54	2.89	3.31	3.02	14.89	12.68	4.17	4.01	2.6
12/13/05		4.59	10.77	4.88	11.55	4.75	4.89	4.72	14.81	12.57	5.29	5.16	4.8
9/26/06		4.23	11.71	4.12	12.72	3.94	4.32	3.89	15.49	13.91	4.09	4.03	3.7
12/19/06		9.09	11.90	9.49	12.69	9.02	9.33	9.06	15.38	14.40	9.16	9.25	9.1
9/21/07		2.77	11.45	2.67	12.38	2.82	NM	2.96	15.29	14.49	3.51	3.51	2.4
12/17/07		6.63	11.22	6.94	12.13	6.66	NM	6.27	15.04	13.97	6.24	5.84	7.4
Screen	Top ->	13.01	13.02	12.80	12.69	12.76	12.78	12.62	13.38	13.62	11.69	15.46	
Elevation:	Bottom ->	-1.99	-1.98	-2.20	-2.31	-2.24	-2.22	-2.38	-1.62	-1.38	-3.31	0.46	

Note: btc - below top of casing
HAI = Hahn and Associates, Inc.
BBL = Blasland Bouck and Lee
ACA = Ash Creek Associates

[1] 2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
[2] City of Portland benchmark #1585 (adjusted to NGVD 29 with 1947 adjustment by surveyor)
[3] Willamette River at the Morrison Bridge elevation data based on U.S.G.S. NGVD 29

Shade = groundwater elevation above screen interval
NM = Not measured

Table 2
2007 Annual Groundwater Sampling Results
Total Metal Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Antimony, Total	Arsenic, Total	Cadmium, Total	Chromium, Total[d]	Copper, Total	Lead, Total	Mercury, Total	Nickel, Total	Silver, Total	Zinc, Total
Human Health Consumption AWQC [a]					***640***	***0.14***	***NC***	***NC***	***NC***	***NC***	***0.3***	***4,600***	***NC***	***26,000***
Freshwater AWQC [b]					***NC***	***150***	***0.25***	***74***	***9***	***2.5***	***0.77***	***52***	***NC***	***120***
SLV [c]					***1,600***	***150***	***2.2***	***74***	***9***	***2.5***	***0.77***	***52***	***0.12***	***120***
BWTP and Building 72 Area	MW-1	12/18/01	4800-011218-253		0.2 U	9.9	0.68	117	240	46.7	0.2 U	88.6	0.27	233
		3/26/02	4800-020326-265		0.1 U	5.1	0.32	44.5	90.7	16.4	0.55	38.9	0.22	106
		7/1/02	4800-020701-281		0.1 U	13.4	0.1 U	10.0	24.2	5.96	0.2 U	37.4	0.07	21.2
		10/8/02	4800-021008-296		0.1 U	5.8	0.35	37.1	74.5	15.7	0.2 U	39.3	0.13	76.8
		12/2/03	4800-031202-412		0.1 U	9.8	0.14	1.1	1.7 N	0.14	0.2 U	17.6	0.04 U	1.1
		12/2/03	4800-031202-412	X	0.1 U	10.5	0.17	0.7	2.2 N	0.11	0.2 U	19.1	0.04 U	1.2
		1/5/05 [e]	6527-050105-421		0.05 U	9.8	0.05	0.5	1.4	0.10	0.2 U	17.2	0.02 U	1.4
		1/5/05 [e]	6527-050105-421	X	0.05 U	9.4	0.06	0.5	2.5	0.13	0.2 U	17.6	0.02 U	2.2
		12/13/05	6527-051213-431		0.05 U	15.3	0.18	1.3	1.9	0.19	0.2 U	18.4	0.03	2.3
		12/13/05	6527-051213-431	X	0.05 U	16	0.14	0.9	1.5	0.11	0.2 U	18.6	0.02 U	2.1
		12/22/06	MW-1		0.04 U	7.95	0.041	2.57	9.05	2.49	0.02 B	28.0	0.027	6.9
		12/22/06	MW-1 DUP	X	0.04 U	8.24	0.033	2.38	7.59	1.98	0.02 B	29.0	0.018 B	5.5
		2/8/07	MW-1		0.08	9.9	0.03	3.6	5.5	1.30	0.2 U	42.7	0.08	4.3
		12/27/07	MW-1		0.05	12.1	0.06	2.5	5.9	1.47	0.02 U	34.8	0.02	6.5
		12/27/07	MW-1 DUP	X	0.05 U	12.5	0.04	2.6	4.8	1.22	0.02 U	34.0	0.02 U	6.1
	MW-2	12/18/01	4800-011218-256		0.2 U	6.3	0.32	28.5	44.3	11.1	0.2 U	44.6	0.1	68.1
		12/18/01	4800-011218-256	X	0.1 U	3.2	0.17	16.2	25.9	6.82	0.2 U	23.3	0.05	36.7
		3/26/02	4800-020326-266		0.05 U	3.4	0.05 U	2.1	2.6	0.79	0.2 U	18.8	0.04	3.3
		7/1/02	4800-020701-282		0.05 U	11.8	0.05 U	1.3	1.3	0.16	0.2 U	15.5	0.02 U	5.2
		7/1/02	4800-020701-282-DUP	X	0.05 U	12.3	0.05 U	1.3	0.4	0.15	0.2 U	14.6	0.02 U	0.9
		10/8/02	4800-021008-297		0.1 U	2.8	0.1 U	4.6	8.3	3.46	0.2 U	23.3	0.04 U	10.4
	MW-3	12/18/01	4800-011218-255		0.1 U	3.0	0.19	6.3	8.6	1.81	0.2 U	11.3	0.03	13.6
		3/27/02	4800-020327-267		0.25 U	16.4	0.49	74.3	109	27.1	0.23	88.4	0.35	217
		7/2/02	4800-020702-283		0.1 U	6.2	0.12	7.7	15.0	3.78	0.2 U	9.6	0.04 U	21.2
		10/8/02	4800-021008-298		0.1 U	7.1	0.14	9.2	15.7	3.83	0.2 U	11.8	0.04	22.7
		3/26/03	4800-030326-402		0.05 U	2.5	0.05 U	6.2	0.5	0.09	0.2 U	5.2	0.02 U	28.0
		12/2/03	4800-031202-411		0.1	9.7	0.21	1.6	2.08 N	0.36	0.2 U	8.5	0.04 U	2.0
		1/5/05 [e]	6527-050105-422		0.05 U	10	0.07	0.7	1.9	0.29	0.2 U	5.9	0.02 U	2.0
		12/14/05	6527-051214-433		0.05 U	10.3	0.17	0.6	0.9	0.08	0.2 U	5	0.02 U	0.9
		12/22/06	MW-3		0.04 U	6.05	0.008 B	0.34	0.5	0.063	0.02 U	1.99	0.034	2.2
		12/27/07	MW-3		0.05 U	5.7	0.02 U	0.6	0.7	0.14	0.02 U	1.6	0.02 U	2.8
	MW-4	12/18/01	4800-011218-254		0.1 U	5.3	0.05 U	3.7	3.3	0.81	0.2 U	6.4	0.02 U	6.2
		3/27/02	4800-020327-268		0.05 U	2.2	0.05 U	0.5	0.3	0.1	0.2 U	5.8	0.02 U	0.8
		7/2/02	4800-020702-284		0.05 U	2.4	0.05 U	0.5	0.4	0.04	0.2 U	5.4	0.02 U	1.0
		10/8/02	4800-021008-299		0.05 U	2.2	0.05 U	0.3	0.5	0.1	0.2 U	5.3	0.02 U	0.9
		3/26/03	4800-030326-403-upper		0.05 U	0.5 U	0.05 U	0.8	0.5	0.02 U	0.2 U	5.3	0.02 U	17.6
		3/26/03	4800-030326-404-upper	X	0.05 U	0.5 U	0.05 U	0.7	0.5	0.02 U	0.2 U	5.1	0.02 U	16.3
		3/26/03	4800-030326-405-lower		0.05 U	2.1	0.05 U	1.1	0.4	0.05	0.2 U	5.7	0.02 U	1.9

Table 2
2007 Annual Groundwater Sampling Results
Total Metal Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Antimony, Total	Arsenic, Total	Cadmium, Total	Chromium, Total[d]	Copper, Total	Lead, Total	Mercury, Total	Nickel, Total	Silver, Total	Zinc, Total
Human Health Consumption AWQC[a]					***640***	***0.14***	***NC***	***NC***	***NC***	***NC***	***0.3***	***4,600***	***NC***	***26,000***
Freshwater AWQC[b]					***NC***	***150***	***0.25***	***74***	***9***	***2.5***	***0.77***	***52***	***NC***	***120***
SLV[c]					***1,600***	***150***	***2.2***	***74***	***9***	***2.5***	***0.77***	***52***	***0.12***	***120***
Paint Shed/Blast	MW-5	12/18/01	4800-011218-257		0.1 U	0.5 U	0.18	2.7	2.6	0.24	0.2 U	5.4	0.02 U	8.0
Booth, Building 73		3/27/02	4800-020327-269		0.05 U	2.3	0.05 U	3.4	3.4	0.84	0.2 U	5.2	0.05	5.9
Area		7/2/02	4800-020702-285		0.05 U	1.1	0.05 U	2.1	1.8	0.32	0.2 U	4.4	0.02 U	2.4
		10/8/02	4800-021008-300		0.11	4.2	0.1 U	6.3	8.3	2.07	0.2 U	8.5	0.04 U	14.3
	MW-6	12/18/01	4800-011218-258		0.2 U	2.5	0.17	14.2	17.9	3.27	0.2 U	18.5	0.04 U	30.1
		3/27/02	4800-020327-270		0.33	6.4	0.25	26.0	27.8	7.07	0.2 U	86.9	0.36	55.7
		7/2/02	4800-020702-286		0.1 U	2.0	0.1 U	12.9	14.9	4.41	0.2 U	22.2	0.04 U	28.2
		10/8/02	4800-021008-301		0.1 U	2.2	0.1 U	12.9	14.5	4.25	0.2 U	18.2	0.04 U	28.9
		12/3/03	4800-031203-414		0.1 U	1 U	0.13	0.7	1.42 N	0.05	0.2 U	5.1	0.04 U	1.4
		1/6/05[e]	6527-050106-424		0.05 U	0.5 U	0.02 U	0.2 U	2.8	0.16	0.2 U	3.3	0.02 U	6.5
		12/14/05	6527-051214-436		0.05 U	0.5 U	0.06	0.4	0.7	0.1	0.2 U	5.7	0.02 U	1.5
		12/21/06	MW-6		0.04 U	0.11 B	0.017 B	0.17 B	0.48	0.048	0.02 U	2.72	0.004 U	2.4
		12/26/07	MW-6		0.05 U	0.5 U	0.02 U	0.2	0.6	0.07	0.02 U	2.1	0.02 U	4.2
	MW-7	12/18/01	4800-011218-259		0.2 U	2.4	0.2	8.4	9.2	1.63	0.2 U	14.8	0.04 U	15.6
		3/28/02	4800-020328-272		0.25 U	17.2	0.25 U	46.9	60.1	14.6	0.2 U	55.1	0.21	119
		3/28/02	4800-020328-273	X	0.25 U	14.6	0.25 U	26.4	32.8	7.48	0.2 U	35.1	0.16	67.4
		7/2/02	4800-020702-287		0.1 U	6.6	0.1 U	8.4	11.5	2.99	0.2 U	12.1	0.04 U	18.7
		10/9/02	4800-021009-303		0.1 U	6.0	0.1 U	6.0	8.6	1.67	0.2 U	10.7	0.04 U	12.2
		3/27/03	4800-030327-406		0.05 U	6.7	0.05 U	1.4	0.3	0.02 U	0.2 U	3.1	0.02 U	0.6
		12/4/03	4800-031204-417		0.1 U	4.5	0.2	0.6	2.1 N	0.08	0.2 U	12.2	0.04 U	1.5
		1/6/05[e]	6527-050106-425		0.05 U	4.9	0.04	0.2 U	0.7	0.1	0.2 U	4.5	0.02 U	1.0
		12/15/05	6527-051215-437		0.05 U	3.5	0.11	0.9	2.2	0.23	0.2 U	7.1	0.02 U	1.9
		12/21/06	MW-7		0.04 U	3.54	0.892	20.6	53.9	11.3	0.09 B	21.8	0.048	49.2
		2/8/07	MW-7		0.05 U	5.4	0.03	1.2	0.8	0.08	0.2 U	8.4	0.03	1.0
		12/26/07	MW-7		0.05 U	1.9	0.03	0.4	0.9	0.11	0.02 U	3.7	0.02 U	3.3
Building 4 Area	MW-8	12/19/01	4800-011219-263		0.1 U	29.6	0.05 U	4.4	2.0	0.48	0.2 U	3.9	0.02 U	3.5
		3/28/02	4800-020328-274		0.05 U	23.1	0.07	0.8	0.2	0.05	0.2 U	3.7	0.02 U	0.9
		7/3/02	4800-0207-03-290		0.05 U	15.5	0.05 U	0.4	0.4	0.16	0.2 U	3.4	0.02 U	1.0
		10/9/02	4800-021009-304		0.05 U	14.9	0.05 U	0.5	0.4	0.08	0.2 U	3.3	0.02 U	0.7
		10/9/02	4800-021009-305	X	0.05 U	15.2	0.05 U	0.4	0.5	0.09	0.2 U	3.4	0.02 U	0.8
		3/27/03	4800-030327-407-upper		0.05 U	6.3	0.05 U	2.4	0.5	0.07	0.2 U	7.9	0.02 U	0.8
		3/27/03	4800-030327-408-lower		0.05 U	10.2	0.05 U	0.8	0.3	0.02 U	0.2 U	5.9	0.02 U	0.6
	MW-9	12/19/01	4800-011219-262		0.2 U	22.3	0.17	10.1	11.4	2.22	0.2 U	10.7	0.04	15.6
		3/28/02	4800-020328-275		0.05 U	20.6	0.05 U	2.7	0.9	0.18	0.2 U	7.4	0.02 U	2.6
		7/3/02	4800-0207-03-291		0.05 U	22.3	0.05 U	4.9	1.9	0.4	0.2 U	10.1	0.02 U	2.1
		10/9/02	4800-021009-306		0.05 U	18.4	0.05 U	1.0	1.4	0.35	0.2 U	4.1	0.02 U	1.9
Building 43, 50 and 80	MW-10	12/19/01	4800-011219-261		0.2 U	21.7	0.18	13.0	15.6	4.51	0.2 U	12.3	0.06	25.1
Area		3/28/02	4800-020328-276		0.05 U	9.4	0.05 U	2.2	1.2	0.31	0.2 U	5.5	0.02 U	2.4
		7/3/02	4800-0207-03-292		0.05 U	9.7	0.05 U	0.6	0.7	0.1	0.2 U	2.8	0.02 U	1.1
		10/9/02	4800-021009-307		0.05 U	16.6	0.05 U	0.4	0.4	0.06	0.2 U	1.6	0.02 U	1.0

Table 2
2007 Annual Groundwater Sampling Results
Total Metal Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Antimony, Total	Arsenic, Total	Cadmium, Total	Chromium, Total[d]	Copper, Total	Lead, Total	Mercury, Total	Nickel, Total	Silver, Total	Zinc, Total
Human Health Consumption AWQC[a]					***640***	***0.14***	***NC***	***NC***	***NC***	***NC***	***0.3***	***4,600***	***NC***	***26,000***
Freshwater AWQC[b]					***NC***	***150***	***0.25***	***74***	***9***	***2.5***	***0.77***	***52***	***NC***	***120***
SLV[c]					***1,600***	***150***	***2.2***	***74***	***9***	***2.5***	***0.77***	***52***	***0.12***	***120***
N. Channel Avenue	MW-11	12/18/01	4800-011218-252		0.1 U	0.9	0.07	3.5	1.5	0.32	0.2 U	5.6	0.02 U	3.4
Fabrication Site		4/10/02	4800-020410-278		0.25 U	2.1	0.25 U	23.5	35.8	18.5	0.2 U	29.4	0.14	266
		7/3/02	4800-0207-03-293		0.05 U	0.8	0.05 U	2.9	1.8	0.45	0.2 U	7.8	0.02 U	8.7
		10/9/02	4800-021009-308		0.1 U	16.7	0.16	20.7	54.5	11.6	0.2 U	22.3	0.04	145
		12/4/03	4800-031204-418		0.1 U	2.2	0.07	0.4 U	0.46 N	0.04 U	0.2 U	2.2	0.04 U	1.0
		1/7/05[e]	6527-050107-428		0.05 U	2.5	0.02 U	0.2	0.4	0.04	0.2 U	1.4	0.02 U	0.9
		12/15/05	6527-051215-439		0.05 U	2.4	0.04	0.3	0.5	0.04	0.2 U	1.9	0.02 U	2.0
		1/5/07	MW-11		0.05 U	4.7	0.13	1.1	3.5	0.59	0.2 U	2.7	0.02 U	11
		12/26/07	MW-11		0.05 U	0.5 U	0.02 U	0.2	0.6	0.02 U	0.02 U	1.3	0.02 U	2.1
	EB	12/19/02	4800-011219-260		0.1 U	0.5 U	0.05 U	1.6	0.7	0.06	0.2 U	0.6	0.02 U	1.4
	EB	3/28/02	4800-020328-271		0.05 U	0.5 U	0.05 U	0.3	0.1	0.02	0.2 U	0.2 U	0.02 U	0.5
	EB	7/3/02	4800-0207-03-289		0.05 U	0.5 U	0.05 U	0.8	0.4	0.04	0.2 U	0.7	0.02 U	1.0
	EB	10/9/02	4800-021009-302		0.05 U	0.5 U	0.05 U	0.7	0.5	0.02 U	0.2 U	0.5	0.02 U	1.1
	EB	3/27/03	4800-030327-409		0.05 U	0.5 U	0.05 U	0.5	0.7	0.02	0.2 U	0.3	0.02 U	0.8
	EB	12/3/03	4800-031203-416		0.1 U	1 U	0.04 U	0.4 U	0.7 N	0.04 U	0.2 U	0.4 U	0.04 U	1.0 U
	EB	1/6/05	6527-0501-06-426		0.05 U	0.5 U	0.02 U	0.2 U	0.3	0.05	0.2 U	0.2 U	0.02 U	3.0
	EB	12/14/05	6527-051214-434		0.05 U	0.5 U	0.02	0.2 U	0.2	0.02 U	0.2 U	0.2 U	0.02 U	1.3
	EB	12/22/06	EB		0.04 U	0.07 U	0.008 B	0.11 B	0.09 B	0.014 B	0.02 U	0.08 U	0.004 U	0.7 B
	EB	12/27/07	EB12272007		0.05 U	0.5 U	0.02 U	0.5	0.1 U	0.02 U	0.02 U	0.2 U	0.02 U	0.5

U = not detected
N = matrix spike was outside control criteria
B = result is an estimated concentration that is less that the MRL but greater that or equal to the MDL
EB = equipment blank
[a]EPA National Recommended Water Quality Criteria, Protection of Human Health from Organism Consumption Only, 2006.
[b]EPA National Recommended Water Quality Criteria, Protection of Freshwater Aquatic Organisms, Criterion Continuous Concentration (CCC), 2006.
[c]DEQ Level II Screening Level Values (SLVs), December 2001.
[d]AWQC and SLV for Chromium III.
[e]2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
NA = not analyzed
NC = no criteria or screening level
Shading indicates sampling result exceeds protection of human health AWQC.
Box indicates result exceeds protection of freshwater aquatic organisms AWQC or SLV.

Table 3
2007 Annual Groundwater Sampling Results
Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Dichlorodifluoromethane (CFC 12)	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (CFC 11)	Acetone	1,1-Dichloroethene (1,1-DCE)	Carbon Disulfide	Dichloromethane (Methylene Chloride)	trans-1,2-Dichloroethene	1,1-Dichloroethane (1,1-DCA)
Human Health Consumption AWQC [a]					***NC***	***NC***	***2.4***	***NC***	***NC***	***NC***	***NC***	***7,100***	***NC***	***590***	***10,000***	***NC***
Risk-Based Concentration [b]					***NC***	***NC***	***870***	***NC***	***NC***	***NC***	***NC***	***330,000***	***NC***	***NC***	***330,000***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***1,500***	***25***	***0.92***	***2,200***	***590***	***47***
BWTP and Building 72 Area	MW-1	12/18/01	4800-011218-253		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/26/02	4800-020326-265		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/1/02	4800-020701-281		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/8/02	4800-021008-296		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	MW-2	12/18/01	4800-011218-256		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		12/18/01	4800-011218-256	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/26/02	4800-020326-266		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/1/02	4800-020701-282		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/1/02	4800-020701-282-DUP	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/8/02	4800-021008-297		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.2 J
	MW-3	12/18/01	4800-011218-255		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/27/02	4800-020327-267		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/2/02	4800-020702-283		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/8/02	4800-021008-298		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	MW-4	12/18/01	4800-011218-254		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/27/02	4800-020327-268		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	1.2	0.5 U	2 U	0.5 U	0.64
		7/2/02	4800-020702-284		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.65	0.5 U	2 U	0.5 U	0.5 U
		10/8/02	4800-021008-299		0.5 U	0.5 U	0.24 J	0.5 U	0.5 U	0.5 U	20 U	1.1	0.5 U	2 U	0.26 J	0.63
		3/26/03	4800-030326-403-upper		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.65	0.5 U	2 U	0.5 U	0.5 U
		3/36/03	4800-030326-404-upper	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.61	0.5 U	2 U	0.5 U	0.5 U
		3/26/03	4800-030326-405-lower		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	1.0	0.5 U	2 U	0.5 U	0.5 U
		12/3/03	4800-031203-415		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.54	0.5 U	2 U	0.5 U	0.5 U
		12/3/03	4800-031203-415	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.57	1.4	2 U	0.5 U	0.5 U
		1/5/05 [e]	6527-050105-423		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		1/5/05 [e]	6527-050105-423	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		12/14/05	6527-051214-435		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		12/14/05	6527-051214-435	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		12/21/06	MW-4		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		12/21/06	MW-4 DUP	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		12/27/07	MW-4		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		12/27/07	MW-4 DUP	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Paint Shed/Blast Booth, Building 73 Area	MW-5	12/18/01	4800-011218-257		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/27/02	4800-020327-269		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/2/02	4800-020702-285		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/8/02	4800-021008-300		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	MW-6	12/18/01	4800-011218-258		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/27/02	4800-020327-270		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/2/02	4800-020702-286		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/8/02	4800-021008-301		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	MW-7	12/18/01	4800-011218-259		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/28/02	4800-020328-272		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		3/28/02	4800-020328-273	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/2/02	4800-020702-287		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/9/02	4800-021009-303		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U

Table 3
2007 Annual Groundwater Sampling Results
Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Dichlorodifluoromethane (CFC 12)	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (CFC 11)	Acetone	1,1-Dichloroethene (1,1-DCE)	Carbon Disulfide	Dichloromethane (Methylene Chloride)	trans-1,2-Dichloroethene	1,1-Dichloroethane (1,1-DCA)
Human Health Consumption AWQC [a]					***NC***	***NC***	***2.4***	***NC***	***NC***	***NC***	***NC***	***7,100***	***NC***	***590***	***10,000***	***NC***
Risk-Based Concentration [b]					***NC***	***NC***	***870***	***NC***	***NC***	***NC***	***NC***	***330,000***	***NC***	***NC***	***330,000***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***1,500***	***25***	***0.92***	***2,200***	***590***	***47***
Building 4 Area	MW-8	12/19/01	4800-011219-263		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/28/02	4800-020328-274		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/3/02	4800-0207-03-290		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/9/02	4800-021009-304		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/9/02	4800-021009-305	X	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	MW-9	12/19/01	4800-011219-262		0.5 U	0.5 U	0.5 U	0.5 U	0.85	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/28/02	4800-020328-275		0.5 U	0.5 U	0.5 U	0.5 U	0.88	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/3/02	4800-0207-03-291		0.5 U	0.5 U	0.5 U	0.5 U	0.91	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/9/02	4800-021009-306		0.5 U	0.5 U	0.5 U	0.5 U	0.45 J	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Building 43, 50 and 80 Area	MW-10	12/19/01	4800-011219-261		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		3/28/02	4800-020328-276		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/3/02	4800-0207-03-292		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/9/02	4800-021009-307		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		12/21/06	MW-10		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
N. Channel Avenue Fabrication Site	MW-11	12/18/01	4800-011218-252		0.5 U	0.5 U	3.9	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
		4/10/02	4800-020410-278		0.5 U	0.5 U	6.5	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		7/3/02	4800-0207-03-293		0.5 U	0.5 U	1.3	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
		10/9/02	4800-021009-308		0.5 U	0.5 U	6.2	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.32 J	0.5 U
		10/5/06	MW-11		0.5 U	0.5 U	3.3	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	EB	12/19/02	4800-011219-260		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	4.7	0.5 U	0.5 U
	EB	3/28/02	4800-020328-271		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	EB	7/3/02	4800-0207-03-289		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	EB	10/9/02	4800-021009-302		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.2 J	2 U	0.5 U	0.5 U
	EB	3/27/03	4800-030327-409		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	EB	12/3/03	4800-031203-416		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	EB	1/6/05	6527-0501-06-426		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	EB	12/14/05	6527-051214-434		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	EB	12/22/06	EB		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U
	EB	12/27/07	EB12272007		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U

U = not detected
EB = equipment blank
D = reported result is from a dilution
[a]EPA National Recommended Water Quality Criteria, Protection of Human Health from Organism Consumption Only, 2006.
[b]DEQ RBC for vapor intrusion into buildings from DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
[c]EPA National Recommended Water Quality Criteria, Protection of Freshwater Aquatic Organisms, Criterion Continuous Concentration (CCC), 2006.
[d]DEQ Level II Screening Level Values (SLVs), December 2001.
[e]2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
NA = not analyzed
NC= no criteria or screening level
Shading indicates sampling result exceeds RBC or protection of human health AWQC.
Box indicates result exceeds protection of freshwater aquatic organisms AWQC or SLV.

Table 3
2007 Annual Groundwater Sampling Results
Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	2-Butanone (MEK)	2,2-Dichloropropane	cis-1,2-Dichloroethene	Chloroform	Bromochloromethane	1,1,1-Trichloroethane (TCA)	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane (EDC)	Benzene
Human Health Consumption AWQC [a]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***1.6***	***37***	***51***
Risk-Based Concentration [b]					***NC***	***NC***	***410,000***	***NC***	***NC***	***6,200,000***	***NC***	***NC***	***3,600***	***2,700***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***14,000***	***NC***	***590***	***1,240***	***NC***	***11***	***NC***	***74***	***20,000***	***130***
BWTP and Building 72 Area	MW-1	12/18/01	4800-011218-253		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/26/02	4800-020326-265		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/1/02	4800-020701-281		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/8/02	4800-021008-296		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	MW-2	12/18/01	4800-011218-256		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/18/01	4800-011218-256	X	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/26/02	4800-020326-266		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/1/02	4800-020701-282		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/1/02	4800-020701-282-DUP	X	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/8/02	4800-021008-297		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	MW-3	12/18/01	4800-011218-255		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/27/02	4800-020327-267		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/2/02	4800-020702-283		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/8/02	4800-021008-298		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	MW-4	12/18/01	4800-011218-254		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/27/02	4800-020327-268		20 U	0.5 U	1.9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/2/02	4800-020702-284		20 U	0.5 U	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/8/02	4800-021008-299		20 U	0.5 U	1.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.11 J
		3/26/03	4800-030326-403-upper		20 U	0.5 U	0.79	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/36/03	4800-030326-404-upper	X	20 U	0.5 U	0.79	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/26/03	4800-030326-405-lower		20 U	0.5 U	1.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/3/03	4800-031203-415		20 U	0.5 U	0.93	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/3/03	4800-031203-415	X	20 U	0.5 U	0.98	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		1/5/05 [e]	6527-050105-423		20 U	0.5 U	0.63	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		1/5/05 [e]	6527-050105-423	X	20 U	0.5 U	0.64	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/14/05	6527-051214-435		20 U	0.5 U	0.51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/14/05	6527-051214-435	X	20 U	0.5 U	0.50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/21/06	MW-4		20 U	0.5 U	0.19 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/21/06	MW-4 DUP	X	20 U	0.5 U	0.22 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/27/07	MW-4		20 U	0.5 U	0.22 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/27/07	MW-4 DUP	X	20 U	0.5 U	0.22 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Paint Shed/Blast Booth, Building 73 Area	MW-5	12/18/01	4800-011218-257		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/27/02	4800-020327-269		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/2/02	4800-020702-285		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/8/02	4800-021008-300		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	MW-6	12/18/01	4800-011218-258		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/27/02	4800-020327-270		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/2/02	4800-020702-286		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/8/02	4800-021008-301		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	MW-7	12/18/01	4800-011218-259		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/28/02	4800-020328-272		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/28/02	4800-020328-273	X	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/2/02	4800-020702-287		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/9/02	4800-021009-303		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.12 J

Table 3
2007 Annual Groundwater Sampling Results
Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	2-Butanone (MEK)	2,2-Dichloropropane	cis-1,2-Dichloroethene	Chloroform	Bromochloromethane	1,1,1-Trichloroethane (TCA)	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane (EDC)	Benzene
Human Health Consumption AWQC [a]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***1.6***	***37***	***51***
Risk-Based Concentration [b]					***NC***	***NC***	***410,000***	***NC***	***NC***	***6,200,000***	***NC***	***NC***	***3,600***	***2,700***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***14,000***	***NC***	***590***	***1,240***	***NC***	***11***	***NC***	***74***	***20,000***	***130***
Building 4 Area	MW-8	12/19/01	4800-011219-263		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/28/02	4800-020328-274		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/3/02	4800-0207-03-290		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/9/02	4800-021009-304		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/9/02	4800-021009-305	X	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	MW-9	12/19/01	4800-011219-262		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	6.3	0.5 U
		3/28/02	4800-020328-275		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.7	0.5 U
		7/3/02	4800-0207-03-291		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.5	0.5 U
		10/9/02	4800-021009-306		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.1	0.5 U
Building 43, 50 and 80 Area	MW-10	12/19/01	4800-011219-261		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/28/02	4800-020328-276		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/3/02	4800-0207-03-292		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/9/02	4800-021009-307		20 U	0.5 U	0.18 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		12/21/06	MW-10		20 U	0.5 U	0.13 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
N. Channel Avenue Fabrication Site	MW-11	12/18/01	4800-011218-252		20 U	0.5 U	6.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		4/10/02	4800-020410-278		20 U	0.5 U	11	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		7/3/02	4800-0207-03-293		20 U	0.5 U	8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/9/02	4800-021009-308		20 U	0.5 U	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
		10/5/06	MW-11		20 U	0.5 U	5.9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	EB	12/19/02	4800-011219-260		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	EB	3/28/02	4800-020328-271		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	EB	7/3/02	4800-0207-03-289		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	EB	10/9/02	4800-021009-302		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3.0	0.15 J
	EB	3/27/03	4800-030327-409		20 U	0.5 U	0.5 U	1.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	EB	12/3/03	4800-031203-416		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	EB	1/6/05	6527-0501-06-426		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	EB	12/14/05	6527-051214-434		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	EB	12/22/06	EB		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	EB	12/27/07	EB12272007		20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

U = not detected
EB = equipment blank
D = reported result is from a dilution
[a]EPA National Recommended Water Quality Criteria, Protection of Human Health from Organism Consumption Only, 2006.
[b]DEQ RBC for vapor intrusion into buildings from DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
[c]EPA National Recommended Water Quality Criteria, Protection of Freshwater Aquatic Organisms, Criterion Continuous Concentration (CCC), 2006.
[d]DEQ Level II Screening Level Values (SLVs), December 2001.
[e]2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
NA = not analyzed
NC= no criteria or screening level
Shading indicates sampling result exceeds RBC or protection of human health AWQC.
Box indicates result exceeds protection of freshwater aquatic organisms AWQC or SLV.

Table 3
2007 Annual Groundwater Sampling Results
Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Trichloroethene (TCE)	1,2-Dichloropropane	Bromodichloromethane	Dibromomethane	2-Hexanone	cis-1,3-Dichloropropene	Toluene	trans-1,3-Dichloropropene	1,1,2-Trichloroethane	4-Methyl-2-pentanone (MIBK)	1,3-Dichloropropane
Human Health Consumption AWQC [a]					***30***	***15***	***NC***	***NC***	***NC***	***NC***	***15,000***	***NC***	***16***	***NC***	***NC***
Risk-Based Concentration [b]					***110***	***NC***	***NC***	***NC***	***NC***	***NC***	***3,100,000***	***NC***	***NC***	***NC***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***21,900***	***5,700***	***NC***	***NC***	***99***	***NC***	***9.8***	***NC***	***9,400***	***170***	***NC***
BWTP and Building 72 Area	MW-1	12/18/01	4800-011218-253		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/26/02	4800-020326-265		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/1/02	4800-020701-281		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/8/02	4800-021008-296		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	MW-2	12/18/01	4800-011218-256		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/18/01	4800-011218-256	X	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/26/02	4800-020326-266		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/1/02	4800-020701-282		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/1/02	4800-020701-282-DUP	X	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/8/02	4800-021008-297		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	MW-3	12/18/01	4800-011218-255		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/27/02	4800-020327-267		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/2/02	4800-020702-283		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/8/02	4800-021008-298		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	MW-4	12/18/01	4800-011218-254		270	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/27/02	4800-020327-268		160	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/2/02	4800-020702-284		91	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/8/02	4800-021008-299		120	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/26/03	4800-030326-403-upper		53 D	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/36/03	4800-030326-404-upper	X	53 D	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/26/03	4800-030326-405-lower		82 D	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/3/03	4800-031203-415		54	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/3/03	4800-031203-415	X	56	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		1/5/05 [e]	6527-050105-423		31	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		1/5/05 [e]	6527-050105-423	X	30	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/14/05	6527-051214-435		15	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/14/05	6527-051214-435	X	15	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/21/06	MW-4		4.8	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/21/06	MW-4 DUP	X	5.1	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/27/07	MW-4		3.9	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/27/07	MW-4 DUP	X	4.0	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
Paint Shed/Blast Booth, Building 73 Area	MW-5	12/18/01	4800-011218-257		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/27/02	4800-020327-269		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/2/02	4800-020702-285		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/8/02	4800-021008-300		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.29 J	0.5 U	0.5 U	20 U	0.5 U
	MW-6	12/18/01	4800-011218-258		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/27/02	4800-020327-270		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/2/02	4800-020702-286		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/8/02	4800-021008-301		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.17 J	0.5 U	0.5 U	20 U	0.5 U
	MW-7	12/18/01	4800-011218-259		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/28/02	4800-020328-272		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/28/02	4800-020328-273	X	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/2/02	4800-020702-287		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/9/02	4800-021009-303		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.44 J	0.5 U	0.5 U	20 U	0.5 U

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2007 Annual Groundwater Sampling Results
Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Trichloroethene (TCE)	1,2-Dichloropropane	Bromodichloromethane	Dibromomethane	2-Hexanone	cis-1,3-Dichloropropene	Toluene	trans-1,3-Dichloropropene	1,1,2-Trichloroethane	4-Methyl-2-pentanone (MIBK)	1,3-Dichloropropane
Human Health Consumption AWQC [a]					***30***	***15***	***NC***	***NC***	***NC***	***NC***	***15,000***	***NC***	***16***	***NC***	***NC***
Risk-Based Concentration [b]					***110***	***NC***	***NC***	***NC***	***NC***	***NC***	***3,100,000***	***NC***	***NC***	***NC***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***21,900***	***5,700***	***NC***	***NC***	***99***	***NC***	***9.8***	***NC***	***9,400***	***170***	***NC***
Building 4 Area	MW-8	12/19/01	4800-011219-263		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/28/02	4800-020328-274		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/3/02	4800-0207-03-290		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/9/02	4800-021009-304		0.12 J	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.13 J	0.5 U	0.5 U	20 U	0.5 U
		10/9/02	4800-021009-305	X	0.12 J	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.12 J	0.5 U	0.5 U	20 U	0.5 U
	MW-9	12/19/01	4800-011219-262		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/28/02	4800-020328-275		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/3/02	4800-0207-03-291		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/9/02	4800-021009-306		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
Building 43, 50 and 80 Area	MW-10	12/19/01	4800-011219-261		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		3/28/02	4800-020328-276		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/3/02	4800-0207-03-292		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.9	0.5 U	0.5 U	20 U	0.5 U
		10/9/02	4800-021009-307		0.14 J	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		12/21/06	MW-10		0.41 J	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
N. Channel Avenue Fabrication Site	MW-11	12/18/01	4800-011218-252		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		4/10/02	4800-020410-278		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		7/3/02	4800-0207-03-293		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.76	0.5 U	0.5 U	20 U	0.5 U
		10/9/02	4800-021009-308		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
		10/5/06	MW-11		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	EB	12/19/02	4800-011219-260		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	EB	3/28/02	4800-020328-271		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	EB	7/3/02	4800-0207-03-289		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	EB	10/9/02	4800-021009-302		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.44 J	0.5 U	0.5 U	20 U	0.5 U
	EB	3/27/03	4800-030327-409		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	EB	12/3/03	4800-031203-416		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	EB	1/6/05	6527-0501-06-426		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U
	EB	12/14/05	6527-051214-434		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.75	0.5 U	0.5 U	20 U	0.5 U
	EB	12/22/06	EB		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.61	0.5 U	0.5 U	20 U	0.5 U
	EB	12/27/07	EB12272007		0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.61	0.5 U	0.5 U	20 U	0.5 U

U = not detected
EB = equipment blank
D = reported result is from a dilution
[a]EPA National Recommended Water Quality Criteria, Protection of Human Health from Organism Consumption Only, 2006.
[b]DEQ RBC for vapor intrusion into buildings from DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
[c]EPA National Recommended Water Quality Criteria, Protection of Freshwater Aquatic Organisms, Criterion Continuous Concentration (CCC), 2006.
[d]DEQ Level II Screening Level Values (SLVs), December 2001.
[e]2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
NA = not analyzed
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Shading indicates sampling result exceeds RBC or protection of human health AWQC.
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Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Tetrachloroethene (PCE)	Dibromochloromethane	1,2-Dibromoethane (EDB)	Chlorobenzene	1,1,1,2-Tetrachloroethane	Ethylbenzene	m,p-Xylenes	o-Xylene	Styrene	Bromoform	Isopropylbenzene
Human Health Consumption AWQC [a]					***3.3***	***NC***	***NC***	***1,600***	***NC***	***2,100***	***NC***	***NC***	***NC***	***140***	***NC***
Risk-Based Concentration [b]					***1,300***	***NC***	***690***	***NC***	***NC***	***6,400,000***	***710,000***	***710,000***	***NC***	***NC***	***1,500,000***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***840***	***NC***	***NC***	***50***	***186***	***7.3***	***1.8***	***NC***	***NC***	***NC***	***NC***
BWTP and Building 72 Area	MW-1	12/18/01	4800-011218-253		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/26/02	4800-020326-265		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/1/02	4800-020701-281		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/8/02	4800-021008-296		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	MW-2	12/18/01	4800-011218-256		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/18/01	4800-011218-256	X	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/26/02	4800-020326-266		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/1/02	4800-020701-282		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/1/02	4800-020701-282-DUP	X	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/8/02	4800-021008-297		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	MW-3	12/18/01	4800-011218-255		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/27/02	4800-020327-267		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/2/02	4800-020702-283		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/8/02	4800-021008-298		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	MW-4	12/18/01	4800-011218-254		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/27/02	4800-020327-268		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/2/02	4800-020702-284		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/8/02	4800-021008-299		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/26/03	4800-030326-403-upper		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/36/03	4800-030326-404-upper	X	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/26/03	4800-030326-405-lower		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/3/03	4800-031203-415		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/3/03	4800-031203-415	X	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		1/5/05 [e]	6527-050105-423		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		1/5/05 [e]	6527-050105-423	X	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/14/05	6527-051214-435		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/14/05	6527-051214-435	X	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/21/06	MW-4		0.20 J	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/21/06	MW-4 DUP	X	0.25 J	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/27/07	MW-4		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/27/07	MW-4 DUP	X	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
Paint Shed/Blast Booth, Building 73 Area	MW-5	12/18/01	4800-011218-257		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/27/02	4800-020327-269		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/2/02	4800-020702-285		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/8/02	4800-021008-300		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	MW-6	12/18/01	4800-011218-258		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/27/02	4800-020327-270		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/2/02	4800-020702-286		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/8/02	4800-021008-301		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	MW-7	12/18/01	4800-011218-259		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/28/02	4800-020328-272		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/28/02	4800-020328-273	X	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/2/02	4800-020702-287		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/9/02	4800-021009-303		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.39 J	0.09 J	0.5 U	0.5 U	2 U

Table 3
2007 Annual Groundwater Sampling Results
Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Tetrachloroethene (PCE)	Dibromochloromethane	1,2-Dibromoethane (EDB)	Chlorobenzene	1,1,1,2-Tetrachloroethane	Ethylbenzene	m,p-Xylenes	o-Xylene	Styrene	Bromoform	Isopropylbenzene
Human Health Consumption AWQC [a]					***3.3***	***NC***	***NC***	***1,600***	***NC***	***2,100***	***NC***	***NC***	***NC***	***140***	***NC***
Risk-Based Concentration [b]					***1,300***	***NC***	***690***	***NC***	***NC***	***6,400,000***	***710,000***	***710,000***	***NC***	***NC***	***1,500,000***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***840***	***NC***	***NC***	***50***	***186***	***7.3***	***1.8***	***NC***	***NC***	***NC***	***NC***
Building 4 Area	MW-8	12/19/01	4800-011219-263		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/28/02	4800-020328-274		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/3/02	4800-0207-03-290		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/9/02	4800-021009-304		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/9/02	4800-021009-305	X	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	MW-9	12/19/01	4800-011219-262		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/28/02	4800-020328-275		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/3/02	4800-0207-03-291		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/9/02	4800-021009-306		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
Building 43, 50 and 80 Area	MW-10	12/19/01	4800-011219-261		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		3/28/02	4800-020328-276		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/3/02	4800-0207-03-292		0.78	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/9/02	4800-021009-307		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		12/21/06	MW-10		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
N. Channel Avenue Fabrication Site	MW-11	12/18/01	4800-011218-252		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		4/10/02	4800-020410-278		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		7/3/02	4800-0207-03-293		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/9/02	4800-021009-308		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
		10/5/06	MW-11		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	EB	12/19/02	4800-011219-260		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	EB	3/28/02	4800-020328-271		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	EB	7/3/02	4800-0207-03-289		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	EB	10/9/02	4800-021009-302		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.22 J	0.13 J	0.5 U	0.5 U	2 U
	EB	3/27/03	4800-030327-409		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	EB	12/3/03	4800-031203-416		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	EB	1/6/05	6527-0501-06-426		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	EB	12/14/05	6527-051214-434		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
	EB	12/22/06	EB		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.29 J	0.14 J	0.5 U	0.5 U	2 U
	EB	12/27/07	EB12272007		0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.29 J	0.14 J	0.5 U	0.5 U	2 U

U = not detected
EB = equipment blank
D = reported result is from a dilution
[a]EPA National Recommended Water Quality Criteria, Protection of Human Health from Organism Consumption Only, 2006.
[b]DEQ RBC for vapor intrusion into buildings from DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
[c]EPA National Recommended Water Quality Criteria, Protection of Freshwater Aquatic Organisms, Criterion Continuous Concentration (CCC), 2006.
[d]DEQ Level II Screening Level Values (SLVs), December 2001.
[e]2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
NA = not analyzed
NC= no criteria or screening level
Shading indicates sampling result exceeds RBC or protection of human health AWQC.
Box indicates result exceeds protection of freshwater aquatic organisms AWQC or SLV.

Table 3
2007 Annual Groundwater Sampling Results
Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Bromobenzene	n-Propylbenzene	2-Chlorotoluene	4-Chlorotoluene	1,3,5-Trimethylbenzene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	1,3-Dichlorobenzene
Human Health Consumption AWQC [a]					***4***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
Risk-Based Concentration [b]					***NC***	***NC***	***NC***	***140,000***	***NC***	***NC***	***38,000***	***NC***	***51,000***	***NC***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***2,400***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***71***
BWTP and Building 72 Area	MW-1	12/18/01	4800-011218-253		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/26/02	4800-020326-265		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/1/02	4800-020701-281		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/8/02	4800-021008-296		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	MW-2	12/18/01	4800-011218-256		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/18/01	4800-011218-256	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/26/02	4800-020326-266		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/1/02	4800-020701-282		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/1/02	4800-020701-282-DUP	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/8/02	4800-021008-297		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	MW-3	12/18/01	4800-011218-255		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/27/02	4800-020327-267		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/2/02	4800-020702-283		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/8/02	4800-021008-298		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	MW-4	12/18/01	4800-011218-254		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/27/02	4800-020327-268		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/2/02	4800-020702-284		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/8/02	4800-021008-299		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/26/03	4800-030326-403-upper		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/36/03	4800-030326-404-upper	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/26/03	4800-030326-405-lower		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/3/03	4800-031203-415		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/3/03	4800-031203-415	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		1/5/05 [e]	6527-050105-423		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		1/5/05 [e]	6527-050105-423	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/14/05	6527-051214-435		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/14/05	6527-051214-435	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/21/06	MW-4		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/21/06	MW-4 DUP	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/27/07	MW-4		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/27/07	MW-4 DUP	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
Paint Shed/Blast Booth, Building 73 Area	MW-5	12/18/01	4800-011218-257		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/27/02	4800-020327-269		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/2/02	4800-020702-285		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/8/02	4800-021008-300		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	MW-6	12/18/01	4800-011218-258		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/27/02	4800-020327-270		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/2/02	4800-020702-286		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/8/02	4800-021008-301		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	MW-7	12/18/01	4800-011218-259		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/28/02	4800-020328-272		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/28/02	4800-020328-273	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/2/02	4800-020702-287		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/9/02	4800-021009-303		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U

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Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Bromobenzene	n-Propylbenzene	2-Chlorotoluene	4-Chlorotoluene	1,3,5-Trimethylbenzene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	1,3-Dichlorobenzene
Human Health Consumption AWQC [a]					***4***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
Risk-Based Concentration [b]					***NC***	***NC***	***NC***	***140,000***	***NC***	***NC***	***38,000***	***NC***	***51,000***	***NC***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***2,400***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***71***
Building 4 Area	MW-8	12/19/01	4800-011219-263		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/28/02	4800-020328-274		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/3/02	4800-0207-03-290		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/9/02	4800-021009-304		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/9/02	4800-021009-305	X	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	MW-9	12/19/01	4800-011219-262		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/28/02	4800-020328-275		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/3/02	4800-0207-03-291		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/9/02	4800-021009-306		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
Building 43, 50 and 80 Area	MW-10	12/19/01	4800-011219-261		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		3/28/02	4800-020328-276		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/3/02	4800-0207-03-292		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/9/02	4800-021009-307		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		12/21/06	MW-10		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
N. Channel Avenue Fabrication Site	MW-11	12/18/01	4800-011218-252		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		4/10/02	4800-020410-278		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		7/3/02	4800-0207-03-293		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/9/02	4800-021009-308		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
		10/5/06	MW-11		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	12/19/02	4800-011219-260		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	3/28/02	4800-020328-271		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	7/3/02	4800-0207-03-289		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	10/9/02	4800-021009-302		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	3/27/03	4800-030327-409		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	12/3/03	4800-031203-416		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	1/6/05	6527-0501-06-426		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	12/14/05	6527-051214-434		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	12/22/06	EB		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U
	EB	12/27/07	EB12272007		0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U

U = not detected
EB = equipment blank
D = reported result is from a dilution
[a]EPA National Recommended Water Quality Criteria, Protection of Human Health from Organism Consumption Only, 2006.
[b]DEQ RBC for vapor intrusion into buildings from DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
[c]EPA National Recommended Water Quality Criteria, Protection of Freshwater Aquatic Organisms, Criterion Continuous Concentration (CCC), 2006.
[d]DEQ Level II Screening Level Values (SLVs), December 2001.
[e]2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
NA = not analyzed
NC= no criteria or screening level
Shading indicates sampling result exceeds RBC or protection of human health AWQC.
Box indicates result exceeds protection of freshwater aquatic organisms AWQC or SLV.

Table 3
2007 Annual Groundwater Sampling Results
Volatile Organic Compound (VOC) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	4-Isopropyltoluene	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane (DBCP)	1,2,4-Trichlorobenzene	1,2,3-Trichlorobenzene	Naphthalene	Hexachlorobutadiene
Human Health Consumption AWQC [a]					***NC***	***190***	***NC***	***1,300***	***NC***	***70***	***NC***	***NC***	***NC***
Risk-Based Concentration [b]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***350,000***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***NC***	***15***	***NC***	***14***	***NC***	***110***	***NC***	***620***	***9.3***
BWTP and Building 72 Area	MW-1	12/18/01	4800-011218-253		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/26/02	4800-020326-265		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/1/02	4800-020701-281		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/8/02	4800-021008-296		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	MW-2	12/18/01	4800-011218-256		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/18/01	4800-011218-256	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/26/02	4800-020326-266		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/1/02	4800-020701-282		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/1/02	4800-020701-282-DUP	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/8/02	4800-021008-297		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	MW-3	12/18/01	4800-011218-255		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/27/02	4800-020327-267		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/2/02	4800-020702-283		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/8/02	4800-021008-298		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	MW-4	12/18/01	4800-011218-254		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/27/02	4800-020327-268		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/2/02	4800-020702-284		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/8/02	4800-021008-299		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/26/03	4800-030326-403-upper		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/36/03	4800-030326-404-upper	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/26/03	4800-030326-405-lower		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/3/03	4800-031203-415		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/3/03	4800-031203-415	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		1/5/05 [e]	6527-050105-423		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		1/5/05 [e]	6527-050105-423	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/14/05	6527-051214-435		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/14/05	6527-051214-435	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/21/06	MW-4		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/21/06	MW-4 DUP	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/27/07	MW-4		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/27/07	MW-4 DUP	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
Paint Shed/Blast Booth, Building 73 Area	MW-5	12/18/01	4800-011218-257		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/27/02	4800-020327-269		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/2/02	4800-020702-285		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/8/02	4800-021008-300		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	MW-6	12/18/01	4800-011218-258		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/27/02	4800-020327-270		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/2/02	4800-020702-286		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/8/02	4800-021008-301		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	MW-7	12/18/01	4800-011218-259		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/28/02	4800-020328-272		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/28/02	4800-020328-273	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/2/02	4800-020702-287		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/9/02	4800-021009-303		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U

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Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	4-Isopropyltoluene	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane (DBCP)	1,2,4-Trichlorobenzene	1,2,3-Trichlorobenzene	Naphthalene	Hexachlorobutadiene
Human Health Consumption AWQC [a]					***NC***	***190***	***NC***	***1,300***	***NC***	***70***	***NC***	***NC***	***NC***
Risk-Based Concentration [b]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***350,000***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***NC***	***15***	***NC***	***14***	***NC***	***110***	***NC***	***620***	***9.3***
Building 4 Area	MW-8	12/19/01	4800-011219-263		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/28/02	4800-020328-274		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/3/02	4800-0207-03-290		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/9/02	4800-021009-304		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/9/02	4800-021009-305	X	2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	MW-9	12/19/01	4800-011219-262		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/28/02	4800-020328-275		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/3/02	4800-0207-03-291		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/9/02	4800-021009-306		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
Building 43, 50 and 80 Area	MW-10	12/19/01	4800-011219-261		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		3/28/02	4800-020328-276		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/3/02	4800-0207-03-292		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/9/02	4800-021009-307		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		12/21/06	MW-10		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
N. Channel Avenue Fabrication Site	MW-11	12/18/01	4800-011218-252		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		4/10/02	4800-020410-278		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		7/3/02	4800-0207-03-293		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/9/02	4800-021009-308		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
		10/5/06	MW-11		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	12/19/02	4800-011219-260		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	3/28/02	4800-020328-271		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	7/3/02	4800-0207-03-289		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	10/9/02	4800-021009-302		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	3/27/03	4800-030327-409		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	12/3/03	4800-031203-416		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	1/6/05	6527-0501-06-426		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	12/14/05	6527-051214-434		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	12/22/06	EB		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U
	EB	12/27/07	EB12272007		2 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U

U = not detected
EB = equipment blank
D = reported result is from a dilution
[a]EPA National Recommended Water Quality Criteria, Protection of Human Health from Organism Consumption Only, 2006.
[b]DEQ RBC for vapor intrusion into buildings from DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
[c]EPA National Recommended Water Quality Criteria, Protection of Freshwater Aquatic Organisms, Criterion Continuous Concentration (CCC), 2006.
[d]DEQ Level II Screening Level Values (SLVs), December 2001.
[e]2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
NA = not analyzed
NC= no criteria or screening level
Shading indicates sampling result exceeds RBC or protection of human health AWQC.
Box indicates result exceeds protection of freshwater aquatic organisms AWQC or SLV.

Table 4
2007 Annual Groundwater Sampling Results
Polynuclear Aromatic Hydrocarbon (PAH) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Dibenzofuran	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene
Human Health Consumption AWQC [a]					***NC***	***NC***	***NC***	***990***	***NC***	***5,300***	***NC***	***40,000***	***140***	***4,000***
Risk-Based Concentration [b]					***350,000***	***NC***	***NC***	***1.1E+08***	***NC***	***2.0E+08***	***NC***	***1.6E+09***	***9.2E+08***	***1.1E+09***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***620***	***NC***	***NC***	***520***	***3.7***	***3.9***	***6.3***	***13***	***6.16***	***NC***
BWTP and Building 72 Area	MW-1	12/18/01	4800-011218-253		0.02 U	0.02	0.02 U	0.02 U	0.045	0.072	0.082	0.28	0.024	0.024
		3/26/02	4800-020326-265		0.02	0.02 U	0.02 U	0.022	0.026	0.056	0.2	0.38	0.044 B	0.059
		7/1/02	4800-020701-281		0.068	0.034	0.02 U	0.035	0.02 U	0.03	0.43	0.065	0.044	0.19
		10/8/02	4800-021008-296		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.036	0.15	0.14	0.12	0.16
		12/2/03	4800-031202-412		0.022	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.032	0.019 U	0.019 U	0.019 U
		12/2/03	4800-031202-412	X	0.025	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.032	0.019 U	0.019 U	0.019 U
		1/5/05 [e]	6527-050105-421		0.33	0.08	0.2 U	0.025	0.02 U	0.023	0.1	0.023	0.02 U	0.02 U
		1/5/05 [e]	6527-050105-421	X	0.23	0.052	0.02 U	0.02 U	0.02 U	0.02 U	0.077	0.02 U	0.02 U	0.02 U
		12/13/05	6527-051213-431		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.027	0.02 U	0.02 U	0.02 U
		12/13/05	6527-051213-431	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.03	0.02 U	0.02 U	0.02 U
		12/22/06	MW-1		0.0078 J	0.02 U	0.0079 J	0.027	0.02 U	0.012 J	0.18	0.024	0.017 J	0.13
		12/22/06	MW-1 DUP	X	0.018 J	0.0071 J	0.012 J	0.026	0.02 U	0.013 J	0.22	0.029	0.026	0.17
		12/27/07	MW-1		0.019 U	0.019 U	0.019 U	0.019	0.019 U	0.019 U	0.029	0.022	0.019 U	0.087
		12/27/07	MW1 DUP	X	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.035	0.026	0.019 U	0.079
	MW-2	12/18/01	4800-011218-256		0.02 U	0.02 U	0.02 U	0.02 U	0.022	0.02 U	0.02 U	0.02 U	0.02 U	0.035
		12/18/01	4800-011218-256	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025
		3/26/02	4800-020326-266		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/1/02	4800-020701-282		0.055	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/1/02	4800-020701-282-DUP	X	0.039	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-297		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	MW-3	12/18/01	4800-011218-255		0.02 U	0.02 U	0.02 U	0.02 U	0.021	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/02	4800-020327-267		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.023	0.02 U	0.02 U
		7/2/02	4800-020702-283		0.057	0.028	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-298		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/26/03	4800-030326-402		0.15	0.036	0.02 U	0.02 U	0.02 U	0.02 U	0.031	0.02 U	0.02 U	0.02 U
	MW-4	12/18/01	4800-011218-254		0.02 U	0.02 U	0.02 U	0.02 U	0.03	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/02	4800-020327-268		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/2/02	4800-020702-284		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-299		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/26/03	4800-030326-403-upper		0.02	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/26/03	4800-030326-404-upper	X	0.024	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
		3/26/03	4800-030326-405-lower		0.024	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Paint Shed/Blast Booth, Building 73 Area	MW-5	12/18/01	4800-011218-257		0.02 U	0.02 U	0.02 U	0.02 U	0.025	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/02	4800-020327-269		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/2/02	4800-020702-285		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-300		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	MW-6	12/18/01	4800-011218-258		0.02 U	0.02 U	0.02 U	0.02 U	0.026	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/02	4800-020327-270		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/2/02	4800-020702-286		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-301		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	MW-7	12/18/01	4800-011218-259		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/28/02	4800-020328-272		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/28/02	4800-020328-273	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/2/02	4800-020702-287		0.025	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/9/02	4800-021009-303		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/03	4800-030327-406		0.072	0.028	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

Table 4
2007 Annual Groundwater Sampling Results
Polynuclear Aromatic Hydrocarbon (PAH) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Dibenzofuran	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene
Human Health Consumption AWQC [a]					***NC***	***NC***	***NC***	***990***	***NC***	***5,300***	***NC***	***40,000***	***140***	***4,000***
Risk-Based Concentration [b]					***350,000***	***NC***	***NC***	***1.1E+08***	***NC***	***2.0E+08***	***NC***	***1.6E+09***	***9.2E+08***	***1.1E+09***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***620***	***NC***	***NC***	***520***	***3.7***	***3.9***	***6.3***	***13***	***6.16***	***NC***
Building 4 Area	MW-8	12/19/01	4800-011219-263		0.02 U	0.02 U	0.02 U	0.02 U	0.023	0.02 U	0.02 U	0.02 U	0.075	0.1
		3/28/02	4800-020328-274		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/3/02	4800-0207-03-290		0.031	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/9/02	4800-021009-304		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/9/02	4800-021009-305	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/03	4800-030327-407-upper		0.043	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.097	0.2
		3/27/03	4800-030327-408-lower		0.048	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/3/03	4800-031203-413		0.026	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
		1/6/05 [e]	6527-050106-427		0.039	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/15/05	6527-051215-438		0.046	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/22/06	MW-8		0.02 U	0.02 U	0.007 J	0.02 U	0.02 U	0.02 U	0.0059 J	0.0067 J	0.012 J	0.022
		12/27/07	MW-8		0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
	MW-9	12/19/01	4800-011219-262		0.02 U	0.02 U	0.02 U	0.02 U	0.02	0.02 U	0.033	0.02 U	0.02 U	0.034
		3/28/02	4800-020328-275		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.023	0.02 U	0.02 U	0.02 U
		7/3/02	4800-0207-03-291		0.036	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.032	0.02 U	0.02 U	0.024
		10/9/02	4800-021009-306		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Building 43, 50 and 80 Area	MW-10	12/19/01	4800-011219-261		0.02 U	0.02 U	0.02 U	0.46	0.032	0.02 U	0.061	0.02 U	0.02 U	0.045
		3/28/02	4800-020328-276		0.02 U	0.02 U	0.02 U	1.2	0.02 U	0.02 U	0.12	0.02 U	0.02 U	0.032
		7/3/02	4800-0207-03-292		0.043	0.02 U	0.02 U	0.35	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.021
		10/9/02	4800-021009-307		0.02 U	0.02 U	0.02 U	0.85	0.02 U	0.02 U	0.032	0.02 U	0.02 U	0.048
N. Channel Avenue Fabrication Site	MW-11	12/18/01	4800-011218-252		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		4/10/02	4800-020410-278		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/3/02	4800-0207-03-293		0.093	0.029	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/9/02	4800-021009-308		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	12/19/02	4800-011219-260		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	3/28/02	4800-020328-271		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	7/3/02	4800-0207-03-289		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	10/9/02	4800-021009-302		0.087	0.037	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	3/27/03	4800-030327-409		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	12/3/03	4800-011203-416		0.05	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	1/6/05	6257-0501-06-426		0.11	0.039	0.02 U	0.02 U	0.02 U	0.02 U	0.03	0.02 U	0.02 U	0.02 U
	EB	12/14/05	6527-051213-434		0.057	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	12/22/06	EB		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	12/27/07	EB12272007		0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U

U = not detected
B = analyte found in associated method blank
EB = equipment blank
[a]EPA National Recommended Water Quality Criteria, Protection of Human Health from Organism Consumption Only, 2006.
[b]DEQ RBC for vapor intrusion into buildings from DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
[c]EPA National Recommended Water Quality Criteria, Protection of Freshwater Aquatic Organisms, Criterion Continuous Concentration (CCC), 2006.
[d]DEQ Level II Screening Level Values (SLVs), December 2001.
[e]2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
NA = not analyzed
NC= no criteria or screening level
Shading indicates sampling result exceeds RBC or protection of human health AWQC.
Box indicates result exceeds protection of freshwater aquatic organisms AWQC or SLV.

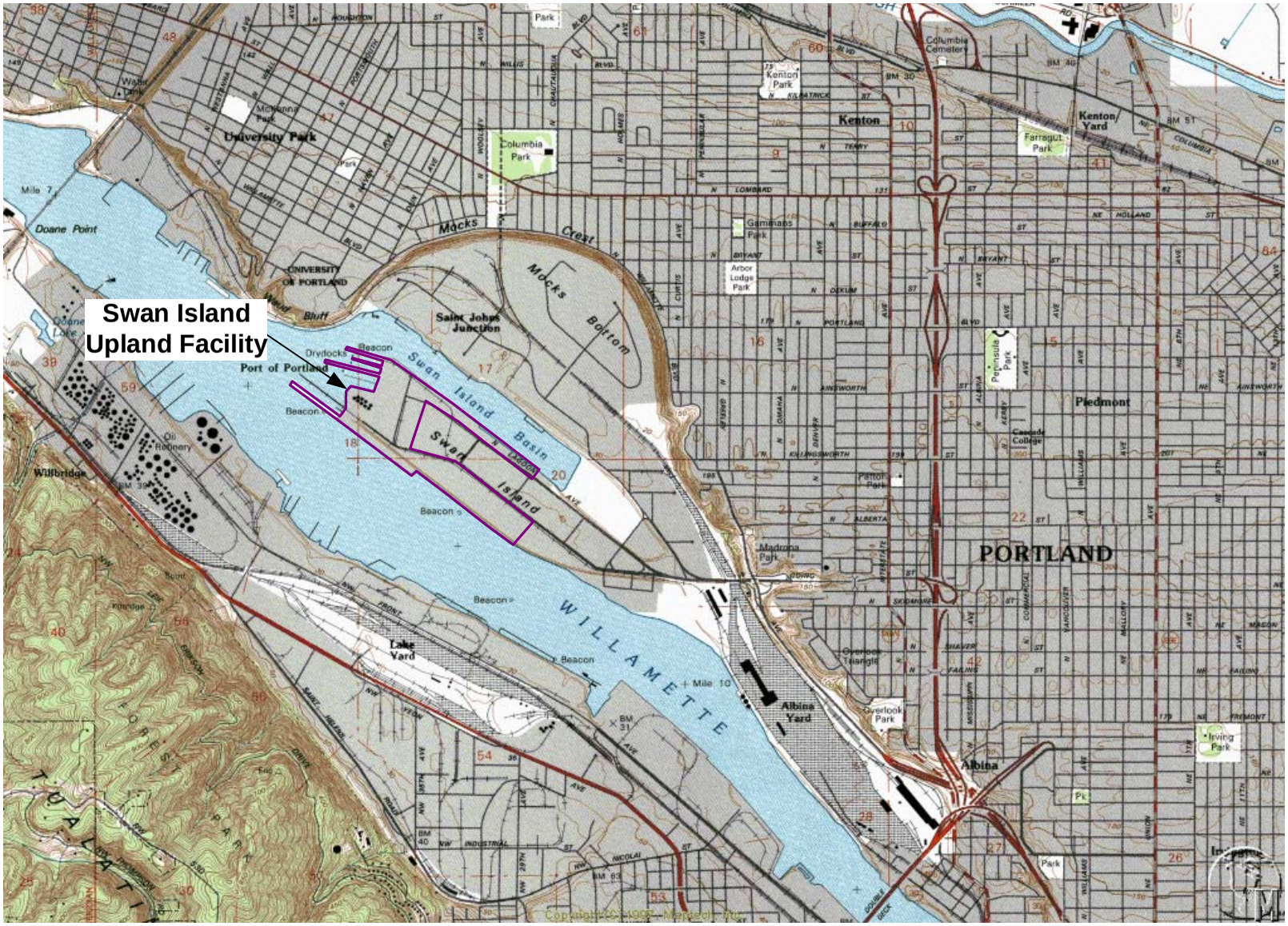
Table 4
2007 Annual Groundwater Sampling Results
Polynuclear Aromatic Hydrocarbon (PAH) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Benz(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene
Human Health Consumption AWQC [a]					***0.018***	***0.018***	***0.018***	***0.018***	***0.018***	***0.018***	***0.018***	***NC***
Risk-Based Concentration [b]					***230,000***	***1.9E+06***	***18,000***	***1.5E+07***	***68,000***	***1.1E+06***	***450,000***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***0.027***	***NC***	***NC***	***NC***	***0.014***	***NC***	***NC***	***NC***
BWTP and Building 72 Area	MW-1	12/18/01	4800-011218-253		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/26/02	4800-020326-265		0.02 U	0.035 B	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/1/02	4800-020701-281		0.02 U	0.02 U	0.02 U	0.024	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-296		0.12	0.1	0.1	0.089	0.096	0.092	0.086	0.093
		12/2/03	4800-031202-412		0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
		12/2/03	4800-031202-412	X	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
		1/5/05 [e]	6527-050105-421		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		1/5/05 [e]	6527-050105-421	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/13/05	6527-051213-431		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/13/05	6527-051213-431	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/22/06	MW-1		0.0088 J	0.0083 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/22/06	MW-1 DUP	X	0.016 J	0.020	0.0098 J	0.0079 J	0.0080 J	0.0056 J	0.02 U	0.0075 J
		12/27/07	MW-1		0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
		12/27/07	MW1 DUP	X	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
	MW-2	12/18/01	4800-011218-256		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/18/01	4800-011218-256	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/26/02	4800-020326-266		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/1/02	4800-020701-282		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/1/02	4800-020701-282-DUP	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-297		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	MW-3	12/18/01	4800-011218-255		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/02	4800-020327-267		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/2/02	4800-020702-283		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-298		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/26/03	4800-030326-402		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	MW-4	12/18/01	4800-011218-254		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/02	4800-020327-268		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/2/02	4800-020702-284		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-299		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/26/03	4800-030326-403-upper		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/26/03	4800-030326-404-upper	X	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
		3/26/03	4800-030326-405-lower		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Paint Shed/Blast Booth, Building 73 Area	MW-5	12/18/01	4800-011218-257		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/02	4800-020327-269		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/2/02	4800-020702-285		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-300		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	MW-6	12/18/01	4800-011218-258		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/02	4800-020327-270		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/2/02	4800-020702-286		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/8/02	4800-021008-301		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	MW-7	12/18/01	4800-011218-259		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/28/02	4800-020328-272		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/28/02	4800-020328-273	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/2/02	4800-020702-287		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/9/02	4800-021009-303		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/03	4800-030327-406		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

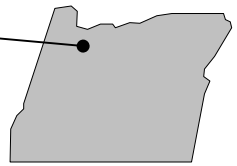
Table 4
2007 Annual Groundwater Sampling Results
Polynuclear Aromatic Hydrocarbon (PAH) Concentrations in Groundwater (ug/L)
Swan Island Upland Facility Remedial Investigation

Area of Investigation	Monitoring Well	Date	Sample No.	Duplicate	Benz(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene
Human Health Consumption AWQC [a]					***0.018***	***0.018***	***0.018***	***0.018***	***0.018***	***0.018***	***0.018***	***NC***
Risk-Based Concentration [b]					***230,000***	***1.9E+06***	***18,000***	***1.5E+07***	***68,000***	***1.1E+06***	***450,000***	***NC***
Freshwater AWQC [c]					***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***	***NC***
SLV [d]					***0.027***	***NC***	***NC***	***NC***	***0.014***	***NC***	***NC***	***NC***
Building 4 Area	MW-8	12/19/01	4800-011219-263		0.031	0.047	0.034	0.033	0.049	0.04	0.02 U	0.052
		3/28/02	4800-020328-274		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/3/02	4800-0207-03-290		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/9/02	4800-021009-304		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/9/02	4800-021009-305	X	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/27/03	4800-030327-407-upper		0.043	0.085	0.088	0.074	0.093	0.11	0.02 U	0.13
		3/27/03	4800-030327-408-lower		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/3/03	4800-031203-413		0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
		1/6/05 [e]	6527-050106-427		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/15/05	6527-051215-438		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		12/22/06	MW-8		0.0082 J	0.0082 J	0.0093 J	0.02 U	0.0092 J	0.0078 J	0.02 U	0.013 J
		12/27/07	MW-8		0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
	MW-9	12/19/01	4800-011219-262		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/28/02	4800-020328-275		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/3/02	4800-0207-03-291		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02
		10/9/02	4800-021009-306		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Building 43, 50 and 80 Area	MW-10	12/19/01	4800-011219-261		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		3/28/02	4800-020328-276		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/3/02	4800-0207-03-292		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		10/9/02	4800-021009-307		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
N. Channel Avenue Fabrication Site	MW-11	12/18/01	4800-011218-252		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		4/10/02	4800-020410-278		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		7/3/02	4800-0207-03-293		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02
		10/9/02	4800-021009-308		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	12/19/02	4800-011219-260		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	3/28/02	4800-020328-271		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	7/3/02	4800-0207-03-289		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	10/9/02	4800-021009-302		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	3/27/03	4800-030327-409		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	12/3/03	4800-011203-416		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	1/6/05	6257-0501-06-426		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	12/14/05	6527-051213-434		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	12/22/06	EB		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	EB	12/27/07	EB12272007		0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U

U = not detected
B = analyte found in associated method blank
EB = equipment blank
[a]EPA National Recommended Water Quality Criteria, Protection of Human Health from Organism Consumption Only, 2006.
[b]DEQ RBC for vapor intrusion into buildings from DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
[c]EPA National Recommended Water Quality Criteria, Protection of Freshwater Aquatic Organisms, Criterion Continuous Concentration (CCC), 2006.
[d]DEQ Level II Screening Level Values (SLVs), December 2001.
[e]2004 annual sampling was deferred until January of 2005 due to a sampling equipment malfunction.
NA = not analyzed
NC= no criteria or screening level
Shading indicates sampling result exceeds RBC or protection of human health AWQC.
Box indicates result exceeds protection of freshwater aquatic organisms AWQC or SLV.



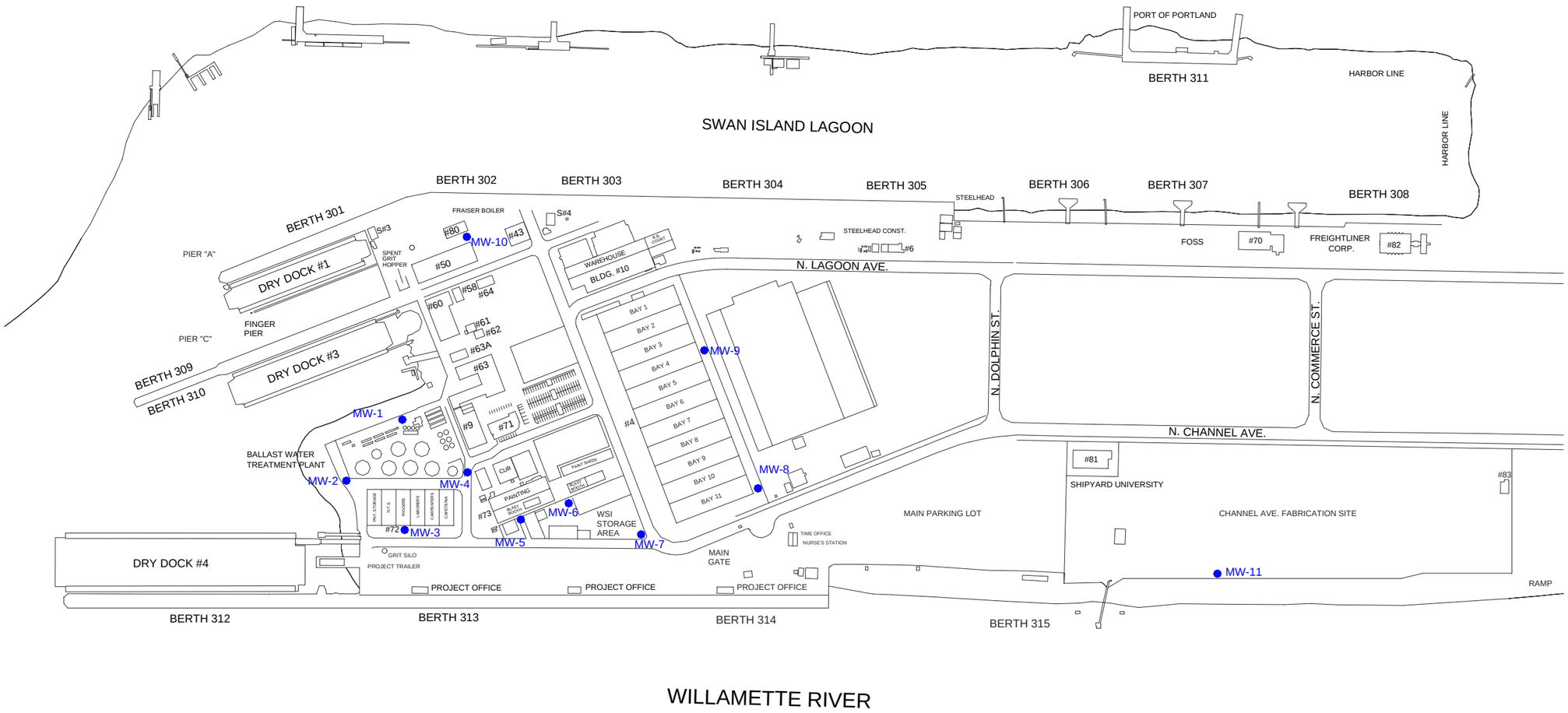
Portland, Oregon



N

Figure 1
Location Map
2007 Annual Groundwater Sampling Results, Swan Island Upland Facility Remedial Investigation

BRIDGEWATER GROUP, INC.



Legend:
● Phase IB Groundwater Monitoring Well Locations

0 ft. 250 ft. 500 ft. 1000 ft.

N

Figure 2
Monitoring Well Locations
2007 Annual Groundwater Sampling Results, Swan Island Upland Facility
Remedial Investigation

BRIDGEWATER GROUP, INC.

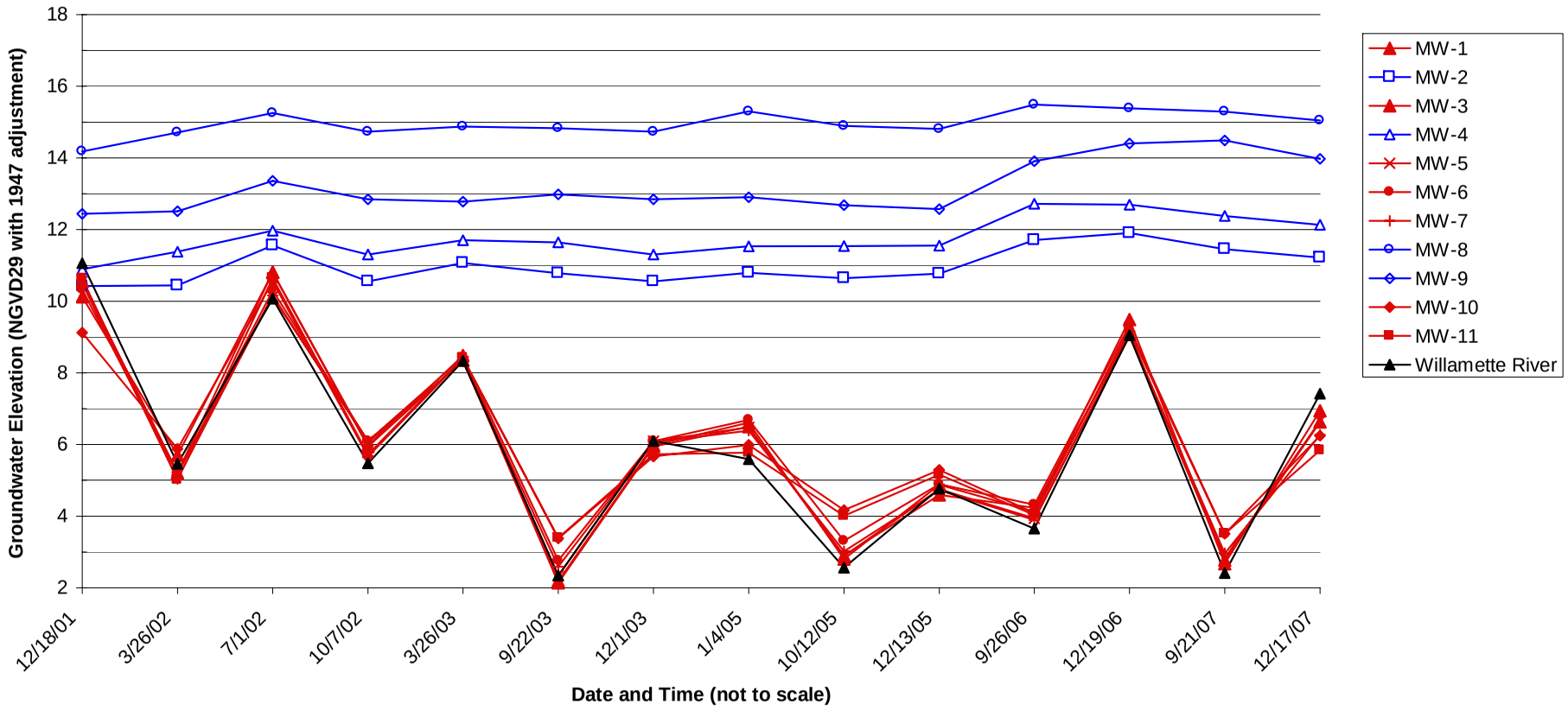


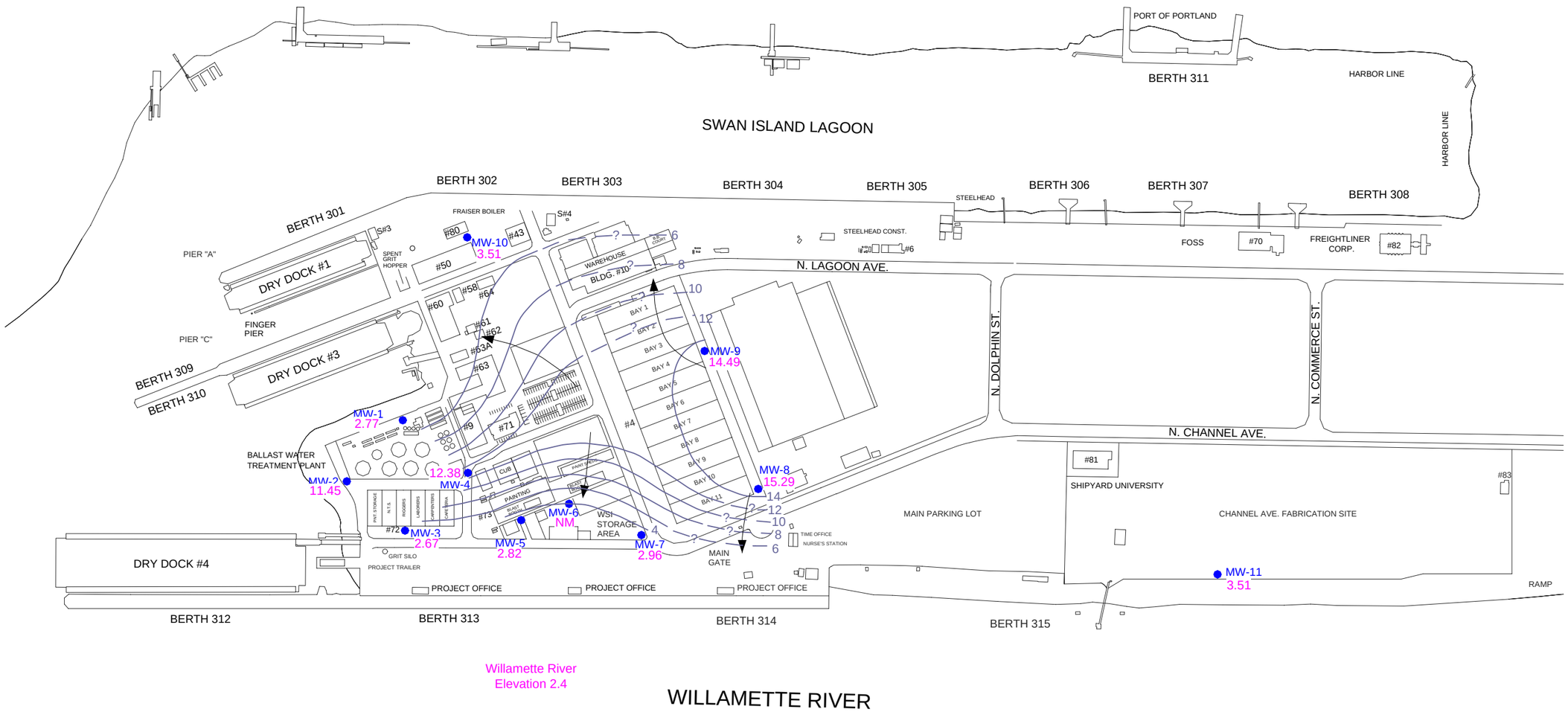
Figure 3

Groundwater Hydrograph

2007 Annual Groundwater Sampling Results, Swan Island Upland Facility

Remedial Investigation

BRIDGEWATER GROUP, INC.



Legend:

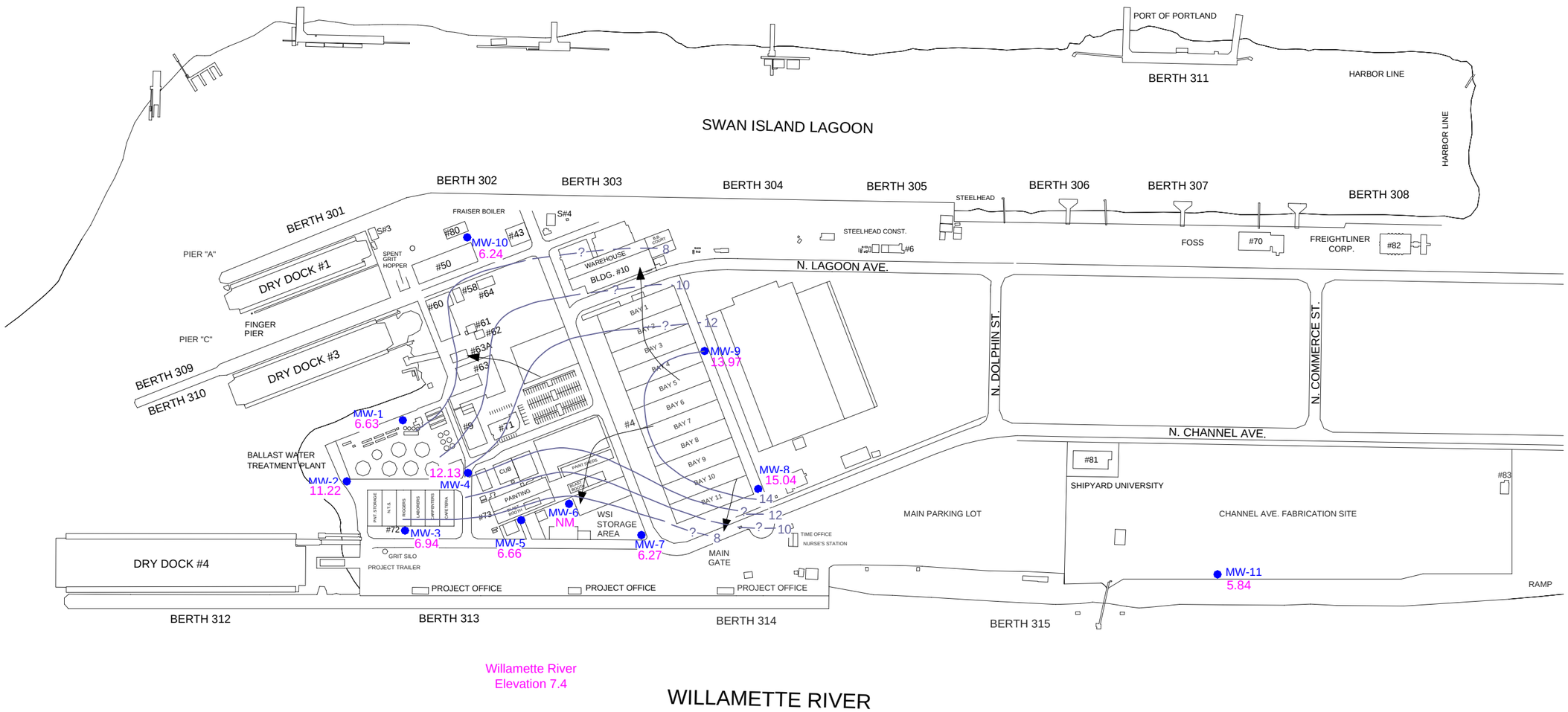
- ● 8.28 Monitoring Well/Groundwater Elevation (NGVD29 with 1947 adjustment)
- —— 10 Groundwater Elevation Contour
- ⟶ Groundwater Flow Direction

0 ft. 250 ft. 500 ft. 1000 ft.

Figure 4

September 21, 2007 Groundwater Elevations
2007 Annual Groundwater Sampling Results, Swan Island Upland Facility

BRIDGEWATER GROUP, INC.



Legend:

- ● 8.28 Monitoring Well/Groundwater Elevation (NGVD29 with 1947 adjustment)
- —— 10 Groundwater Elevation Contour
- ⟶ Groundwater Flow Direction

0 ft. 250 ft. 500 ft. 1000 ft.

Figure 5

December 17, 2007 Groundwater Elevations
2007 Annual Groundwater Sampling Results, Swan Island Upland Facility

BRIDGEWATER GROUP, INC.

Appendix A

September 21, 2007 Groundwater Elevation Measurements

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants
9615 SW Allen Boulevard, Suite 106
Portland, Oregon 97005-4814
www.ashcreekassociates.com
Portland (503) 924-4704
Vancouver (360) 567-3977
Fax (503) 924-4707

PROJECT NUMBER 1115-10
FIELD REPORT NUMBER
PAGE 1 OF 1
DATE 9/21/07

PROJECT SIUF GW Monitoring
LOCATION 5555 N. Channel Ave.
CLIENT POP
PURPOSE OF OBSERVATIONS Water level measurement
ASH CREEK REPRESENTATIVE K. Boris
CONTRACTOR
CONTRACTOR REP.

ARRIVAL TIME 1000
DEPARTURE TIME 1338
WEATHER Sunny, very warm
ASH CREEK PROJECT MANAGER M. Picker
PERMIT NO.
JOB PHONE

Our firm's professionals are represented on site solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and to report those opinions to our client. The presence and activities of our field representative do not relieve any contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, and sequences of construction. Unless signed by the Ash Creek Associates Project Manager, this report is preliminary. A preliminary report is provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those indicated in a preliminary report.

1000 Arrive on site.
Pop well caps @ OWI.
MW-9 has new monument ~~cap~~ lid. Very difficult to open. Have Stephen drop off new Sherwood monument lid, replace it.
Unable to locate MW-6, covered by lots of construction equipment, pieces of steel, etc.
Attempt to find unsuccessfull.
1200 Begin gauging
1338 Done gauging

BY
ASH CREEK ASSOCIATES REPRESENTATIVE

REVIEWED BY
ASH CREEK ASSOCIATES PROJECT MANAGER

WELL GAGING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

		Job Number:	1115-10
Client:	POP	Date:	9/21/07
Project:	SIUF - GW Monitoring	Sampler:	KKB
Weather:	Sunny, warm	Time In/Out:	1000/1340

WATER LEVEL DATA

Well I.D.	Time	Depth to Free Product (feet)	Depth to Water (feet)	Depth to Well Bottom (feet)	Product Thickness (feet)	Water Column Height (feet)	Notes/Other Remarks
MW-11	1207	N/A	31.95		N/A		
MW-8	1217		18.09				
MW-9	1225		19.13				Replace lid & lock w/ ACA lock — see field notes
MW-10	1237		28.18				
MW-1	1247		30.24				
MW-4	1256		20.31				
MW-3	1302		30.13				
MW-2	1308		21.57				Replace Lock w/ACA lock
MW-5	1320		29.95				" " "
MW-7	1326		29.66				~~Lid~~ Rim of monument driven over/misshapen
MW-6	Covered by construction equipment, large pieces of steel, unable to access						

*Popped all well caps prior to gauging

Appendix B

Well Monitoring Data Sheets

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants
9615 SW Allen Boulevard, Suite 106
Portland, Oregon 97005-4814
www.ashcreekassociates.com
Portland (503) 924-4704
Vancouver (360) 567-3977
Fax (503) 924-4707

PROJECT NUMBER 1115-10
FIELD REPORT NUMBER 1
PAGE 1 OF 1
DATE 12/26/07

PROJECT SIUF
LOCATION N. Channel (Shipyard)
CLIENT Port of Portland
PURPOSE OF OBSERVATIONS GW Monitoring
ASH CREEK REPRESENTATIVE A. Fines
CONTRACTOR
CONTRACTOR REP.

ARRIVAL TIME 747
DEPARTURE TIME 1639
WEATHER Rainy 40°
ASH CREEK PROJECT MANAGER M. Pickering
PERMIT NO.
JOB PHONE

Our firm's professionals are represented on site solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and to report those opinions to our client. The presence and activities of our field representative do not relieve any contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, and sequences of construction. Unless signed by the Ash Creek Associates Project Manager, this report is preliminary. A preliminary report is provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those indicated in a preliminary report.

715 Mob to Site;
747 Arrive at Rinker to sample MW-11;
801 Set-up at MW-11;
1013 Sample at MW-11;
1033 leave Rinker property; Drop-off IDW;
1100 Sign-in at SIUF guard shack;
1105 Set-up at MW-7;
1351 Sample at MW-7;
1413 Set-up at MW-6;
1535 Sample at MW-6;
1620 Clean-up and leave shipyard;
1639 Drop-off IDW;
1639 Leave site;
1652 Arrive at office;

BY

REVIEWED BY

ASH CREEK ASSOCIATES REPRESENTATIVE

ASH CREEK ASSOCIATES PROJECT MANAGER

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants
9615 SW Allen Boulevard, Suite 106
Portland, Oregon 97005-4814
www.ashcreekassociates.com
Portland (503) 924-4704
Vancouver (360) 567-3977
Fax (503) 924-4707

PROJECT NUMBER 1115-10
FIELD REPORT NUMBER 2
PAGE 1 OF 1
DATE 12/27/07

PROJECT SIUF
LOCATION N. Channel (Shipyard)
CLIENT Port of Portland
PURPOSE OF OBSERVATIONS GW Monitoring
ASH CREEK REPRESENTATIVE A. Fines
CONTRACTOR —
CONTRACTOR REP. —

ARRIVAL TIME 750
DEPARTURE TIME
WEATHER Rainy 41°
ASH CREEK PROJECT MANAGER M. Pickering
PERMIT NO. —
JOB PHONE —

Our firm's professionals are represented on site solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and to report those opinions to our client. The presence and activities of our field representative do not relieve any contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, and sequences of construction. Unless signed by the Ash Creek Associates Project Manager, this report is preliminary. A preliminary report is provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those indicated in a preliminary report.

718 Mob to site;
750 Arrive at site; Sign-in at guard shack;
757 Set-up at MW-3;
1029 Sample MW-3;
1053 Set-up at MW-4;
1217 Sample at MW-4;
1241 Drop-off IDW;
1252 Set-up at MW-1;
1529 Sample MW-1;
1619 Set-up at MW-8
1711 Sample MW-8;
1749 Take EB12272007;
1815 Drop off IDW;
1827 Take IDW12272007;
1829 ~~1854~~ Leave site;
1854 Arrive at office;

BY

REVIEWED BY

ASH CREEK ASSOCIATES REPRESENTATIVE

ASH CREEK ASSOCIATES PROJECT MANAGER

WELL GAGING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

		Job Number:	1115-10
Client:	Port of Portland	Date:	12/17/2007
Project:	SIUF-GW Monitoring	Sampler:	A. Fines
Weather:		Time In/Out:	954 / 1057

WATER LEVEL DATA

Well I.D.	Time	Depth to Free Product (feet)	Depth to Water (feet)	Depth to Well Bottom (feet)	Product Thickness (feet)	Water Column Height (feet)	Notes/Other Remarks
MW-1	1023		26.38				
MW-2	1042		21.80				
MW-3	1038		25.86				
MW-4	1019		20.56				
MW-5	1015		26.11				
MW-6							
MW-7	956		26.35				Monument Rim Bent
MW-8	1010		18.34				
MW-9	1003		19.65				
MW-10	1031		25.45				
MW-11	1057		29.62				

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	~~MW-8~~ MW-1	Job Number:	1115-10
Client:	Port of Portland	Date:	~~12/17/07~~ 12/27/07
Project:	SIUF-GW Monitoring	Sampler:	A. Fines
Weather:	Rainy 41°	Time In/Out:	1252/1611

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	24.67'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:		Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	7 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Teflon Bladder Pump	Pump Intake Depth:	29'	Comments	
Sampling Method:	Same	Tubing Type:	Teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1309	0.95	0.95		0.19	6.62	14.20	1405	2.28	-148.0	641	VC-Gray
1314		1.90			6.59	14.53	1368	1.26	-152.4	148	Cl
1319		2.85			6.58	14.60	1375	0.95	-157.8	253	Cl
1324		3.80			6.58	14.59	1388	0.89	-161.8	313	Cl
1329		4.75			6.56	14.82	1400	1.25	-158.7	607	Cl
1334		5.70			6.57	14.82	1405	0.80	-163.7	462	Cl
1339		6.65			6.58	12.14	1436	0.80	-166.1	445	Cl
1344		7.60			6.57	12.79	1431	0.66	-166.3	575	Cl
1349		8.55			6.58	13.08	1484	0.58	-173.6	482	Cl
1354		9.50			6.58	11.77	1491	0.58	-178.8	395	Cl

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-8	Sampling Flow Rate	0.19 L/min	Analytical Laboratory:	Cascade Analytical
Sample Time:	1529	Final Depth to Water:	24.70'	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3×16oz	HNO_3	Total Metals	yes (no)	—	MW-1	MW-1DUP
3×1L	—	PAHs 8270M-SIM	yes (no)	—	MW-1	MW-1DUP
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Turbidity Meter Standards: <0.1 reads 0.24; 20 reads 21.6; 100 reads 104; 800 reads 802;

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-8	Job Number:	1115-10
Client:	Port of Portland	Date:	12/27/07
Project:	SIUF	Sampler:	Fines
Weather:	Rainy 41°	Time In/Out:	1252/1611

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	24.67'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:		Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	7 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	29'	Comments	
Sampling Method:	same	Tubing Type:	Teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1359	0.95	10.45		0.19	6.58	10.82	1489	0.62	-177.5	314	Cl
1404	↓	11.40		↓	6.59	10.34	1489	0.66	-175.5	240	Cl
1409	↓	12.35		↓	6.59	10.03	1490	0.66	-172.8	183	Cl
1414	↓	13.30		↓	6.59	9.90	1489	0.67	-170.4	144	Cl
1419	↓	14.25		↓	6.59	9.88	1487	0.65	-169.1	120	SC
1424	↓	15.20		↓	6.60	9.84	1486	0.64	-168.1	100	SC
1429	↓	16.15		↓	6.60	9.87	1486	0.65	-168.4	82.4	SC
1434	↓	17.10		↓	6.60	9.88	1486	0.63	-168.4	67.0	SC
1439	↓	18.05		↓	6.60	9.92	1485	0.62	-168.5	55.5	SC
1444	↓	19.00		↓	6.60	9.95	1484	0.62	-168.6	52.0	SC

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-1	Sampling Flow Rate	0.19 L/min	Analytical Laboratory:	Columbia Anal.		
Sample Time:	1529	Final Depth to Water:	24.70'	Did Well Dewater?	No		
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID	
3x 16oz	HNO_3	Total Metals	yes (no)	—	MW-1	MW-1DUP	
3x 1L	None	PAHs 8270M-SIM	yes (no)	—	MW-1	MW-1DUP	
			yes no				
			yes no				
			yes no				
			yes no				

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-1	Job Number:	1115-10
Client:	Port of Portland	Date:	12/27/07
Project:	SIUF	Sampler:	Fines
Weather:	Rainy 41°	Time In/Out:	1252/1611

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	24.67'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:		Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	7 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	29'	Comments	
Sampling Method:	same	Tubing Type:	Teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1449	0.95	~~1.9~~ 19.95		0.19	6.60	9.88	1486	0.61	-168.8	48.3	AC
1454		~~2.85~~ 20.90			6.60	9.91	1486	0.62	-168.9	42.1	AC
1459		~~3.80~~ 21.85	22.80		6.60	9.92	1486	0.62	-168.5	39.4	AC
1504		~~4.75~~	22.80		6.60	9.93	1486	0.61	-168.8	39.4	AC
1509		~~5.70~~	23.75		6.60	9.91	1486	0.60	-169.2	36.2	C
1514		~~6.65~~	24.70		6.60	9.91	1487	0.60	-169.3	37.2	C
1519		~~7.60~~	25.65		6.61	9.91	1487	0.59	-169.5	33.6	C
1524		~~8.55~~	26.60		6.61	9.90	1487	0.60	-169.6	29.9	C
1529		~~9.50~~	27.55								
1534		~~10.45~~	28.50								

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-1	Sampling Flow Rate	0.19 L/min	Analytical Laboratory:	Columbia Anal.
Sample Time:	1529	Final Depth to Water:	24.70'	Did Well Dewater?	NO

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3x 16oz.	HNO_3	Total Metals	yes (no)	—	MW-1	MW-1DUP
3x 1L	—	PAHs 8270M-SIM	yes (no)	—	MW-1	MW-1DUP
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Talked w/Stu Brown about turbidity, said if I felt like we hit a plateau then to sample;

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-3	Job Number:	1115-10
Client:	Port of Portland	Date:	~~12/17/07~~ 12/27/07
Project:	SIUF-GW Monitoring	Sampler:	A. Fines
Weather:	Rainy 40°	Time In/Out:	757/1051

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	24.24'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	10.76'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	6.25 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Teflon Bladder Pump	Pump Intake Depth:	29'	Comments	
Sampling Method:	Same	Tubing Type:	Teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
814	0.88	0.88		0.18	6.51	13.76	745	6.85	-139.2	564	Cl-Gray
819	↓	1.76		↓	6.51	15.62	754	3.08	-154.8	600	Cl
824		2.64			6.51	15.86	766	1.45	-162.3	1000	SC
829		3.52			6.51	15.94	761	1.22	-163.5	744	SC
834		4.40			6.50	15.96	756	1.14	-162.0	299	SC
839		5.28			6.49	15.92	751	1.07	-161.6	121	SC
844		6.16			6.50	14.49	750	1.07	-161.0	77.7	AC
849		7.04			6.49	13.75	746	1.02	-159.7	71.7	C
854		7.92			6.49	13.58	746	0.97	-159.3	62.7	C
* 859	↓	8.80		↓	6.49	15.97	744	0.81	-160.0	46.4	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-3	Sampling Flow Rate	0.18 L/min	Analytical Laboratory:	Cascade Analytical
Sample Time:	1029	Final Depth to Water:	24.26'	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1×1L CO_3	HNO_3	Total Metals	yes (no)	—	—	—
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Turbidity meter standards: <0.1 reads 0.12; 20 reads 20.7; 100 reads 104; 800 reads 805

Adjusted flow; decreased

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-3	Job Number:	1115-10
Client:	Port of Portland	Date:	12/27/07
Project:	SIUF	Sampler:	A. Fines
Weather:	Rainy 40°	Time In/Out:	757/1051

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	24.24'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:		Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	6.25 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	29'	Comments	
Sampling Method:	same	Tubing Type:	teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
904	0.88	9.68		0.18	6.49	13.68	745	0.87	-156.7	53.3	C
909	↓	10.56		↓	6.49	13.00	743	0.87	-157.4	79.0	C
* 914	↓	11.44		↓	6.48	14.81	750	0.76	-158.2	31.9	C
919	↓	12.32		↓	6.49	16.00	751	0.64	-162.8	40.9	C
924	↓	13.20		↓	6.49	16.03	748	0.61	-164.4	56.7	C
929	↓	14.08		↓	6.49	14.97	752	0.64	-164.5	63.2	C
934	↓	14.96		↓	6.49	13.72	745	0.70	-162.2	65.8	C
939	↓	15.84		↓	6.49	13.59	742	0.71	-161.0	41.0	C
944	↓	16.72		↓	6.49	13.70	748	0.69	-160.0	22.1	C
949	↓	17.60		↓	6.49	13.56	753	0.69	-159.2	16.5	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-3	Sampling Flow Rate	0.18 L/min	Analytical Laboratory:	Columbia
Sample Time:	1029	Final Depth to Water:	24.26'	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1 x 16oz	HNO_3	Total Metals	yes (no)	—	—	—
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

* adjusted flow to off-set rise in turbidity

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-3	Job Number:	1115-10
Client:	Port of Portland	Date:	12/27/07
Project:	SIUF	Sampler:	A. Fines
Weather:	Rainy 40°	Time In/Out:	757 / 1051

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	24.24'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	10.76'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	6.25 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	29'	Comments	
Sampling Method:	same	Tubing Type:	teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
954	0.88	18.48		0.18	6.49	13.63	753	0.68	-158.9	12.3	C
959	↓	19.36		↓	6.49	13.78	756	0.67	-158.8	11.4	C
1004	↓	20.24		↓	6.49	13.80	757	0.67	-158.6	9.05	C
1009	↓	21.12		↓	6.49	13.82	759	0.66	-158.7	8.53	C
1014	↓	22.00		↓	6.49	13.79	762	0.65	-158.9	7.92	C
1019	↓	22.88		↓	6.48	13.87	763	0.64	-159.2	7.48	C
1024	↓	23.76		↓	6.50	13.89	764	0.63	-159.3	7.19	C
1029											
1034											
1039											

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-3	Sampling Flow Rate	0.18 L/min	Analytical Laboratory:	Columbia Anal.
Sample Time:	1029	Final Depth to Water:	24.26'	Did Well Dewater?	NO

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1x 16oz	HNO_3	Total Metals	yes (no)	—		
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-4	Job Number:	1115-10
Client:	Port of Portland	Date:	~~12/17/07~~ 12/27/07
Project:	SIUF-GW Monitoring	Sampler:	A. Fines
Weather:	Raining 41°	Time In/Out:	1053/

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	20.48'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	14.52'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:		Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Teflon Bladder Pump	Pump Intake Depth:	29'	Comments
Sampling Method:	Same	Tubing Type:	Teflon	

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1107	0.74	0.74		0.25	6.32	18.35	274	4.04	14.1	1000	VC-Brown
1112	↓	1.48		↓	6.18	19.00	269	2.01	31.0	52.6	Cl
1117	↓	2.22		↓	6.18	18.04	269	1.37	37.6	20.0	Cl
1122	↓	2.96		↓	6.18	17.26	262	1.21	40.8	15.4	SC
1127	↓	3.70		↓	6.19	16.80	257	1.12	43.3	11.0	AC
1132	↓	4.44		↓	6.19	16.51	254	1.05	45.8	7.47	C
1137	↓	5.18		↓	6.19	16.62	253	0.98	47.6	6.31	C
1142	↓	5.92		↓	6.19	16.37	253	0.93	49.4	5.14	C
1147	↓	6.66		↓	6.19	16.24	252	0.90	51.2	6.08	C
1152	↓	7.40		↓	6.20	15.46	252	0.89	52.4	4.41	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-4	Sampling Flow Rate	0.25 L/MIN.	Analytical Laboratory:	Cascade Analytical	
Sample Time:	1217	Final Depth to Water:	20.60'	Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
9 x VOA's	HCL	VOC's	yes (no)	—	MW-4	MW-4 DUP
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Turbidity Standards: <0.1 reads 0.18; 20 reads 21.6; 100 reads 103; 800 reads 796;

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-4	Job Number:	1115-10
Client:	Port of Portland	Date:	12/27/07
Project:	SIUF	Sampler:	A. Fines
Weather:	Rainy 41°	Time In/Out:	1053/1242

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	20.48'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	14.52'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	2.75 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	29'	Comments
Sampling Method:	same	Tubing Type:	Teflon	

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1157	0.74	8.14		0.25	6.20	15.30	252	0.88	53.5	6.92	C
1202	↓	8.88		↓	6.19	15.34	249	0.92	54.2	8.13	C
1207	↓	9.62		↓	6.19	15.60	246	0.91	55.2	7.75	C
1212	↓	10.36		↓	6.19	15.80	245	0.90	56.0	7.35	C
1217											
1222											
1227											
1232											
1237											
1242											

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-4	Sampling Flow Rate	0.25L/MIN.	Analytical Laboratory:	Columbia Anal.
Sample Time:	1217	Final Depth to Water:	20.60'	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
9 x VOA's	HCL	VOCs 8260B	yes (no)	—	MW-4	MW-4DUP
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-6	Job Number:	1115-10
Client:	Port of Portland	Date:	~~12/17/07~~ 12/26/07
Project:	SIUF-GW Monitoring	Sampler:	A. Fines
Weather:	Cloudy 40°	Time In/Out:	1413 / 1602

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	24.26'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	10.74'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	3.0 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Teflon Bladder Pump	Pump Intake Depth:	29'	Comments
Sampling Method:	Same	Tubing Type:	Teflon	

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1435	0.95	0.95		0.19	6.50	14.49	405	11.08	-44.5	115	Cl-Gray
1440		1.90			6.31	14.79	391	3.36	-3.9	21.4	Cl
1445		2.85			6.28	14.78	402	2.86	14.6	11.9	AC
1450		3.80			6.29	13.54	407	2.83	21.4	14.4	C
1455		4.75			6.29	14.39	406	2.61	27.2	3.66	C
1500		5.70			6.30	14.03	403	2.54	33.3	2.63	C
1505		6.65			6.30	14.04	399	2.49	36.0	2.41	C
1510		7.60			6.31	13.94	399	2.46	39.6	1.87	C
1515		8.55			6.30	13.95	397	2.40	42.8	1.54	C
1520		9.50			6.31	14.05	394	2.36	46.3	1.73	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-6	Sampling Flow Rate		Analytical Laboratory:	Cascade Analytical
Sample Time:	1535	Final Depth to Water:		Did Well Dewater?	

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1x 1L HNO_3	HNO_3	Total Metals	yes (no)	—		
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Turbidity Meter Standards: <0.1 reads 0.12; 20 reads 21.4; 100 reads 103
800 reads 794

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-6	Job Number:	1115-10
Client:	Port of Portland	Date:	12/26/07
Project:	SIUF	Sampler:	A. Fines
Weather:	Cloudy 41°	Time In/Out:	1413 / 1602

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	24.26'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	10.74'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	3.0 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	29'
Sampling Method:	same	Tubing Type:	Teflon

Comments

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1525	0.95	10.45		0.19	6.32	14.12	394	2.32	47.7	1.82	C
1530	↓	11.40		↓	6.32	14.17	394	2.29	48.6	1.85	C
1535											
1540											
1545											

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-6	Sampling Flow Rate	0.19 L/MIN	Analytical Laboratory:	Columbia Anal.
Sample Time:	1535	Final Depth to Water:	24.60'	Did Well Dewater?	

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1×1603	HNO_3	Total Metals	yes (no)	—	—	—
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-7	Job Number:	1115-10
Client:	Port of Portland	Date:	~~12/17/07~~ 12/26/07
Project:	SIUF-GW Monitoring	Sampler:	A. Fines
Weather:	Cloudy 41°	Time In/Out:	1105 / 1409

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	23.98'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	11.02'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	5.25 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Teflon Bladder Pump	Pump Intake Depth:	30'	Comments	
Sampling Method:	Same	Tubing Type:	Teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1130	0.76	0.76		0.15	6.45	11.95	911	5.68	-114.4	1000	Cl-Gray
1135	↓	1.52		↓	6.45	12.55	941	3.88	-118.2	E-3	Cl-Gray
1140	↓	2.28		↓	6.50	11.15	950	4.18	-113.3	855	Cl-Gray
1145	↓	3.04		↓	6.50	10.28	940	5.05	-103.8	481	SC
1150	↓	3.80		↓	6.50	10.04	941	5.02	-102.5	348	SC
1155	↓	4.56		↓	6.52	9.75	939	4.82	-101.1	271	SC
1200	↓	5.32		↓	6.51	9.25	942	4.86	-98.5	214	SC
1205	Had to Change bladder; Bladder compromised by sediment										
~~1210~~ 1221	↓	6.84		↓	6.60	8.86	855	7.16	-83.2	1000	Cl-Gray
~~1215~~ 1226	↓	7.60		↓	6.62	13.79	761	5.43	-84.6	368	Cl

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-7	Sampling Flow Rate		Analytical Laboratory:	Cascade Analytical
Sample Time:	1351	Final Depth to Water:		Did Well Dewater?	

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1 x 16oz	HNO_3	Total Metals	yes (no)	—	—	—
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Turbidity meter standards: <0.1 reads 0.14; 20 reads 20; 100 reads 94.8; 800 reads 796

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-7	Job Number:	1115-10
Client:	Port of Portland	Date:	12/26/07
Project:	SIUF	Sampler:	A. Fines
Weather:	Cloudy 40°	Time In/Out:	1105/1409

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	23.98'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	11.02'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	5.25 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	30'
Sampling Method:	same	Tubing Type:	Teflon

Comments

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1231	0.76	8.36		0.15	6.63	14.51	748	5.30	-82.3	241	SC
1236	↓	9.12		↓	6.58	14.72	746	5.23	-81.6	177	SC
1241	↓	9.88		↓	6.57	14.82	748	5.24	-82.0	139	SC
1246	↓	10.64		↓	6.57	14.90	751	5.14	-82.0	109	SC
1251	↓	11.40		↓	6.33	15.19	767	5.22	-83.0	82.2	SC
1256	↓	12.16		↓	6.54	15.33	799	4.47	-92.8	51.3	SC
1301	↓	12.92		↓	6.53	15.28	819	4.21	-97.8	37.0	SC
1306	↓	13.68		↓	6.52	15.23	832	4.13	-100.0	25.4	AC
1311	↓	14.44		↓	6.50	15.24	839	4.03	-100.6	19.5	AC
1316	↓	15.20		↓	6.50	15.29	844	3.99	-99.8	14.6	AC

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-7	Sampling Flow Rate		Analytical Laboratory:	Columbia
Sample Time:	1351	Final Depth to Water:		Did Well Dewater?	

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1x 1L HNO_3	HNO_3	Total Metals	yes (no)	—	—	—
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-7	Job Number:	1115-10
Client:	Port of Portland	Date:	12/26/07
Project:	SIUF	Sampler:	A. Fines
Weather:	Cloudy 40°	Time In/Out:	1105/1409

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	23.98'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	11.02'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	5.25 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	30'	Comments	
Sampling Method:	same	Tubing Type:	Teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1321	0.76	15.96		0.15	6.49	15.24	848	4.01	-99.8	12.6	AC
1326	↓	16.72		↓	6.49	14.84	849	3.98	-96.1	10.6	C
1331	↓	17.48		↓	6.50	14.67	834	4.42	-90.4	9.77	C
1336	↓	18.24		↓	6.51	14.15	827	4.30	-82.7	9.05	C
1341	↓	19.00		↓	6.50	13.90	823	4.40	-79.6	8.54	C
1346	↓	19.76		↓	6.50	13.75	819	4.50	-75.8	8.27	C
1351											
1356											
1401											
1406											

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-7	Sampling Flow Rate		Analytical Laboratory:	Columbia
Sample Time:	1351	Final Depth to Water:	24.31'	Did Well Dewater?	

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1x 16oz.	HNO_3	Total Metals	yes (no)	—		
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	~~MW-1~~ MW-8	Job Number:	1115-10
Client:	Port of Portland	Date:	~~12/17/07~~ 12/27/07
Project:	SIUF-GW Monitoring	Sampler:	A. Fines
Weather:	Rainy 41°	Time In/Out:	1619/

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	18.29'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:		Depth to Free Product:		x Casing Volumes	
Purge Volume:	3 gal	Free Product Thickness:		= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Teflon Bladder Pump	Pump Intake Depth:	29'	Comments	
Sampling Method:	Same	Tubing Type:	Teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1631					6.28	15.30	329	3.07	5.1	1000	VC-O range
1636					6.23	15.44	329	2.86	16.2	293	Cl
1641					6.22	15.55	348	2.41	18.4	96.0	Cl
1646					6.22	15.54	363	1.98	5.2	51.2	SC
1651					6.24	15.55	372	2.00	-9.8	15.8	SC
1656					6.24	15.49	375	2.01	-18.3	10.4	SC
1701					6.25	15.03	378	1.97	-21.5	10.6	AC
1706					6.25	14.37	378	2.00	-22.4	10.1	AC
1711											
1716											

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-8	Sampling Flow Rate		Analytical Laboratory:	Cascade Analytical	
Sample Time:	1711	Final Depth to Water:	18.41'	Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1 x 1L	None	PAHs 8270M-SIM	yes (no)	—		~~MW-1-Dup~~
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Turbidity meter standards: <0.1 reads 0.11 ; 20 reads 20.4 ;
100 reads 108 ; 800 reads 824

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-11	Job Number:	1115-10
Client:	Port of Portland	Date:	12/26/2007
Project:	SIUF	Sampler:	A. Fines
Weather:	Cloudy 40°	Time In/Out:	801/1033

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	29.72'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	5.28'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	5.5 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	32'
Sampling Method:	same	Tubing Type:	Teflon

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
818	0.91	0.91		0.18	6.42	13.47	419	5.09	158.3	245	Cl-Orange
823	↓	1.82		↓	6.40	13.45	421	4.18	154.6	112	SC orange tint
828		2.73			6.37	13.13	422	4.11	151.4	97.5	SC
833		3.64			6.40	12.99	424	3.87	146.5	79.8	AC
838		4.55			6.40	12.98	424	3.76	142.0	59.6	AC
843		5.46			6.41	13.01	424	3.73	138.2	43.6	C
848		6.37			6.42	13.49	425	3.54	131.5	34.9	C
853		7.28			6.41	13.58	426	3.48	124.5	28.3	C
858		8.19			6.42	13.58	426	3.44	115.9	23.7	C
903	↓	9.10		↓	6.42	13.63	426	3.42	108.8	21.2	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-11	Sampling Flow Rate	0.18 L/MIN	Analytical Laboratory:	Columbia Anal.
Sample Time:	1013	Final Depth to Water:	26.56	Did Well Dewater?	

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1x16oz.	HNO_3	Total Metals	yes (no)	—	—	—
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Turbidity meter standards: <0.1 reads 0.15; 20 reads 20.5
100 reads 97.4; 800 reads 691

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-11	Job Number:	1115-10
Client:	Port of Portland	Date:	12/26/2007
Project:	SIUF	Sampler:	A. Fines
Weather:	Cloudy 41°	Time In/Out:	801 / 1033

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	29.72'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	5.28'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	5.5 gal.	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	32'	Comments	
Sampling Method:	same	Tubing Type:	Teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
908	0.91	10.01		0.18	6.42	13.65	425	3.40	102.0	18.4	C
913	↓	10.92		↓	6.45	13.61	425	3.39	95.3	16.8	C
918	↓	11.83		↓	6.44	13.69	424	3.35	89.0	15.1	C
923	↓	12.74		↓	6.44	13.63	424	3.35	83.9	13.4	C
928	↓	13.65		↓	6.44	13.84	422	3.42	80.0	19.7	C
933	↓	14.56		↓	6.45	13.10	424	3.51	77.4	14.0	C
938	↓	15.47		↓	6.45	12.61	426	3.52	73.1	9.95	C
943	↓	16.38		↓	6.43	12.48	428	3.50	69.5	5.51	C
948	↓	17.29		↓	6.45	12.54	426	3.49	68.2	3.48	C
953	↓	18.20		↓	6.43	12.63	424	3.50	68.5	2.74	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-11	Sampling Flow Rate	0.18 L/min	Analytical Laboratory:	Columbia Anal.
Sample Time:	1013	Final Depth to Water:	26.56'	Did Well Dewater?	

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1x 1600z.	HNO_3	Total Metals	yes (no)	—	—	—
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-11	Job Number:	1115-10
Client:	Port of Portland	Date:	12/26/07
Project:	SIUF	Sampler:	A. Fines
Weather:	Cloudy 41°	Time In/Out:	801/1033

WELL DATA

Well Depth:	35'	Well Diameter:	2"	Water Height	
Depth to Water:	29.72'	Screened Interval:	20-35'	x Multiplier	
Water Column Length:	5.28'	Depth to Free Product:	—	x Casing Volumes	
Purge Volume:	5.5 gal	Free Product Thickness:	—	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	teflon bladder pump	Pump Intake Depth:	32'	Comments	
Sampling Method:	same	Tubing Type:	teflon		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
958	0.91	19.11		0.18	6.43	12.63	424	3.51	68.7	2.11	C
1003	↓	20.02		↓	6.45	12.55	423	3.53	67.5	2.23	C
1008	↓	20.93		↓	6.46	12.47	423	3.52	66.5	2.38	C
1013											
1018											
1023											
1028											
1033											
1038											
1043											

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-11	Sampling Flow Rate	0.18 L/min	Analytical Laboratory:	Columbia Anal.
Sample Time:	1013	Final Depth to Water:	26.56'	Did Well Dewater?	

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
1x160z	HNO_3	Total Metals	yes (no)	—		
			yes no			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Appendix C

Annual Groundwater Sampling Analytical Reports

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

January 31, 2008 Analytical Report for Service Request No: K0712217

Michael Pickering
Ash Creek Associates
9615 SW Allen Blvd, Ste. 106
Portland, OR 97005

RE: POP - SUIF/1115

Dear Michael:

Enclosed are the results of the samples submitted to our laboratory on December 28, 2007. For your reference, these analyses have been assigned our service request number K0712217.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3260. You may also contact me via Email at HJacky@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Harvey Jacky
Project Chemist

HJ/lb

NELAP Accredited ACIL Seal of Excellence Award 100% Recycled

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ash Creek Associates, Inc.	**Service Request No.:**	K0712217
Project:	POP - SIUF / 1115	**Date Received:**	12/28/07
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Eleven water samples were received for analysis at Columbia Analytical Services on 12/28/07. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Volatile Organic Compounds by EPA Method 8260B

No anomalies associated with the analysis of these samples were observed.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270C

Relative Percent Difference (RPD) Exceptions:
The RPD for Benzo(a)pyrene in the replicate Laboratory Control Samples (LCS/DLCS) analyses (KWG0800114-2 and KWG0700114-3) was outside control criteria. All spike recoveries in the MS and LCS/DLCS were within acceptance limits, indicating the analytical batch was in control. No further corrective action was appropriate.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by HE **Date** 1/31/08

Chain of Custody Documentation

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

CHAIN OF CUSTODY RECORD

Client Name: Ash Creek Associates
Address: 9615 SW Allen Blvd #106
City/State/Zip: Beaverton, OR 97005
Telephone Number: 503.924.4704
Fax No.: 503.924.4707

Project Manager: Michael Pickering
Analytical Lab: Columbia Analytical
Project Name: POP - SIUF
Report To: mpickering@ashcreekassociates.com
Project Number: 1115
Report To: sbrown@bridgeh2o.com
Sampler Name: A. Fines
Page: 1 of 1

	Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: MS/MSD	Analyze For: Total Metals (list below)	Analyze For: PAHs (8270M-SIM)	Analyze For: VOCs by EPA 8260B	RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
1	MW-1	12/27/07	1529	4	X											X						X	X	X			X		
2	MW-3	12/27/07	1029	1	X											X							X				X		
3	MW-4	12/27/07	1217	6	X											X						X			X		X		
4	MW-6	12/26/07	1535	1	X											X							X				X		
5	MW-7	12/26/07	1351	1	X											X							X				X		
6	MW-8	12/27/07	1711	1	X											X								X			X		
7	MW-11	12/26/07	1013	1	X											X							X				X		
8	MW-1 DUP	12/27/07	1529	2	X											X							X	X			X		
9	MW-4 DUP	12/27/07	1217	3	X											X									X		X		
10	EB12272007	12/27/07	1749	5	X																X		X	X	X		X		
11	Trip Blank			~~3~~ 2	X																X				H				

Special Instructions:
Billwork direct to Port Level III Reporting

H = Hold pending other results
Include As, Sb, Cd, Cr, Cu, Pb, Ni, Ag, Zn, and Hg

Method of Shipment:

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Michael Pickering / Ash Creek	12/28/2007	0815	Stephen Teater / Ash Creek	12/28/07	0815
Stephen Teater / Ash Creek	12/28/07	0920	CAS	12/28/07	9:25
CAS	12-28-07	10-30	CAS	12/28/07	1030

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

CHAIN OF CUSTODY RECORD

Client Name: Ash Creek Associates
Address: 9615 SW Allen Blvd #106
City/State/Zip: Beaverton, OR 97005

Telephone Number: 503.924.4704
Fax No.: 503.924.4707

Project Manager: Michael Pickering
Project Name: POP - SIUF
Project Number: 1115
Sampler Name: A. Fines

Analytical Lab: Columbia Analytical
Report To: mpickering@ashcreekassociates.com
Report To: sbrown@bridgeh2o.com
Page: 1 of 1

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: MS/MSD	Analyze For: Total Metals (list below)	Analyze For: PAHs (8270M-SIM)	Analyze For: VOCs by EPA 8260B	RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
IDW12272007	12/27/07	1827	5	X																X		X	X	X		X		

Special Instructions:
Billwork direct to Port Level III Reporting -

H = Hold pending other results
As, Sb, Cd, Cr, Cu, Pb, Ni, Ag, Zn, and Hg

Include

Method of Shipment:

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Michael Pickering / Ash Creek	12/28/2007	0815	Stephen Teater / Ash Creek	12/28/07	0815
Stephen Teater / Ash Creek	12/28/07	0920	Dwight CAS	12/28/07	9:25
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
			CAS	12/28/07	1030
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 7

Client / Project: Ash Creek Service Request K07 12217

Received: 12-28-07 Opened: 12-28-07 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N
5. **Temperature of cooler(s) upon receipt (°C):** 3.1
   Temperature Blank (°C): 4.8
6. If applicable, list Chain of Custody Numbers:
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Packing material used: *Inserts* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* Y N
12. **Were the correct types of bottles used for the tests indicated?** NA Y N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* NA Y N
    Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

litional Notes, Discrepancies, & Resolutions: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Courier/After-Hours Sample Receipt Record

An Employee-Owned Company

Date: 12-28-07

Time: 9:25

Company: Ash Creek

Number of Containers: 2

☑ Cooler ☐ Box ☐ Other

Custody Seal(s) Present: Yes No

Custody Seal(s) Added: Yes No

Seal #/Sampler:

Project #:

CAS's Sample Receiving Office hours are 8:00 am to 5:00 pm Monday through Friday, and 8:00 am to 12:00 pm on Saturdays. Samples received, other than during office hours will be sealed with a custody seal, and placed under refrigeration. The samples will be officially received and processed on the following workday. Samples received via Courier will be officially received and processed according to the actual time of arrival at CAS's Sample Receiving office.

Priority: Yes No

Containers Received From: [signature]

Containers Received By: [signature]

1317 13th Avenue • P.O. Box 479 • Kelso Washington 98626 • Telephone 360/577-7222 • Fax 360/636-1068

WHITE - retained by originator YELLOW - Courier/Lab

Metals

METALS

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc. Service Request: K0712217

Project No.: 1115

Project Name: POP - SUIF

Sample No.	Lab Sample ID.
MW-1	K0712217-001
MW-1D	K0712217-001D
MW-1S	K0712217-001S
MW-3	K0712217-002
MW-6	K0712217-004
MW-7	K0712217-005
MW-11	K0712217-007
MW-1 DUP	K0712217-008
EB12272007	K0712217-010
IDW12272007	K0712217-012
Method Blank	K0712217-MB

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

Signature: 3(Date: 1/30/08

METALS

-I-

INORGANIC ANALYSIS DATA SHEET

Client:	Ash Creek Associates, Inc.	Service Request:	K0712217
Project No.:	1115	Date Collected:	12/27/07
Project Name:	POP - SUIF	Date Received:	12/28/07
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: MW-1 Lab Code: K0712217-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	1	01/02/08	1/16/08	0.05		
Arsenic	200.8	0.5	1	01/02/08	1/16/08	12.1		
Cadmium	200.8	0.02	1	01/02/08	1/16/08	0.06		
Chromium	200.8	0.2	1	01/02/08	1/16/08	2.5		
Copper	200.8	0.1	1	01/02/08	1/16/08	5.9		
Lead	200.8	0.02	1	01/02/08	1/16/08	1.47		
Mercury	7471A	0.02	1	01/10/08	1/14/08	0.02	U	
Nickel	200.8	0.2	1	01/02/08	1/16/08	34.8		
Silver	200.8	0.02	1	01/02/08	1/16/08	0.02		
Zinc	200.8	0.5	1	01/02/08	1/16/08	6.5		*

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Ash Creek Associates, Inc.	Service Request:	K0712217
Project No.:	1115	Date Collected:	12/27/07
Project Name:	POP - SUIF	Date Received:	12/28/07
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: MW-3 Lab Code: K0712217-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	1	01/02/08	1/16/08	0.05	U	
Arsenic	200.8	0.5	1	01/02/08	1/16/08	5.7		
Cadmium	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Chromium	200.8	0.2	1	01/02/08	1/16/08	0.6		
Copper	200.8	0.1	1	01/02/08	1/16/08	0.7		
Lead	200.8	0.02	1	01/02/08	1/16/08	0.14		
Mercury	7471A	0.02	1	01/10/08	1/14/08	0.02	U	
Nickel	200.8	0.2	1	01/02/08	1/16/08	1.6		
Silver	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Zinc	200.8	0.5	1	01/02/08	1/16/08	2.8		*

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Ash Creek Associates, Inc.
Project No.: 1115
Project Name: POP - SUIF
Matrix: WATER

Service Request: K0712217
Date Collected: 12/26/07
Date Received: 12/28/07
Units: µG/L
Basis: NA

Sample Name: MW-6
Lab Code: K0712217-004

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	1	01/02/08	1/16/08	0.05	U	
Arsenic	200.8	0.5	1	01/02/08	1/16/08	0.5	U	
Cadmium	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Chromium	200.8	0.2	1	01/02/08	1/16/08	0.2		
Copper	200.8	0.1	1	01/02/08	1/16/08	0.6		
Lead	200.8	0.02	1	01/02/08	1/16/08	0.07		
Mercury	7471A	0.02	1	01/10/08	1/14/08	0.02	U	
Nickel	200.8	0.2	1	01/02/08	1/16/08	2.1		
Silver	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Zinc	200.8	0.5	1	01/02/08	1/16/08	4.2		*

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Ash Creek Associates, Inc.	Service Request:	K0712217
Project No.:	1115	Date Collected:	12/26/07
Project Name:	POP - SUIF	Date Received:	12/28/07
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: MW-7 Lab Code: K0712217-005

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	1	01/02/08	1/16/08	0.05	U	
Arsenic	200.8	0.5	1	01/02/08	1/16/08	1.9		
Cadmium	200.8	0.02	1	01/02/08	1/16/08	0.03		
Chromium	200.8	0.2	1	01/02/08	1/16/08	0.4		
Copper	200.8	0.1	1	01/02/08	1/16/08	0.9		
Lead	200.8	0.02	1	01/02/08	1/16/08	0.11		
Mercury	7471A	0.02	1	01/10/08	1/14/08	0.02	U	
Nickel	200.8	0.2	1	01/02/08	1/16/08	3.7		
Silver	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Zinc	200.8	0.5	1	01/02/08	1/16/08	3.3		*

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Ash Creek Associates, Inc.	Service Request:	K0712217
Project No.:	1115	Date Collected:	12/26/07
Project Name:	POP - SUIF	Date Received:	12/28/07
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: MW-11 Lab Code: K0712217-007

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	1	01/02/08	1/16/08	0.05	U	
Arsenic	200.8	0.5	1	01/02/08	1/16/08	0.5	U	
Cadmium	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Chromium	200.8	0.2	1	01/02/08	1/16/08	0.2		
Copper	200.8	0.1	1	01/02/08	1/16/08	0.6		
Lead	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Mercury	7471A	0.02	1	01/10/08	1/14/08	0.02	U	
Nickel	200.8	0.2	1	01/02/08	1/16/08	1.3		
Silver	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Zinc	200.8	0.5	1	01/02/08	1/16/08	2.1		*

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Ash Creek Associates, Inc.	Service Request:	K0712217
Project No.:	1115	Date Collected:	12/27/07
Project Name:	POP - SUIF	Date Received:	12/28/07
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: MW-1 DUP Lab Code: K0712217-008

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	1	01/02/08	1/16/08	0.05	U	
Arsenic	200.8	0.5	1	01/02/08	1/16/08	12.5		
Cadmium	200.8	0.02	1	01/02/08	1/16/08	0.04		
Chromium	200.8	0.2	1	01/02/08	1/16/08	2.6		
Copper	200.8	0.1	1	01/02/08	1/16/08	4.8		
Lead	200.8	0.02	1	01/02/08	1/16/08	1.22		
Mercury	7471A	0.02	1	01/10/08	1/14/08	0.02	U	
Nickel	200.8	0.2	1	01/02/08	1/16/08	34.0		
Silver	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Zinc	200.8	0.5	1	01/02/08	1/16/08	6.1		*

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Ash Creek Associates, Inc.	Service Request:	K0712217
Project No.:	1115	Date Collected:	12/27/07
Project Name:	POP - SUIF	Date Received:	12/28/07
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: EB12272007 Lab Code: K0712217-010

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	1	01/02/08	1/16/08	0.05	U	
Arsenic	200.8	0.5	1	01/02/08	1/16/08	0.5	U	
Cadmium	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Chromium	200.8	0.2	1	01/02/08	1/16/08	0.5		
Copper	200.8	0.1	1	01/02/08	1/16/08	0.1	U	
Lead	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Mercury	7471A	0.02	1	01/10/08	1/14/08	0.02	U	
Nickel	200.8	0.2	1	01/02/08	1/16/08	0.2	U	
Silver	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Zinc	200.8	0.5	1	01/02/08	1/16/08	0.5		*

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Ash Creek Associates, Inc.	Service Request:	K0712217
Project No.:	1115	Date Collected:	12/27/07
Project Name:	POP - SUIF	Date Received:	12/28/07
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: IDW12272007 Lab Code: K0712217-012

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	1	01/02/08	1/16/08	0.27		
Arsenic	200.8	0.5	1	01/02/08	1/16/08	20.2		
Cadmium	200.8	0.02	1	01/02/08	1/16/08	0.22		
Chromium	200.8	0.2	1	01/02/08	1/16/08	3.1		
Copper	200.8	0.1	1	01/02/08	1/16/08	19.7		
Lead	200.8	0.02	1	01/02/08	1/16/08	1.18		
Mercury	7471A	0.02	1	01/10/08	1/14/08	0.03		
Nickel	200.8	0.2	1	01/02/08	1/16/08	8.7		
Silver	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Zinc	200.8	0.5	1	01/02/08	1/16/08	81.3		*

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Ash Creek Associates, Inc.
Project No.: 1115
Project Name: POP - SUIF
Matrix: WATER

Service Request: K0712217
Date Collected:
Date Received:
Units: µG/L
Basis: NA

Sample Name: Method Blank
Lab Code: K0712217-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	1	01/02/08	1/16/08	0.05	U	
Arsenic	200.8	0.5	1	01/02/08	1/16/08	0.5	U	
Cadmium	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Chromium	200.8	0.2	1	01/02/08	1/16/08	0.2	U	
Copper	200.8	0.1	1	01/02/08	1/16/08	0.1	U	
Lead	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Mercury	7471A	0.02	1	01/10/08	1/14/08	0.02	U	
Nickel	200.8	0.2	1	01/02/08	1/16/08	0.2	U	
Silver	200.8	0.02	1	01/02/08	1/16/08	0.02	U	
Zinc	200.8	0.5	1	01/02/08	1/16/08	0.5	U	*

% Solids: 0.0

Comments:

Volatile Organic Compounds
EPA Method 8260B

Organic Analysis:
Volatile Organic Compounds

Summary Package

Sample and QC Results

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115

Service Request: K0712217

Cover Page - Organic Analysis Data Package
Volatile Organic Compounds

Sample Name	Lab Code	Date Collected	Date Received
MW-4	K0712217-003	12/27/2007	12/28/2007
MW-4 DUP	K0712217-009	12/27/2007	12/28/2007
EB12272007	K0712217-010	12/27/2007	12/28/2007
IDW12272007	K0712217-012	12/27/2007	12/28/2007
MW-4MS	KWG0800155-1	12/27/2007	12/28/2007
MW-4DMS	KWG0800155-2	12/27/2007	12/28/2007

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Holly Conrad Name: Holly Conrad

Date: 01/08/08 Title: Scientist

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: MW-4
Lab Code: K0712217-003

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Vinyl Chloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichlorofluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Acetone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Disulfide	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Methylene Chloride	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
trans-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Butanone (MEK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
2,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
cis-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Tetrachloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Benzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichloroethene (TCE)	**3.9**		0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromodichloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Hexanone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
cis-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Toluene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
trans-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,2-Trichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: MW-4
Lab Code: K0712217-003

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tetrachloroethene (PCE)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Chlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Ethylbenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
m,p-Xylenes	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
o-Xylene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Styrene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromoform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Isopropylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
n-Propylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
2-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
4-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3,5-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
tert-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
sec-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Isopropyltoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,4-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
n-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Naphthalene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Hexachlorobutadiene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	

Comments:

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Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: MW-4
Lab Code: K0712217-003

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	91	82-125	01/01/08	Acceptable
Toluene-d8	97	87-120	01/01/08	Acceptable
4-Bromofluorobenzene	86	73-118	01/01/08	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: MW-4 DUP
Lab Code: K0712217-009

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Vinyl Chloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichlorofluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Acetone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Disulfide	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Methylene Chloride	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
trans-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Butanone (MEK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
2,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
cis-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Tetrachloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Benzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichloroethene (TCE)	**4.0**		0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromodichloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Hexanone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
cis-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Toluene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
trans-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,2-Trichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: MW-4 DUP
Lab Code: K0712217-009

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tetrachloroethene (PCE)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Chlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Ethylbenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
m,p-Xylenes	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
o-Xylene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Styrene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromoform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Isopropylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
n-Propylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
2-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
4-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3,5-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
tert-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
sec-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Isopropyltoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,4-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
n-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Naphthalene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Hexachlorobutadiene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	

Comments:

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Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: MW-4 DUP
Lab Code: K0712217-009

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	91	82-125	01/01/08	Acceptable
Toluene-d8	98	87-120	01/01/08	Acceptable
4-Bromofluorobenzene	88	73-118	01/01/08	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: EB12272007
Lab Code: K0712217-010

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Vinyl Chloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichlorofluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Acetone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Disulfide	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Methylene Chloride	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
trans-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Butanone (MEK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
2,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
cis-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Tetrachloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Benzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichloroethene (TCE)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromodichloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Hexanone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
cis-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Toluene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
trans-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,2-Trichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: EB12272007
Lab Code: K0712217-010

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tetrachloroethene (PCE)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Chlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Ethylbenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
m,p-Xylenes	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
o-Xylene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Styrene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromoform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Isopropylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
n-Propylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
2-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
4-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3,5-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
tert-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
sec-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Isopropyltoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,4-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
n-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Naphthalene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Hexachlorobutadiene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: EB12272007
Lab Code: K0712217-010

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	92	82-125	01/01/08	Acceptable
Toluene-d8	97	87-120	01/01/08	Acceptable
4-Bromofluorobenzene	86	73-118	01/01/08	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: IDW12272007
Lab Code: K0712217-012

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Vinyl Chloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichlorofluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Acetone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Disulfide	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Methylene Chloride	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
trans-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Butanone (MEK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
2,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
cis-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Tetrachloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Benzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichloroethene (TCE)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromodichloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Hexanone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
cis-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Toluene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
trans-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,2-Trichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: IDW12272007
Lab Code: K0712217-012

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tetrachloroethene (PCE)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Chlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Ethylbenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
m,p-Xylenes	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
o-Xylene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Styrene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromoform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Isopropylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
n-Propylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
2-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
4-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3,5-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
tert-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
sec-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Isopropyltoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,4-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
n-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Naphthalene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Hexachlorobutadiene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Volatile Organic Compounds

Sample Name: IDW12272007
Lab Code: K0712217-012

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	91	82-125	01/01/08	Acceptable
Toluene-d8	97	87-120	01/01/08	Acceptable
4-Bromofluorobenzene	86	73-118	01/01/08	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG0800155-4

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Vinyl Chloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichlorofluoromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Acetone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Disulfide	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Methylene Chloride	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
trans-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Butanone (MEK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
2,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
cis-1,2-Dichloroethene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Chloroform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Carbon Tetrachloride	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Benzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Trichloroethene (TCE)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromodichloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromomethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
2-Hexanone	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
cis-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Toluene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
trans-1,3-Dichloropropene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,2-Trichloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG0800155-4

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tetrachloroethene (PCE)	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Dibromochloromethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Chlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Ethylbenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
m,p-Xylenes	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
o-Xylene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Styrene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromoform	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Isopropylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichloropropane	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
Bromobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
n-Propylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
2-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
4-Chlorotoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3,5-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
tert-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trimethylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
sec-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,3-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
4-Isopropyltoluene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,4-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
n-Butylbenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2-Dichlorobenzene	ND	U	0.50	1	01/01/08	01/01/08	KWG0800155	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,4-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
1,2,3-Trichlorobenzene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Naphthalene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	
Hexachlorobutadiene	ND	U	2.0	1	01/01/08	01/01/08	KWG0800155	

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG0800155-4

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	91	82-125	01/01/08	Acceptable
Toluene-d8	99	87-120	01/01/08	Acceptable
4-Bromofluorobenzene	87	73-118	01/01/08	Acceptable

Comments:

Polynuclear Aromatic Hydrocarbons
EPA Method 8270C SIM

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Summary Package

Sample and QC Results

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Ash Creek Associates, Inc. **Service Request:** K0712217
Project: POP - SUIF/1115

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons

Sample Name	Lab Code	Date Collected	Date Received
MW-1	K0712217-001	12/27/2007	12/28/2007
MW-8	K0712217-006	12/27/2007	12/28/2007
MW-1 DUP	K0712217-008	12/27/2007	12/28/2007
EB12272007	K0712217-010	12/27/2007	12/28/2007
IDW12272007	K0712217-012	12/27/2007	12/28/2007
MW-1MS	KWG0800114-1	12/27/2007	12/28/2007

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: [signature] Name: Carl Dayan

Date: 1/24/08 Title: SVM Supervisor

Client:	Ash Creek Associates, Inc.	**Service Request:**	K0712217
Project:	POP - SUIF/1115	**Date Collected:**	12/27/2007
Sample Matrix:	Water	**Date Received:**	12/28/2007

Polynuclear Aromatic Hydrocarbons

Sample Name:	MW-1	**Units:**	ug/L
Lab Code:	K0712217-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
2-Methylnaphthalene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthene	**0.019**		0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenzofuran	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Fluorene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Phenanthrene	**0.029**		0.019	1	01/02/08	01/18/08	KWG0800114	
Anthracene	**0.022**		0.019	1	01/02/08	01/18/08	KWG0800114	
Fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Pyrene	**0.087**		0.019	1	01/02/08	01/18/08	KWG0800114	
Benz(a)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Chrysene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(b)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(k)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(a)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Indeno(1,2,3-cd)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenz(a,h)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(g,h,i)perylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	72	26-131	01/18/08	Acceptable
Fluoranthene-d10	70	28-150	01/18/08	Acceptable
Terphenyl-d14	47	32-157	01/18/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K0712217
Project:	POP - SUIF/1115	**Date Collected:**	12/27/2007
Sample Matrix:	Water	**Date Received:**	12/28/2007

Polynuclear Aromatic Hydrocarbons

Sample Name:	MW-8	**Units:**	ug/L
Lab Code:	K0712217-006	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
2-Methylnaphthalene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenzofuran	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Fluorene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Phenanthrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benz(a)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Chrysene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(b)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(k)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(a)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Indeno(1,2,3-cd)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenz(a,h)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(g,h,i)perylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	76	26-131	01/18/08	Acceptable
Fluoranthene-d10	82	28-150	01/18/08	Acceptable
Terphenyl-d14	89	32-157	01/18/08	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Polynuclear Aromatic Hydrocarbons

Sample Name: MW-1 DUP
Lab Code: K0712217-008

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
2-Methylnaphthalene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenzofuran	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Fluorene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Phenanthrene	**0.035**		0.019	1	01/02/08	01/18/08	KWG0800114	
Anthracene	**0.026**		0.019	1	01/02/08	01/18/08	KWG0800114	
Fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Pyrene	**0.079**		0.019	1	01/02/08	01/18/08	KWG0800114	
Benz(a)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Chrysene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(b)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(k)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(a)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Indeno(1,2,3-cd)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenz(a,h)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(g,h,i)perylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	83	26-131	01/18/08	Acceptable
Fluoranthene-d10	81	28-150	01/18/08	Acceptable
Terphenyl-d14	60	32-157	01/18/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K0712217
Project:	POP - SUIF/1115	**Date Collected:**	12/27/2007
Sample Matrix:	Water	**Date Received:**	12/28/2007

Polynuclear Aromatic Hydrocarbons

Sample Name:	EB12272007	**Units:**	ug/L
Lab Code:	K0712217-010	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.052**		0.019	1	01/02/08	01/18/08	KWG0800114	
2-Methylnaphthalene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenzofuran	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Fluorene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Phenanthrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benz(a)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Chrysene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(b)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(k)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(a)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Indeno(1,2,3-cd)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenz(a,h)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(g,h,i)perylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	79	26-131	01/18/08	Acceptable
Fluoranthene-d10	85	28-150	01/18/08	Acceptable
Terphenyl-d14	91	32-157	01/18/08	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: 12/27/2007
Date Received: 12/28/2007

Polynuclear Aromatic Hydrocarbons

Sample Name: IDW12272007
Lab Code: K0712217-012

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
2-Methylnaphthalene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Acenaphthylene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Acenaphthene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Dibenzofuran	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Fluorene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Phenanthrene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Anthracene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Fluoranthene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Pyrene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Benz(a)anthracene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Chrysene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Benzo(b)fluoranthene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Benzo(k)fluoranthene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Benzo(a)pyrene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Indeno(1,2,3-cd)pyrene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Dibenz(a,h)anthracene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	
Benzo(g,h,i)perylene	ND	U	0.020	1	01/02/08	01/18/08	KWG0800114	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	74	26-131	01/18/08	Acceptable
Fluoranthene-d10	78	28-150	01/18/08	Acceptable
Terphenyl-d14	60	32-157	01/18/08	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: POP - SUIF/1115
Sample Matrix: Water

Service Request: K0712217
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Method Blank
Lab Code: KWG0800114-4

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
2-Methylnaphthalene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Acenaphthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenzofuran	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Fluorene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Phenanthrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benz(a)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Chrysene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(b)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(k)fluoranthene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(a)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Indeno(1,2,3-cd)pyrene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Dibenz(a,h)anthracene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	
Benzo(g,h,i)perylene	ND	U	0.019	1	01/02/08	01/18/08	KWG0800114	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	83	26-131	01/18/08	Acceptable
Fluoranthene-d10	85	28-150	01/18/08	Acceptable
Terphenyl-d14	90	32-157	01/18/08	Acceptable

Comments: