Brix Maritime Company Response to EPA's 104(e) Information Request

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PROGRESS REPORT – SECOND QUARTER 2005

BRIX MARITIME COMPANY
PORTLAND, OREGON

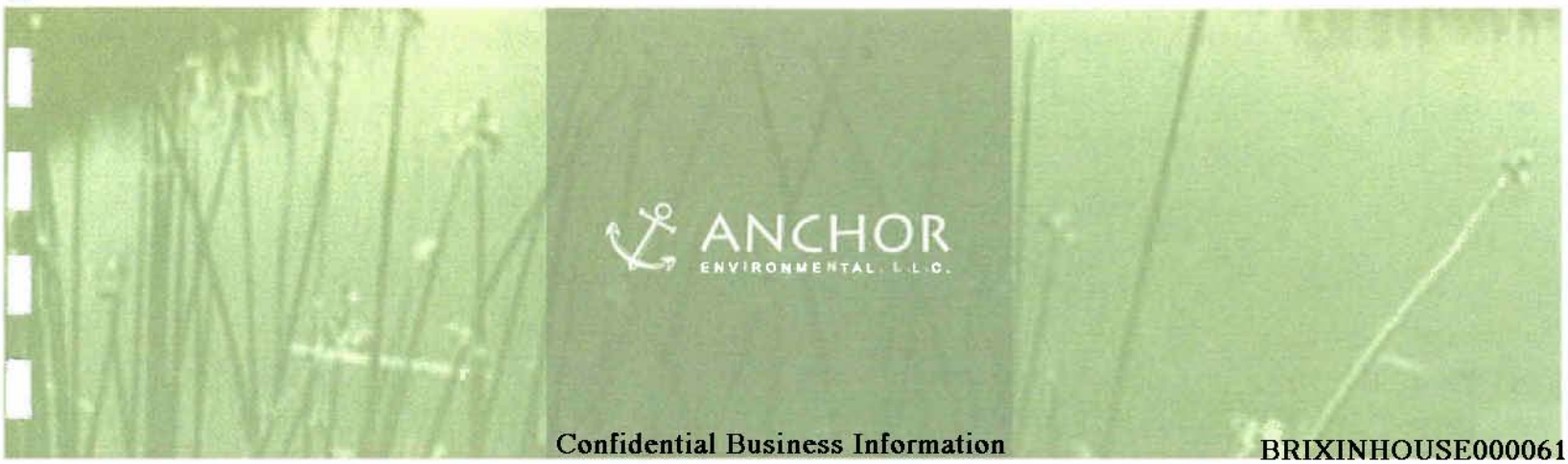
Prepared for

Brix Maritime Company

Prepared by

Anchor Environmental, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224

July 15, 2005



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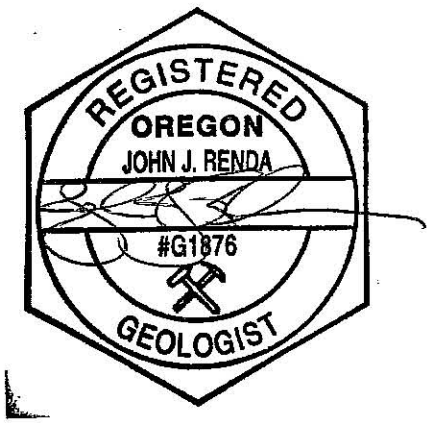
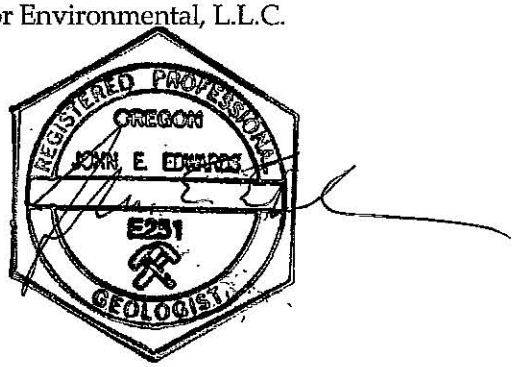
Brix Maritime Company

Portland, Oregon

The material and data in this report were prepared under the supervision and direction of the undersigned.



John J. Renda, R.G.
Anchor Environmental, L.L.C.



John Edwards, R.G. C.E.G.
Anchor Environmental, L.L.C.

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1 INTRODUCTION

This Progress Report was prepared in accordance with Section II(H) of the Oregon Department of Environmental Quality (DEQ) Voluntary Agreement for Remedial Investigation and Source Control Measures (ECSI 2464 No. LQDVC-NWR-02-03). This report covers the work completed during the quarter ending June 30, 2005 for the Brix Maritime site in Portland, Oregon (Figure 1) and is divided into the following subject areas:

- Actions Taken During the Second Quarter
- Actions Scheduled for the Third Quarter
- Data Generated in the Second Quarter
- Summaries of Problems and Actions Taken To Resolve Problems

2 ACTIONS TAKEN DURING THE SECOND QUARTER

- Submitted the First Quarter 2005 progress report to DEQ in April 2005.
- Measured water levels at the river staff gauge and in monitoring wells MW-1 through MW-8 on May 5, 2005
- Sampled monitoring wells MW-1, -2, -3, -4, -5, -6, and -7 on May 5, 2005.
- Collected shallow soil samples around two pad-mounted transformers on May 5, 2005.
- Submitted a letter to DEQ on May 25, 2005 in response to DEQ's April 20, 2005 comment letter on the Remedial Investigation (RI) Work Plan.
- Met with DEQ on June 16, 2005 to discuss the RI status and Anchor's May 25, 2005 response letter.

3 ACTIONS SCHEDULED FOR THE THIRD QUARTER

- Measure water levels and check for free product in monitoring wells MW-1 through MW-8 and the river staff gage in August 2005.
- Sample monitoring wells MW-1, -3, -4, and -5 (if sufficient water is present) in August 2005.
- Prepare and submit the Second Quarter Progress Report (this report) to DEQ.
- Submit an RI Work Plan Addendum to DEQ.

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4 DATA GENERATED IN THE SECOND QUARTER

4.1 Hydrology Data and Potentiometric Surface Map

Water levels were measured in all onsite monitoring wells and at the river staff gauge on May 5, 2005. Water levels and groundwater elevations based on the 1988 North American Vertical Datum (NAVD 88) are presented in Table 1. No free-phase petroleum hydrocarbons were detected in any of the monitoring wells.

During the water level measurements, the river bank was examined for petroleum hydrocarbon seeps or sheens. No petroleum hydrocarbon seeps or sheens were observed.

A groundwater potentiometric surface map, using the May 5, 2005 measurements, is shown on Figure 2. Consistent with all past monitoring events, the contour pattern indicates that shallow groundwater flows west to east from the upland portion of the site to the river.

4.2 Groundwater Sampling

Monitoring wells MW-1, -2, -3, -4, -5, -6, and -7 were sampled on May 5, 2005. Field sampling procedures, field parameters, field sampling data sheets, and chain of custody documentation are in Appendix A. Monitoring well MW-8 was installed for the purpose of monitoring for free product and it is not part of the quarterly sampling plan.

4.3 Groundwater Analytical Testing

The groundwater samples, including one duplicate sample, were analyzed for total petroleum hydrocarbons (TPH) as gasoline by NWTPH-Gx; TPH as diesel and heavy oils by NWTPH-Dx; Polycyclic Aromatic Hydrocarbons (PAHs) by U.S. Environmental Protection Agency (USEPA) Method 8270-SIM; Volatile Organic Compounds (VOCs) by USEPA Method 8260; and total and dissolved arsenic, barium, cadmium, chromium, copper, manganese, lead, and zinc by USEPA method 200.8. The analytical results are presented in Tables 2 through 6. A copy of the laboratory report is in Appendix B.

The addition of arsenic, barium, cadmium, chromium, copper, manganese, lead, and zinc to the list of analytes was requested by DEQ in an email dated November 4, 2004.

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No elevated metal concentrations were detected. Anchor recommends removing the metals (including lead) from future monitoring at the site.

4.4 Soil Sampling

On May 25, 2005, Anchor collected shallow soil samples around the two pad-mounted transformers at the BRIX site. The samples were collected as documented in the Transformer Sampling Work Plan in Appendix C. The samples were analyzed for total petroleum hydrocarbons (TPH) by method NWTPH-Dx and for polychlorinated biphenols (PCBs) by EPA method 8081.

No PCBs were found above the Method Reporting Limit (MRL) in any of the samples. The sample collected near transformer 1 (TF-1-N) had a low-level detection of diesel-range organics. No other petroleum hydrocarbons were detected above the MRL. The analytical results of these analyses are presented in Table 7. A copy of the laboratory report is in Appendix B.

4.5 Data Validation

Review of the sampling and laboratory records showed no apparent discrepancies between samples collected in the field and those analyzed in the laboratory. The data are judged to be acceptable for their intended use as qualified. The data validation review of the laboratory records is summarized in Appendix D.

5 SUMMARIES OF PROBLEMS AND ACTIONS TAKEN TO RESOLVE PROBLEMS

No problems were encountered.

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TABLES

Table 1
Hydrology Data
Brix Maritime
Portland, Oregon

Anchor Environmental, L.L.C.								Site: Brix Maritime Project No. : 990056-01
Well	Reference Elevation (Feet NAVD88)	Ground Surface Elevation (Feet NAVD88)	Screen Interval Feet NAVD88	Elevation Top of Perching Layer (Feet NAVD88)	Date (MM/DD/YY)	DTW (feet)	Water Elevation (Feet NAVD88)	Comments
Monitoring Wells								
MW-1	41.81	42.16	35.1 - 20.1	21.16	02/28/03	18.89	22.92	
MW-1	41.81	42.16	35.1 - 20.1	21.16	03/31/03	19.43	22.38	
MW-1	41.81	42.16	35.1 - 20.1	21.16	04/29/03	19.69	22.12	
MW-1	41.81	42.16	35.1 - 20.1	21.16	05/22/03	20.22	21.59	
MW-1	41.81	42.16	35.1 - 20.1	21.16	07/07/03	21.08	20.73	
MW-1	41.81	42.16	35.1 - 20.1	21.16	07/30/03	21.13	20.68	
MW-1	41.81	42.16	35.1 - 20.1	21.16	08/28/03	21.24	20.57	
MW-1	41.81	42.16	35.1 - 20.1	21.16	09/30/03	21.15	20.66	
MW-1	41.81	42.16	35.1 - 20.1	21.16	10/16/03	21.10	20.71	
MW-1	41.81	42.16	35.1 - 20.1	21.16	12/03/03	21.06	20.75	
MW-1	41.81	42.16	35.1 - 20.1	21.16	12/26/03	20.46	21.35	
MW-1	41.81	42.16	35.1 - 20.1	21.16	01/30/04	19.01	22.80	
MW-1	41.81	42.16	35.1 - 20.1	21.16	03/04/04	19.60	22.21	
MW-1	41.81	42.16	35.1 - 20.1	21.16	04/29/04	20.91	20.90	
MW-1	41.81	42.16	35.1 - 20.1	21.16	05/27/04	21.13	20.68	
MW-1	41.81	42.16	35.1 - 20.1	21.16	07/06/04	21.22	20.59	
MW-1	41.81	42.16	35.1 - 20.1	21.16	07/26/04	21.28	20.53	
MW-1	41.81	42.16	35.1 - 20.1	21.16	10/29/04	21.25	20.56	
MW-1	41.81	42.16	35.1 - 20.1	21.16	02/25/05	20.81	21.00	
MW-1	41.81	42.16	35.1 - 20.1	21.16	05/05/05	20.63	21.18	
MW-2	42.13	42.48	32.9 - 17.9	18.98	02/28/03	19.88	22.25	
MW-2	42.13	42.48	32.9 - 17.9	18.98	03/31/03	20.36	21.77	
MW-2	42.13	42.48	32.9 - 17.9	18.98	04/29/03	20.64	21.49	
MW-2	42.13	42.48	32.9 - 17.9	18.98	05/22/03	21.06	21.07	
MW-2	42.13	42.48	32.9 - 17.9	18.98	07/07/03	22.17	19.96	
MW-2	42.13	42.48	32.9 - 17.9	18.98	07/30/03	22.50	19.63	
MW-2	42.13	42.48	32.9 - 17.9	18.98	08/28/03	22.84	19.29	
MW-2	42.13	42.48	32.9 - 17.9	18.98	09/30/03	23.07	19.06	
MW-2	42.13	42.48	32.9 - 17.9	18.98	10/16/03	23.06	19.07	
MW-2	42.13	42.48	32.9 - 17.9	18.98	12/03/03	22.54	19.59	
MW-2	42.13	42.48	32.9 - 17.9	18.98	12/26/03	21.58	20.55	
MW-2	42.13	42.48	32.9 - 17.9	18.98	01/30/04	20.05	22.08	
MW-2	42.13	42.48	32.9 - 17.9	18.98	03/04/04	20.57	21.56	
MW-2	42.13	42.48	32.9 - 17.9	18.98	04/29/04	21.89	20.24	
MW-2	42.13	42.48	32.9 - 17.9	18.98	05/27/04	22.29	19.84	
MW-2	42.13	42.48	32.9 - 17.9	18.98	07/06/04	22.70	19.43	
MW-2	42.13	42.48	32.9 - 17.9	18.98	07/26/04	22.85	19.28	
MW-2	42.13	42.48	32.9 - 17.9	18.98	10/29/04	22.90	19.23	
MW-2	42.13	42.48	32.9 - 17.9	18.98	02/25/05	22.20	19.93	
MW-2	42.13	42.48	32.9 - 17.9	18.98	05/05/05	21.73	20.40	
MW-3	41.93	42.21	32.9 - 17.9	19.71	07/29/02	22.91	19.02	
MW-3	41.93	42.21	32.9 - 17.9	19.71	08/22/02	23.50	18.43	Oil detected in well, thickness estimated at 0.02 foot
MW-3	41.93	42.21	32.9 - 17.9	19.71	09/30/02	23.37	18.56	Oil detected in well, thickness estimated at 0.02 foot
MW-3	41.93	42.21	32.9 - 17.9	19.71	10/30/02	23.68	18.25	DTP = 23.49 (0.19 foot thick)
MW-3	41.93	42.21	32.9 - 17.9	19.71	11/27/02	23.30	18.63	DTP = 23.16 (0.14 foot thick)
MW-3	41.93	42.21	32.9 - 17.9	19.71	12/30/02	21.99	19.94	Oil noted on probe, product too thin to measure with interface probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	02/28/03	19.75	22.18	Oil noted on probe, product too thin to measure with interface probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	03/31/03	20.24	21.69	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	04/29/03	20.50	21.43	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	05/22/03	20.94	20.99	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	07/07/03	22.21	19.72	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	07/30/03	22.62	19.31	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	08/28/03	22.95	18.98	Oil noted on probe, product too thin to measure with interface probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	09/30/03	23.15	18.78	DTP = 23.04 (0.11 foot thick)
MW-3	41.93	42.21	32.9 - 17.9	19.71	10/16/03	22.40	19.53	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	12/03/03	22.21	19.72	Sheen, product too thin to measure
MW-3	41.93	42.21	32.9 - 17.9	19.71	12/26/03	21.44	20.49	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	01/30/04	19.80	22.13	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	03/04/04	20.41	21.52	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	04/29/04	21.82	20.11	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	05/27/04	22.25	19.68	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	07/06/04	22.66	19.27	No oil noted on probe
MW-3	41.93	42.21	32.9 - 17.9	19.71	07/26/04	22.91	19.02	DTP = 22.89 (0.02 foot thick)
MW-3	41.93	42.21	32.9 - 17.9	19.71	10/29/04	22.29	19.64	Oil noted on probe, product too thin to measure with interface probe
MW-3	41.95	42.21	32.9 - 17.9	19.71	02/25/05	22.03	19.92	No oil noted on probe
MW-3	41.95	42.21	32.9 - 17.9	19.71	05/05/05	21.55	20.40	No oil noted on probe

Table 1
Hydrology Data
Brix Maritime
Portland, Oregon

Anchor Environmental, L.L.C. — Site: Brix Maritime
Project No. : 990056-01

Well	Reference Elevation (Feet NAVD88)	Ground Surface Elevation (Feet NAVD88)	Screen Interval Feet NAVD88	Elevation Top of Perching Layer (Feet NAVD88)	Date (MM/DD/YY)	DTW (feet)	Water Elevation (Feet NAVD88)	Comments
MW-4	23.55	23.90	19.4 - 9.4	8.90	07/29/02	11.62	11.93	
MW-4	23.55	23.90	19.4 - 9.4	8.90	08/22/02	11.77	11.78	
MW-4	23.55	23.90	19.4 - 9.4	8.90	09/30/02	11.94	11.61	
MW-4	23.55	23.90	19.4 - 9.4	8.90	10/30/02	12.06	11.49	
MW-4	23.55	23.90	19.4 - 9.4	8.90	11/27/02	11.85	11.70	
MW-4	23.55	23.90	19.4 - 9.4	8.90	12/30/02	10.24	13.31	
MW-4	23.55	23.90	19.4 - 9.4	8.90	02/28/03	4.34	19.21	
MW-4	23.55	23.90	19.4 - 9.4	8.90	03/31/03	4.59	18.96	
MW-4	23.55	23.90	19.4 - 9.4	8.90	04/29/03	5.46	18.09	
MW-4	23.55	23.90	19.4 - 9.4	8.90	05/22/03	8.59	14.96	
MW-4	23.55	23.90	19.4 - 9.4	8.90	07/07/03	10.69	12.86	
MW-4	23.55	23.90	19.4 - 9.4	8.90	07/30/03	11.03	12.52	
MW-4	23.55	23.90	19.4 - 9.4	8.90	08/28/03	11.40	12.15	
MW-4	23.55	23.90	19.4 - 9.4	8.90	09/30/03	11.74	11.81	
MW-4	23.55	23.90	19.4 - 9.4	8.90	10/16/03	11.40	12.15	
MW-4	23.55	23.90	19.4 - 9.4	8.90	12/03/03	10.59	12.96	
MW-4	23.55	23.90	19.4 - 9.4	8.90	12/26/03	9.50	14.05	
MW-4	23.55	23.90	19.4 - 9.4	8.90	01/30/04	5.41	18.14	
MW-4	23.55	23.90	19.4 - 9.4	8.90	03/04/04	9.05	14.50	
MW-4	23.55	23.90	19.4 - 9.4	8.90	04/29/04	11.00	12.55	
MW-4	23.55	23.90	19.4 - 9.4	8.90	05/27/04	10.89	12.66	
MW-4	23.55	23.90	19.4 - 9.4	8.90	07/06/04	11.26	12.29	
MW-4	23.55	23.90	19.4 - 9.4	8.90	07/26/04	11.56	11.99	
MW-4	23.55	23.90	19.4 - 9.4	8.90	10/29/04	11.06	12.49	
MW-4	23.55	23.90	19.4 - 9.4	8.90	02/25/05	10.60	12.95	
MW-4	23.55	23.90	19.4 - 9.4	8.90	05/05/05	9.55	14.00	
MW-5	41.66	42.01	34.9 - 19.9	19.31	02/28/03	19.45	22.21	
MW-5	41.66	42.01	34.9 - 19.9	19.31	03/31/03	19.99	21.67	
MW-5	41.66	42.01	34.9 - 19.9	19.31	04/29/03	20.25	21.41	
MW-5	41.66	42.01	34.9 - 19.9	19.31	05/22/03	20.75	20.91	
MW-5	41.66	42.01	34.9 - 19.9	19.31	07/07/03	21.93	19.73	Insufficient water to collect sample
MW-5	41.66	42.01	34.9 - 19.9	19.31	07/30/03	22.08	19.58	dry
MW-5	41.66	42.01	34.9 - 19.9	19.31	08/28/03	22.08	19.58	dry
MW-5	41.66	42.01	34.9 - 19.9	19.31	09/30/03	22.13	19.53	dry
MW-5	41.66	42.01	34.9 - 19.9	19.31	10/16/03	22.10	19.56	Insufficient water to collect sample
MW-5	41.66	42.01	34.9 - 19.9	19.31	12/03/03	22.13	19.53	dry
MW-5	41.66	42.01	34.9 - 19.9	19.31	12/26/03	21.35	20.31	
MW-5	41.66	42.01	34.9 - 19.9	19.31	01/30/04	19.59	22.07	
MW-5	41.66	42.01	34.9 - 19.9	19.31	03/04/04	20.16	21.50	
MW-5	41.66	42.01	34.9 - 19.9	19.31	04/29/04	21.67	19.99	Insufficient water to collect sample
MW-5	41.66	42.01	34.9 - 19.9	19.31	05/27/04	21.99	19.67	
MW-5	41.66	42.01	34.9 - 19.9	19.31	07/06/04	21.98	19.68	Insufficient water to collect sample
MW-5	41.66	42.01	34.9 - 19.9	19.31	07/26/04	dry		dry
MW-5	41.66	42.01	34.9 - 19.9	19.31	10/29/04	22.00	19.66	Insufficient water to collect sample
MW-5	41.66	42.01	34.9 - 19.9	19.31	02/25/05	21.85	19.81	water level below bottom of screen (dry)
MW-5	41.66	42.01	34.9 - 19.9	19.31	05/05/05	21.41	20.25	
MW-6	41.21	41.49	31.4 - 16.4	20.49	07/07/03	20.26	20.95	
MW-6	41.21	41.49	31.4 - 16.4	20.49	07/30/03	20.57	20.64	
MW-6	41.21	41.49	31.4 - 16.4	20.49	08/28/03	21.02	20.19	
MW-6	41.21	41.49	31.4 - 16.4	20.49	09/30/03	21.02	20.19	
MW-6	41.21	41.49	31.4 - 16.4	20.49	10/16/03	20.93	20.28	
MW-6	41.21	41.49	31.4 - 16.4	20.49	12/03/03	21.53	19.68	
MW-6	41.21	41.49	31.4 - 16.4	20.49	12/26/03	19.24	21.97	
MW-6	41.21	41.49	31.4 - 16.4	20.49	01/30/04	17.70	23.51	
MW-6	41.21	41.49	31.4 - 16.4	20.49	03/04/04	18.16	23.05	
MW-6	41.21	41.49	31.4 - 16.4	20.49	04/29/04	19.66	21.55	
MW-6	41.21	41.49	31.4 - 16.4	20.49	05/27/04	20.17	21.04	
MW-6	41.21	41.49	31.4 - 16.4	20.49	07/06/04	20.71	20.50	
MW-6	41.21	41.49	31.4 - 16.4	20.49	07/26/04	21.23	19.98	
MW-6	41.21	41.49	31.4 - 16.4	20.49	10/29/04	21.48	19.73	
MW-6	41.21	41.49	31.4 - 16.4	20.49	02/25/05	19.78	21.43	
MW-6	41.21	41.49	31.4 - 16.4	20.49	05/05/05	19.19	22.02	

Table 1
Hydrology Data
Brix Maritime
Portland, Oregon

Anchor Environmental, L.L.C.								Site: Brix Maritime Project No. : 990056-01
Well	Reference Elevation (Feet NAVD88)	Ground Surface Elevation (Feet NAVD88)	Screen Interval Feet NAVD88	Elevation Top of Perching Layer (Feet NAVD88)	Date (MM/DD/YY)	DTW (feet)	Water Elevation (Feet NAVD88)	Comments
MW-7	40.95	41.29	31.5 - 16.5	15.79	07/07/03	21.21	19.74	
MW-7	40.95	41.29	31.5 - 16.5	15.79	07/30/03	21.76	19.19	
MW-7	40.95	41.29	31.5 - 16.5	15.79	08/28/03	22.32	18.63	
MW-7	40.95	41.29	31.5 - 16.5	15.79	09/30/03	22.67	18.28	
MW-7	40.95	41.29	31.5 - 16.5	15.79	10/16/03	22.72	18.23	
MW-7	40.95	41.29	31.5 - 16.5	15.79	12/03/03	22.90	18.05	
MW-7	40.95	41.29	31.5 - 16.5	15.79	12/26/03	20.32	20.63	
MW-7	40.95	41.29	31.5 - 16.5	15.79	01/30/04	18.26	22.69	
MW-7	40.95	41.29	31.5 - 16.5	15.79	03/04/04	18.96	21.99	
MW-7	40.95	41.29	31.5 - 16.5	15.79	04/29/04	20.49	20.46	
MW-7	40.95	41.29	31.5 - 16.5	15.79	05/27/04	21.10	19.85	
MW-7	40.95	41.29	31.5 - 16.5	15.79	07/06/04	21.98	18.97	
MW-7	40.95	41.29	31.5 - 16.5	15.79	07/26/04	22.40	18.55	
MW-7	40.95	41.29	31.5 - 16.5	15.79	10/29/04	22.99	17.96	
MW-7	40.95	41.29	31.5 - 16.5	15.79	02/25/05	20.80	20.15	
MW-7	40.95	41.29	31.5 - 16.5	15.79	05/05/05	20.20	20.75	
MW-8	41.73	42.00	24.8 - 19.8	20.00	02/25/05	21.15	20.58	
MW-8	41.73	42.00	24.8 - 19.8	20.00	05/05/05	21.81	19.92	
River Gauge[1]								
River	4.33				10/30/02	2.75	7.08	
River	4.33				11/27/02	3.1	7.43	
River	4.33				12/30/02	7.5	11.83	
River	4.33				02/28/03	6.1	10.43	
River	4.33				03/31/03	8.0	12.33	
River	4.33				04/29/03	8.0	12.33	
River	4.33				05/22/03	6.5	10.83	
River	4.33				07/07/03	4.0	8.33	
River	4.33				07/30/03	3.5	7.83	
River	4.33				08/28/03	3.3	7.63	
River	4.33				09/30/03	2.1	6.43	
River	4.33				10/16/03	2.2	6.53	
River	4.33				12/03/03	3.5	7.83	
River	4.33				12/26/03	6.7	11.03	
River	4.33				01/30/04	11.0	15.33	
River	4.33				03/04/04	5.0	9.33	
River	4.33				04/29/04	4.0	8.33	
River	4.33				05/27/04	6.6	10.93	
River	4.33				07/06/04	5.5	9.83	
River	4.33				07/26/04	2.75	7.08	
River	4.33				10/29/04	3.75	8.08	
River	4.33				02/25/05	4.00	8.33	
River	4.33				05/05/05	5.00	9.33	

Note: DTW = Depth to Water; DTP = Depth to Product; NA = Not Applicable
1 - The river gauge is marked in 1-foot increments, field measurements are estimated to the closest 0.1 foot.

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Table 2
Total Petroleum Hydrocarbons
Brix Maritime
Portland, Oregon

Location (sample depth in ft bgs)	Matrix	Date Sampled	Diesel Range Organics		Residual Range Organics		Gasoline Range Organics	
MW-1	Water	07/07/03	0.27	L	0.5	U	1.3	H
MW-1	Water	10/16/03	0.73	L	0.5	U	8.1	H
MW-1	Water	01/30/04	0.60	L	0.5	U	4.0	H
MW-1	Water	04/29/04	0.71	L	0.5	U	5.8	H
MW-1 Duplicate	Water	04/29/04	0.79	L	0.5	U	5.7	H
MW-1	Water	07/26/04	0.92	L	0.5	U	9.3	Y
MW-1 Duplicate	Water	07/26/04	0.93	L	0.5	U	9.3	Y
MW-1	Water	10/29/04	1.10	L	0.5	U	8.8	Y
MW-1	Water	02/25/05	1.40	L	0.5	U	12.0	DY
MW-1 Duplicate	Water	02/25/05	1.30	L	0.5	U	11.0	DY
MW-1	Water	05/05/05	0.88	L	0.54	U	12.0	DY
MW-1 Duplicate	Water	05/05/05	0.85	L	0.52	U	12.0	DY
MW-2	Water	07/07/03	0.25	U	0.5	U	0.05	U
MW-2	Water	10/16/03	0.27	U	0.53	U	0.05	U
MW-2	Water	01/30/04	0.25	U	0.5	U	0.05	U
MW-2	Water	04/29/04	0.25	U	0.5	U	0.05	U
MW-2	Water	07/26/04	0.25	U	0.5	U	0.25	U
MW-2	Water	10/29/04	0.25	U	0.5	U	0.25	U
MW-2	Water	05/05/05	0.27	U	0.53	U	0.25	U
MW-3	Water	07/30/02	3.4	Y	1.6	O		
MW-3	Water	07/07/03	1.9	Y	8.5	O	0.05	U
MW-3	Water	10/16/03	0.92	Y	1.8	O	0.059	Y
MW-3	Water	01/30/04	0.79	Y	0.6	O	0.05	U
MW-3	Water	04/29/04	0.7	Y	0.77	O	0.05	U
MW-3	Water	07/26/04	2.5	Y	8.3	O	0.25	U
MW-3	Water	10/29/04	1.2	Y	3.1	O	0.25	U
MW-3	Water	02/25/05	1.2	Y	1.8	O	0.25	U
MW-3	Water	05/05/05	1.0	Z	1.2	Z	0.25	U
MW-4	Water	07/29/02	0.26	U	0.52	U		
MW-4	Water	07/07/03	0.25	U	0.52	O	0.05	U
MW-4 Duplicate	Water	07/07/03	0.25	U	0.5	U	0.05	U
MW-4	Water	10/16/03	0.25	U	0.5	U	0.65	Y
MW-4 Duplicate	Water	10/16/03	0.25	U	0.5	U	0.66	Y
MW-4	Water	01/30/04	0.25	U	0.5	U	0.05	U
MW-4	Water	04/29/04	0.25	U	0.5	U	0.05	U
MW-4	Water	07/26/04	0.25	U	0.5	U	0.25	U
MW-4	Water	10/29/04	0.73	Z	1.0	Z	0.25	U
MW-4 Duplicate	Water	10/29/04	0.63	Z	0.96	Z	0.25	U
MW-4	Water	02/25/05	0.25	U	0.50	U	0.25	U
MW-4	Water	05/05/05	0.26	U	0.51	U	0.25	U
MW-5	Water	01/30/04	0.62	L	0.5	U	1.4	H
MW-5 Duplicate	Water	01/30/04	0.63	L	0.5	U	1.5	H
MW-5	Water	05/05/05	1.3	L	0.55	U	5.2	Y
MW-6	Water	07/07/03	0.25	U	0.5	U	0.05	U
MW-6	Water	10/16/03	0.27	U	0.53	U	0.05	U
MW-6	Water	01/30/04	0.25	U	0.5	U	0.05	U
MW-6	Water	04/29/04	0.25	U	0.5	U	0.05	U
MW-6	Water	07/26/04	0.25	U	0.5	U	0.25	U
MW-6	Water	10/29/04	0.25	U	0.5	U	0.25	U
MW-6	Water	05/05/05	0.28	U	0.55	U	0.25	U
MW-7	Water	07/07/03	0.25	U	0.5	U	0.05	U
MW-7	Water	10/16/03	0.27	U	0.53	U	0.05	U
MW-7	Water	01/30/04	0.25	U	0.5	U	0.05	U
MW-7	Water	04/29/04	0.25	U	0.5	U	0.05	U
MW-7	Water	07/26/04	0.25	U	0.5	U	0.25	U
MW-7	Water	10/29/04	0.25	U	0.5	U	0.25	U
MW-7	Water	05/05/05	0.27	U	0.54	U	0.25	U
MW-8	Water	02/25/05	1.0	Y	1.3	O	0.25	U

Notes: Water concentrations are in mg/L. Soil concentrations are in mg/kg.

ft bgs = feet below ground surface.

D = The reported result is from a dilution.

U = Not detected at method reporting limit.

O = The fingerprint resembles oil, but does not match the calibration standard.

L = The fingerprint resembles a petroleum product, but the elution pattern indicates the presence of lighter weight constituents than the calibration standard.

H = The fingerprint resembles a petroleum product, but the elution pattern indicates the presence of heavier weight constituents than the calibration standard.

Y = The fingerprint resembles a petroleum product in the correct carbon range, but the elution pattern does not match the calibration standard.

Z = The chromatic fingerprint does not resemble a petroleum product.

TABLE 3
Polycyclic Aromatic Hydrocarbons
Brix Maritime
Portland, Oregon

Sample Designation	MW-1		MW-1		MW-1		MW-1		MW-1		MW-1 Dup		MW-1		MW-1 Dup		MW-1		MW-1		MW-1 Dup		MW-1		MW-1 Dup	
Matrix	Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water	
Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Date Sampled	02/28/03		07/07/03		10/16/03		01/30/04		04/29/04		04/29/04		07/26/04		07/26/04		10/29/04		02/25/05		02/25/05		05/05/05		05/05/05	
LPAHs													LPAHs													
Naphthalene	23	D	23	D	160	D	110	D	170	D	150	D	170	D	170	D	160	D	150	D	170	D	210	D	190	D
Acenaphthylene	0.19		0.02	U	0.02	U	0.15	UB	0.02	U	0.02	U	0.019	U	0.019	U	0.020	U	0.10		0.088	Ui	0.083	Ui	0.072	Ui
Acenaphthene	0.43		0.38		0.34		0.17		0.30		0.23		0.34		0.33		0.33		0.33		0.38		0.34		0.31	
Dibenzofuran	0.12		0.067		0.085		0.032		0.062		0.057		0.073		0.074		0.085		0.093		0.10		0.075		0.060	
Fluorene	0.36		0.27		0.24		0.11		0.19		0.14		0.23		0.24		0.23		0.28		0.32		0.25		0.19	
Phenanthrene	1.8		0.56		0.42		0.16		0.34		0.27		0.36		0.36		0.32		0.44		0.53		0.34		0.32	
Anthracene	0.53		0.11		0.065		0.073		0.079		0.057		0.068		0.067		0.070		0.090		0.099		0.061		0.061	
2-Methylnaphthalene	9.0		7.9		42.0	D	40.0	D	46.0	D	40.0	D	51.0	D	49.0	D	42.0	D	46	D	53.0	D	56	D	49	D
Total LPAH	35.43		32.29		203.15		150.55		216.97		190.75		222.07		220.07		203.04		197.33		224.43		267.07		239.94	
HPAHs													HPAHs													
Fluoranthene	4.3		0.5		0.3		0.39		0.33		0.24		0.31		0.33		0.21		0.27		0.31		0.38		0.34	
Pyrene	13	D	1.2		0.9		1.6		0.76		0.57		0.80		0.85		0.60		0.50		0.57		0.69		0.64	
Benz(a)anthracene	2.1		0.22		0.16		0.20		0.12		0.084		0.13		0.130		0.130		0.096		0.11		0.11		0.081	
Chrysene	2.7		0.27		0.24		0.24		0.16		0.11		0.15		0.15		0.15		0.11		0.12		0.14		0.11	
Benzo(b)fluoranthene	1.4		0.088		0.073		0.047		0.049		0.029		0.044		0.041		0.084		0.038		0.038		0.036		0.020	U
Benzo(k)fluoranthene	1.1		0.098		0.096		0.053		0.061		0.036		0.047		0.043		0.082		0.034		0.044		0.038		0.021	
Benzo(a)pyrene	2.0		0.11		0.097		0.064		0.066		0.038		0.056		0.052		0.110		0.046		0.048		0.042		0.020	
Indeno(1,2,3-cd)pyrene	1.5		0.023		0.036		0.02	U	0.02	U	0.02	U	0.019	U	0.019	U	0.044		0.020	U	0.020	U	0.020	U	0.020	U
Dibenz(a,h)anthracene	0.17		0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U	0.020	U
Benzo(g,h,i)perylene	1.5		0.028		0.043		0.02	U	0.021		0.20	U	0.019	U	0.019	U	0.055		0.020	U	0.020	U	0.020	U	0.020	U
Total HPAHs	29.77		2.53		1.98		2.59		1.57		1.11		1.54		1.60		1.47		1.09		1.24		1.44		1.21	

NOTE: µg/L = micrograms per liter or parts per billion.
B = detected in method blank at significant concentration.
D = the reported result is from a dilution.
J = estimated concentration.
U = not detected at or above the indicated method reporting limit.
i = the MRL/MDL has been elevated due to a chromatographic interference.

TABLE 3
Polycyclic Aromatic Hydrocarbons
Brix Maritime
Portland, Oregon

Sample Designation	MW-2		MW-2		MW-2		MW-2		MW-2		MW-2		MW-2		MW-2	
Matrix	Water		Water		Water		Water		Water		Water		Water		Water	
Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Date Sampled	02/28/03		07/07/03		10/16/03		01/30/04		04/29/04		07/26/04		10/29/04		05/05/05	
LPAHs	**LPAHs**															
Naphthalene	0.082		0.02	U	0.023		0.037		0.023		0.18		0.026		0.020	U
Acenaphthylene	0.023		0.02	U	0.022	U	0.110	UB	0.020	U	0.13		0.021		0.020	U
Acenaphthene	0.02	U	0.02	U	0.022	U	0.020	U	0.020	U	0.024		0.020	U	0.020	U
Dibenzofuran	0.02	U	0.02	U	0.022	U	0.020	U	0.020	U	0.019	U	0.020	U	0.020	U
Fluorene	0.02	U	0.02	U	0.022	U	0.020	U	0.020	U	0.023		0.020	U	0.020	U
Phenanthrene	0.15		0.02	U	0.031		0.020	U	0.020	U	0.31		0.026		0.020	U
Anthracene	0.032		0.02	U	0.022	U	0.034		0.036		0.11		0.032		0.020	U
2-Methylnaphthalene	0.02	U	0.02	U	0.022	U	0.022		0.020	U	0.03		0.020	U	0.020	U
Total LPAH	0.29				0.05		0.09		0.06		0.81		0.11			
HPAHs	**HPAHs**															
Fluoranthene	0.29		0.02	U	0.070		0.022		0.02	U	0.62		0.084		0.037	
Pyrene	0.42		0.02	U	0.091		0.020		0.02	U	0.87		0.090		0.045	
Benz(a)anthracene	0.11		0.02	U	0.023		0.020		0.02	U	0.31		0.043		0.022	
Chrysene	0.17		0.02	U	0.042		0.02	U	0.02	U	0.48		0.060		0.026	
Benzo(b)fluoranthene	0.14		0.02	U	0.036		0.020		0.02	U	0.48		0.080		0.030	
Benzo(k)fluoranthene	0.13		0.02	U	0.035		0.023		0.02	U	0.42		0.061		0.022	
Benzo(a)pyrene	0.19		0.02	U	0.022	U	0.035		0.02	U	0.73		0.10		0.042	
Indeno(1,2,3-cd)pyrene	0.20		0.02	U	0.073		0.022		0.02	U	0.88		0.14		0.053	
Dibenz(a,h)anthracene	0.02	U	0.02	U	0.022	U	0.020	U	0.02	U	0.10	J	0.02	U	0.020	U
Benzo(g,h,i)perylene	0.22		0.02	U	0.090		0.020		0.02	U	1.10		0.18		0.059	
Total HPAHs	1.87				0.46		0.18				5.99		0.84		0.34	

NOTE: µg/L = micrograms per liter or parts per billion.
B = detected in method blank at sigificant concentration.
D = the reported result is from a dilution.
J = estimated concentration.
U = not detected at or above the indicated method reporting limit.
I = the MRL/MDL has been elevated due to a chromatographic interference.

TABLE 3
Polycyclic Aromatic Hydrocarbons
Brix Maritime
Portland, Oregon

Sample Designation	MW-3		MW-3		MW-3		MW-3		MW-3		MW-3		MW-3		MW-3		MW-3	
Matrix	Water		Water		Water		Water		Water		Water		Water		Water		Water	
Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Date Sampled	07/30/02		02/28/03		07/07/03		10/16/03		01/30/04		04/29/04		07/26/04		10/29/04		02/25/05		05/05/05	
LPAHs																				
Naphthalene	0.36		0.75		0.34		0.34		0.11		0.35		0.28	D	0.040		0.17		0.082	
Acenaphthylene	0.02	U	0.22		0.02	U	0.02	U	0.14	UB	0.02	U	0.38	D	0.038		0.022		0.020	U
Acenaphthene	0.26		1.3		0.16		0.21		0.04		0.13		0.89	D	0.088		0.12		0.078	
Dibenzofuran	0.025		0.11		0.02	U	0.021		0.020	U	0.035		0.19	U	0.02		0.022		0.021	
Fluorene	0.09		1.0		0.1		0.11		0.037		0.082		0.84	D	0.039		0.063		0.054	
Phenanthrene	0.11		2.9		0.2		0.14		0.06		0.12		2.3	D	0.02	U	0.072		0.068	
Anthracene	0.02	U	0.55		0.039		0.022		0.032		0.034		0.96	D	0.02	U	0.029		0.021	
2-Methylnaphthalene	0.28		1.8		0.34		0.31		0.15		0.34		1.20	D	0.024		0.22		0.22	
Total LPAH	1.13		8.63		1.18		1.13		0.43		1.09		6.85		0.25		0.72		0.54	
HPAHs																				
Fluoranthene	0.056		4.9		0.22		0.077		0.075		0.080		5.8	D	0.050		0.060		0.058	
Pyrene	0.058		7.6	D	0.22		0.082		0.090		0.079		7.2	D	0.057		0.056		0.060	
Benz(a)anthracene	0.02	U	2.1	D	0.06		0.02	U	0.022		0.02	U	2.3	D	0.020	U	0.020	U	0.020	U
Chrysene	0.02	U	2.3	D	0.071		0.02	U	0.023		0.02	U	2.6	D	0.020	U	0.020	U	0.020	U
Benzo(b)fluoranthene	0.022		1.8	D	0.038		0.02	U	0.02	U	0.02	U	1.90	U	0.020	U	0.020	U	0.020	U
Benzo(k)fluoranthene	0.02	U	1.7	D	0.065		0.02	U	0.02	U	0.02	U	1.90	U	0.020	U	0.020	U	0.020	U
Benzo(a)pyrene	0.02	U	2.3	D	0.053		0.02	U	0.036		0.02	U	3.0	D	0.020	U	0.020	U	0.020	U
Indeno(1,2,3-cd)pyrene	0.02	U	1.5	D	0.041		0.02	U	0.02		0.02	U	1.90	U	0.020	U	0.020	U	0.020	U
Dibenz(a,h)anthracene	0.02	U	0.20	U	0.20	U	0.02	U	0.02	U	0.02	U	1.90	U	0.020	U	0.020	U	0.020	U
Benzo(g,h,i)perylene	0.02	U	1.9	D	0.039		0.02	U	0.02	U	0.02	U	1.90	D	0.020	U	0.020	U	0.020	U
Total HPAHs	0.14		26.10		0.80		0.16		0.27		0.16		22.80		0.11		0.12		0.12	

NOTE: µg/L = micrograms per liter or parts per billion.
B = detected in method blank at significant concentration.
D = the reported result is from a dilution.
J = estimated concentration.
U = not detected at or above the indicated method reporting limit.
i = the MRL/MDL has been elevated due to a chromatographic interference.

TABLE 3
Polycyclic Aromatic Hydrocarbons
Brix Maritime
Portland, Oregon

Sample Designation	MW-4		MW-4		MW-4		MW-4 Dup		MW-4		MW-4 Dup		MW-4		MW-4		MW-4		MW-4 Dup		MW-4		MW-4	
Matrix	Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water	
Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Date Sampled	07/29/02		02/28/03		07/07/03		07/07/03		10/16/03		10/16/03		01/30/04		04/29/04		07/26/04		10/29/04		10/29/04		02/25/05		05/05/05	
LPAHs													**LPAHs**													
Naphthalene	0.039		18	D	0.16		0.12		0.11		0.12		0.074		0.093		0.024		0.054		0.047		0.020	U	0.020	U
Acenaphthylene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.053	UB	0.02	U	0.019	U	0.027		0.023		0.020	U	0.020	U
Acenaphthene	0.51		0.60		0.11		0.11		0.36		0.40		0.16		0.061		0.096		0.860		1.100		0.11		0.046	
Dibenzofuran	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020		0.020	U	0.020	U
Fluorene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Phenanthrene	0.043		0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.880	Ui	1.100	Ui	0.020	U	0.020	U
Anthracene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.024		0.030		0.020	U	0.020	U
2-Methylnaphthalene	0.02	U	0.80		0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Total LPAH	0.59		19.40		0.27		0.23		0.47		0.52		0.23		0.15		0.12		0.97		1.22		0.11		0.05	
HPAHs													**HPAHs**													
Fluoranthene	0.033		0.024		0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020		0.020	U	0.020	U	0.020	U
Pyrene	0.046		0.055		0.021		0.02	U	0.02		0.024		0.02	U	0.02	U	0.019	U	0.038		0.029		0.020	U	0.020	U
Benz(a)anthracene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Chrysene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Benzo(b)fluoranthene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Benzo(k)fluoranthene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Benzo(a)pyrene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Indeno(1,2,3-cd)pyrene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Dibenz(a,h)anthracene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Benzo(g,h,i)perylene	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U	0.020	U
Total HPAHs	0.08		0.08		0.021						0.024								0.06		0.03					

NOTE: µg/L = micrograms per liter or parts per billion.

B = detected in method blank at sigificant concentration.

D = the reported result is from a dilution.

J = estimated concentration.

U = not detected at or above the indicated method reporting limit.

i = the MRL/MDL has been elevated due to a chromatographic interference.

TABLE 3
Polycyclic Aromatic Hydrocarbons
Brix Maritime
Portland, Oregon

Sample Designation	MW-5		MW-5 dup		MW-5		MW-5 dup		MW-5		MW-6		MW-6		MW-6		MW-6		MW-6		MW-6		MW-6	
Matrix	Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water	
Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Date Sampled	02/28/03		02/28/03		01/30/04		01/30/04		05/05/05		07/07/03		10/16/03		01/30/04		04/29/04		07/26/04		10/29/04		05/05/05	
LPAHs													**LPAHs**											
Naphthalene	19	D	17	D	2.9		2.1		5.3	D	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.082	
Acenaphthylene	0.10		0.40		0.02	U	0.02	U	0.71	Ui	0.02	U	0.02	U	0.042		0.02	U	0.019	U	0.020	U	0.020	U
Acenaphthene	1.3		1.3		0.6		0.5		2.1		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Dibenzofuran	0.2		0.19		0.081		0.057		0.66		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Fluorene	1.2		1.3		0.48		0.32		3.4		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Phenanthrene	2.3		3.1		1.1		0.8		7.3		0.02	U	0.02	U	0.025		0.02	U	0.019	U	0.020	U	0.020	U
Anthracene	0.55		0.93		0.34		0.24		1.0		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
2-Methylnaphthalene	31	D	31	D	1.5		1.1		1.8	D	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.027	
Total LPAH	55.64		55.22		7.02		5.02		21.56						0.07								0.11	
HPAHs													**HPAHs**											
Fluoranthene	3.1	J	6.5	J	1.5		1.1		2.2		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Pyrene	4.3	J	9.1	J	1.8		1.4		2.0		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.023		0.020	U
Benz(a)anthracene	0.72	J	2.80	J	0.18		0.14		0.099		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Chrysene	0.96	J	3.4	J	0.22		0.17		0.15		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Benzo(b)fluoranthene	0.44	J	2.2	J	0.046		0.035		0.021		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Benzo(k)fluoranthene	0.42	J	1.9	J	0.046		0.041		0.021		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Benzo(a)pyrene	0.65	J	3.6	J	0.061		0.050		0.028		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Indeno(1,2,3-cd)pyrene	0.49	J	2.5	J	0.03		0.022		0.022		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Dibenz(a,h)anthracene	0.044	J	0.27	J	0.02	U	0.02	U	0.020	U	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Benzo(g,h,i)perylene	0.52	J	2.7	J	0.029		0.024		0.023		0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U
Total HPAHs	11.64		34.97		3.91		3.00		4.56												0.02			

NOTE: µg/L = micrograms per liter or parts per billion.
B = detected in method blank at sigificant concentration.
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i = the MRL/MDL has been elevated due to a chromatographic interference.

TABLE 3
Polycyclic Aromatic Hydrocarbons
Brix Maritime
Portland, Oregon

Sample Designation	MW-7		MW-7		MW-7		MW-7		MW-7		MW-7		MW-7		MW-8	
Matrix	Water		Water		Water		Water		Water		Water		Water		Water	
Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
Date Sampled	07/07/03		10/16/03		01/30/04		04/29/04		07/26/04		10/29/04		05/05/05		02/25/05	
LPAHs									LPAHs							
Naphthalene	0.02	U	0.02	U	0.02	U	**0.093**		0.019	U	**0.083**		**0.047**		**0.22**	
Acenaphthylene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.019	U	0.020	U	0.020	U
Acenaphthene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.019	U	0.020	U	**0.029**	
Dibenzofuran	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.019	U	0.020	U	0.020	U
Fluorene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.019	U	0.020	U	**0.029**	
Phenanthrene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.019	U	0.020	U	**0.051**	
Anthracene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.019	U	0.020	U	**0.037**	
2-Methylnaphthalene	0.02	U	0.02	U	0.02	U	**0.04**		0.019	U	0.041		0.020	U	**0.22**	
Total LPAH							**0.13**				**0.08**		**0.05**		**0.59**	
HPAHs									HPAHs							
Fluoranthene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	**0.032**	
Pyrene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	**0.036**	
Benz(a)anthracene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U
Chrysene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U
Benzo(b)fluoranthene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	**0.020**	
Benzo(k)fluoranthene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U
Benzo(a)pyrene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	**0.024**	
Indeno(1,2,3-cd)pyrene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	**0.023**	
Dibenz(a,h)anthracene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	0.020	U
Benzo(g,h,i)perylene	0.02	U	0.02	U	0.02	U	0.02	U	0.019	U	0.020	U	0.020	U	**0.029**	
Total HPAHs															**0.16**	

NOTE: µg/L = micrograms per liter or parts per billion.
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J = estimated concentration.
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Table 4
Volatile Organic Compounds
Brix Maritime
Portland, Oregon

Sample Designation	Matrix	Date Sampled	Dichlorodifluoromethane	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	Acetone	1,1-Dichloroethene	Methyl tert-Butyl Ether	Carbon Disulfide	Methylene Chloride	trans-1,2-dichloroethene	1,1-Dichloroethane	2-Butanone	2,2-Dichloropropane	cis-1,2-dichloroethene	Chloroform	Bromochloromethane	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride
MW-1	Water	02/28/03	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 UJ	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-1	Water	07/07/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-1	Water	10/16/03	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	100 U	2.5 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	100 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
MW-1	Water	01/30/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-1	Water	04/29/04	1 U	1 U	1 U	1 U	1 U	1 U	40 U	1 U	1 U	1 U	4 U	1 U	1 U	40 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
MW-1 Dup	Water	04/29/04	1 U	1 U	1 U	1 U	1 U	1 U	40 U	1 U	1 U	1 U	4 U	1 U	1 U	40 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
MW-1	Water	07/26/04	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	5 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
MW-1 Dup	Water	07/26/04	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	5 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
MW-1	Water	10/29/04	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	5 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
MW-1	Water	02/25/05	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	100 U	2.5 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	100 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
MW-1	Water	05/05/05	2 U	2 U	2 U	2 U	2 U	2 U	80 U	2 U	2 U	2 U	8 U	2 U	2 U	80 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
MW-1 Dup	Water	05/05/05	2 U	2 U	2 U	2 U	2 U	2 U	80 U	2 U	2 U	2 U	8 U	2 U	2 U	80 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
MW-2	Water	02/28/03	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 UJ	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-2	Water	07/07/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-2	Water	10/16/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-2	Water	01/30/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-2	Water	04/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-2	Water	07/26/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-2	Water	10/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-2	Water	05/05/05	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	07/30/02	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	02/28/03	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 UJ	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	07/07/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	10/16/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	01/30/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	04/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	07/26/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	10/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	02/25/05	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-3	Water	05/05/05	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	Water	07/29/02	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	Water	02/28/03	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 UJ	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	Water	07/07/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4 Dup	Water	07/07/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	Water	10/16/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4 Dup	Water	10/16/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	Water	01/30/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	Water	04/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	Water	07/26/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	Water	10/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4 Dup	Water	02/25/05	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-4	Water	05/05/05	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-5	Water	02/28/03	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 UJ	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-5 Dup	Water	02/28/03	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 UJ	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-5	Water	01/30/04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 UJ	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-5 Dup	Water	01/30/04	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 UJ	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-5	Water	05/05/05	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-6	Water	07/07/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-6	Water	10/16/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-6	Water	01/30/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-6	Water	04/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-6	Water	07/26/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-6	Water	10/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-6	Water	05/05/05	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-7	Water	07/07/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-7	Water	10/16/03	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-7	Water	01/30/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-7	Water	04/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-7	Water	07/26/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-7	Water	10/29/04	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-7	Water	05/05/05	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-8	Water	02/25/05	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	0.5 U	2 U	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

NOTE: Water concentrations are in µg/L. Soil concentrations are in µg/kg. U = not detected at or above the indicated method reporting limit. J = estimated concentration.
D = the reported result is from a dilution. i = the MRL/MDL has been elevated due to a chromatographic interference.

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Table 4
Volatile Organic Compounds
Brix Maritime
Portland, Oregon

Sample Designation	Matrix	Date Sampled	1,2-Dichloroethane	Benzene	Trichloroethene	1,2-Dichloropropane	Bromodichloromethane	Dibromomethane	2-Hexanone	cis-1,3-Dichloropropene	Toluene	trans 1,3-Dichloropropene	1,1,2-Trichloroethane	4-Methyl-2-pentanone	1,3 Dichloropropane	Tetrachloroethene	Dibromochloromethane	1,2 Dibromoethane	Chlorobenzene	1,1,1,2-Tetrachloroethane	Ethylbenzene	m,p-Xylenes	o-Xylene	Styrene	Bromoform
MW-1	Water	02/28/03	0.5 U	5.7	0.5 U	0.5 UJ	0.5 U	0.5 U	20 U	0.5 U	0.71	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	37	50	12	0.5 U	0.5 U
MW-1	Water	07/07/03	0.5 U	1.3	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	1.1	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	11	18	2	0.5 U	0.5 U
MW-1	Water	10/16/03	2.5 U	32 D	2.5 U	2.5 U	2.5 U	2.5 U	100 U	2.5 U	13 D	2.5 U	2.5 U	100 U	2.5 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	270 D	360 D	110 D	2.5 U	2.5 U
MW-1	Water	01/30/04	0.5 U	4.1	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.96	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	78 D	120	31	0.5 U	0.5 U
MW-1	Water	04/29/04	1 U	5.3 D	1 U	1 U	1 U	1 U	40 U	1 U	2.1 D	1 U	1 U	40 U	1 U	1 U	1 U	4 U	1 U	1 U	120 D	160 D	46 D	1 U	1 U
MW-1 Dup	Water	04/29/04	1 U	4.7 D	1 U	1 U	1 U	1 U	40 U	1 U	1.9 D	1 U	1 U	40 U	1 U	1 U	1 U	4 U	1 U	1 U	110 D	150 D	42 D	1 U	1 U
MW-1	Water	07/26/04	1.3 U	4.0 D	1.3 U	1.3 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	5 U	1.3 U	1.3 U	93 D	120 D	29 D	1.3 U	1.3 U
MW-1 Dup	Water	07/26/04	1.3 U	3.9 D	1.3 U	1.3 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	5 U	1.3 U	1.3 U	89 D	110 D	28 D	1.3 U	1.3 U
MW-1	Water	10/29/04	1.3 U	4.0 D	1.3 U	1.3 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	1.3 U	50 U	1.3 U	1.3 U	1.3 U	5 U	1.3 U	1.3 U	82 D	100 D	12 D	1.3 U	1.3 U
MW-1	Water	02/25/05	2.5 U	31 D	2.5 U	2.5 U	2.5 U	2.5 U	100 U	2.5 U	2.7	2.5 U	2.5 U	100 U	2.5 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	210 D	220 D	26 D	2.5 U	2.5 U
MW-1	Water	05/05/05	2 U	16 D	2 U	2 U	2 U	2 U	80 U	2 U	2.2 D	2 U	2 U	80 U	2 U	2 U	2 U	8 U	2 U	2 U	170 D	170 D	19 D	2 U	2 U
MW-1 Dup	Water	05/05/05	2 U	14 D	2 U	2 U	2 U	2 U	80 U	2 U	2.1 D	2 U	2 U	80 U	2 U	2 U	2 U	8 U	2 U	2 U	160 D	160 D	18 D	2 U	2 U
MW-2	Water	02/28/03	0.5 U	0.50 U	0.5 U	0.5 UJ	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	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
MW-2	Water	07/07/03	0.5 U	0.50 U	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	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
MW-2	Water	10/16/03	0.5 U	0.50 U	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	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.86	0.5 U	0.5 U	0.5 U
MW-2	Water	01/30/04	0.5 U	0.50 U	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	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
MW-2	Water	04/29/04	0.5 U	0.50 U	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	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
MW-2	Water	07/26/04	0.5 U	0.50 U	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	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
MW-2	Water	10/29/04	0.5 U	0.50 U	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	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
MW-2	Water	05/05/05	0.5 U	0.50 U	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	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
MW-3	Water	07/30/02	0.5 U	0.73	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	14	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.51	3.5	2	0.5 U	0.5 U
MW-3	Water	02/28/03	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	20 U	0.5 U	0.63	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	1.2	1.2	0.5 U	0.5 U
MW-3	Water	07/07/03	0.5 U	0.50 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.8	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	1.2	1.1	0.5 U	0.5 U
MW-3	Water	10/16/03	0.5 U	0.50 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	1.9	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.51	2.5	1.5	0.5 U	0.5 U
MW-3	Water	01/30/04	0.5 U	0.50 U	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	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.63	0.73	0.5 U	0.5 U
MW-3	Water	04/29/04	0.5 U	0.50 U	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	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	1.20	1.1	0.5 U	0.5 U
MW-3	Water	07/26/04	0.5 U	0.50 U	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	0.5	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.98	0.98	0.5 U	0.5 U
MW-3	Water	10/29/04	0.5 U	0.50 U	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	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	1.10	1.0	0.5 U	0.5 U
MW-3	Water	02/25/05	0.5 U	0.50 U	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	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	1.30	1.0	0.5 U	0.5 U
MW-3	Water	05/05/05	0.5 U	0.50 U	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	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	1.50	1.2	0.5 U	0.5 U
MW-4	Water	07/29/02	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-4	Water	02/28/03	0.5 U	0.76	0.5 U	0.5 UJ	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	0.5 U	0.5 U	2 U	0.5 U	0.5 U	2.3	1.4	1.2	0.5 U	0.5 U
MW-4	Water	07/07/03	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-4 Dup	Water	07/07/03	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-4	Water	10/16/03	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	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.93	0.5 U	0.5 U	0.5 U
MW-4 Dup	Water	10/16/03	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	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.94	0.5 U	0.5 U	0.5 U
MW-4	Water	01/30/04	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	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5	0.5 U	0.5 U
MW-4	Water	04/29/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-4	Water	07/26/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-4	Water	10/29/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-4 Dup	Water	02/25/05	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-4	Water	05/05/05	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-5	Water	02/28/03	0.5 U	0.5 U	0.5 U	0.5 UJ	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	0.5 U	0.5 U	2 U	0.5 U	0.5 U	15	12	0.97	0.5 U	0.5 U
MW-5 Dup	Water	02/28/03	0.5 U	0.5 U	0.5 U	0.5 UJ	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	0.5 U	0.5 U	2 U	0.5 U	0.5 U	16	14	1.10	0.5 U	0.5 U
MW-5	Water	01/30/04	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	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	1.8	0.5 U	0.5 U	0.5 U	0.5 U
MW-5 Dup	Water	01/30/04	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	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	2.0	0.5 U	0.5 U	0.5 U	0.5 U
MW-5	Water	05/05/05	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	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	17	0.5 U	0.5 U	0.5 U	0.5 U
MW-6	Water	07/07/03	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-6	Water	10/16/03	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	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.74	0.5 U	0.5 U	0.5 U
MW-6	Water	01/30/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-6	Water	04/29/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-6	Water	07/26/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-6	Water	10/29/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-6	Water	05/05/05	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-7	Water	07/07/03	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-7	Water	10/16/03	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	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.82	0.5 U	0.5 U	0.5 U
MW-7	Water	01/30/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-7	Water	04/29/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-7	Water	07/26/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-7	Water	10/29/04	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-7	Water	05/05/05	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	0.5 U	0.5 U	20 U	0.5 U	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
MW-8	Water	02/25/05	0.5 U	0.54	0.5 U	0.5 U	0.5 U	0.5 U	20 U	0.5 U	5.8	0.5 U	0.5 U	20 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.86	0.5 U	0.5 U	0.5 U

NOTE: Water concentrations are in µg/L. Soil concentrations are in µg/kg. U = not detected at or above the indicated method reporting limit. J = estimated concentration.
D = the reported result is from a dilution. i = the MRL/MDL has been elevated due to a chromatographic interference.

Table 4
Volatile Organic Compounds
Brix Maritime
Portland, Oregon

Sample Designation	Matrix	Date Sampled	Isopropylbenzene	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	4-Isopropyltoluene	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane	1,2,4-Trichlorobenzene	1,2,3-Trichlorobenzene	Naphthalene	Hexachlorobutadiene
MW-1	Water	02/28/03	19	0.5 U	0.5 U	0.5 U	65 D	2 U	2 U	26	2 U	140 D	10	0.5 U	2 U	0.5 U	21	0.5 U	0.5 U	2 U	2 U	31	2 U
MW-1	Water	07/07/03	31	0.5 U	0.5 U	0.5 U	64 D	2 U	2 U	9.3	2 U	46	8.2	0.5 U	2 U	0.5 U	14	0.5 U	0.5 U	2 U	2 U	22	2 U
MW-1	Water	10/16/03	75 D	2.5 U	2.5 U	10 U	250 D	10 U	10 U	280 D	10 U	1200 D	28 D	2.5 U	10 U	2.5 U	150 Ui	2.5 U	10 U	10 U	10 U	460 D	10 U
MW-1	Water	01/30/04	36	0.5 U	0.5 U	0.5 U	140 D	2 U	2 U	100 D	2 U	510 D	17	0.5 U	2 U	0.5 U	46	0.5 U	0.5 U	2 U	2 U	210 D	2 U
MW-1	Water	04/29/04	54 D	1 U	1 U	1 U	150 D	4 U	4 U	150 D	4 U	590 D	20 D	1 U	4 U	1 U	43 D	1 U	1 U	4 U	4 U	250 D	4 U
MW-1 Dup	Water	04/29/04	52 D	1 U	1 U	1 U	150 D	4 U	4 U	140 D	4 U	570 D	18 D	1 U	4 U	1 U	39 D	1 U	1 U	4 U	4 U	260 D	4 U
MW-1	Water	07/26/04	47 D	1.3 U	1.3 U	1.3 U	160 D	5 U	5 U	130 D	5 U	610 D	18 D	1.3 U	5 U	1.3 U	40 D	1.3 U	1.3 U	5 U	5 U	270 JD	5 U
MW-1 Dup	Water	07/26/04	46 D	1.3 U	1.3 U	1.3 U	160 D	5 U	5 U	120 D	5 U	640 D	18 D	1.3 U	5 U	1.3 U	40 D	1.3 U	1.3 U	5 U	5 U	280 JD	5 U
MW-1	Water	10/29/04	45 D	1.3 U	1.3 U	1.3 U	140 D	5 U	5 U	110 D	5 U	560 D	16 D	1.3 U	5 U	1.3 U	39 D	1.3 U	1.3 U	5 U	5 U	230 D	5 U
MW-1	Water	02/25/05	89 D	2.5 U	2.5 U	2.5 U	350 D	10 U	10 U	160 D	10 U	870 D	39 D	2.5 U	10 U	2.5 U	90 D	2.5 U	2.5 U	10 U	10 U	470 D	10 U
MW-1	Water	05/05/05	87 D	2 U	2 U	8 U	260 D	8 U	8 U	100 D	8 U	530 D	32 D	2 U	8 U	2 U	140 Ui	2 U	8 U	8 U	8 U	280 D	8 U
MW-1 Dup	Water	05/05/05	88 D	2 U	2 U	8 U	250 D	8 U	8 U	96 D	8 U	490 D	31 D	2 U	8 U	2 U	140 Ui	2 U	8 U	8 U	8 U	250 D	8 U
MW-2	Water	02/28/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-2	Water	07/07/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-2	Water	10/16/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-2	Water	01/30/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-2	Water	04/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-2	Water	07/26/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-2	Water	10/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-2	Water	05/05/05	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 U	0.5 U	2 U	0.5 U	2 UJ	0.5 U	2 U	2 U	2 U	2 U	2 U
MW-3	Water	07/30/02	0.5 U	0.5 U	0.5 U	0.5 U	2.2	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-3	Water	02/28/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-3	Water	07/07/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-3	Water	10/16/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-3	Water	01/30/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-3	Water	04/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-3	Water	07/26/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-3	Water	10/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-3	Water	02/25/05	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-3	Water	05/05/05	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 U	0.5 U	2 U	0.5 U	2 UJ	0.5 U	2 U	2 U	2 U	2 U	2 U
MW-4	Water	07/29/02	2 U	0.5 U	0.5 U	0.5 U	2.3	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4	Water	02/28/03	29	0.5 U	0.5 U	0.5 U	35	2 U	2 U	2.2	2 U	3.8	2 U	0.5 U	2 U	0.5 U	3.1	0.5 U	0.5 U	2 U	2 U	45	2 U
MW-4	Water	07/07/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4 Dup	Water	07/07/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4	Water	10/16/03	7.1	0.5 U	0.5 U	0.5 U	5.5	2 U	2 U	2 U	2 U	2 U	4.4	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4 Dup	Water	10/16/03	7.5	0.5 U	0.5 U	0.5 U	6.3	2 U	2 U	2 U	2 U	2 U	4.8	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4	Water	01/30/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4	Water	04/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4	Water	07/26/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4	Water	10/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4 Dup	Water	02/25/05	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-4	Water	05/05/05	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 U	0.5 U	2 U	0.5 U	2 UJ	0.5 U	2 U	2 U	2 U	2 U	2 U
MW-5	Water	02/28/03	24	0.5 U	0.5 U	0.5 U	110 D	2 U	2 U	26	2 U	75 D	27	0.5 U	2 U	0.5 U	87 D	0.5 U	0.5 U	2 U	2 U	23	2 U
MW-5 Dup	Water	02/28/03	25	0.5 U	0.5 U	0.5 U	110 D	2 U	2 U	30	2 U	99 D	30	0.5 U	2.3	0.5 U	110 D	0.5 U	0.5 U	2 U	2 U	25	2 U
MW-5	Water	01/30/04	9.7	0.5 U	0.5 U	0.5 U	49	2 U	2 U	2 U	2 U	2 U	38	0.5 U	2 U	0.5 U	82 D	0.5 U	0.5 U	2 U	2 U	2.9	2 U
MW-5 Dup	Water	01/30/04	11	0.5 U	0.5 U	0.5 U	56	2 U	2 U	2 U	2 U	2 U	39	0.5 U	2 U	0.5 U	84 D	0.5 U	0.5 U	2 U	2 U	3.4	2 U
MW-5	Water	05/05/05	50	0.5 U	0.5 U	2 U	140 D	2 U	2 U	2 U	2 U	2 U	41	0.5 U	2 U	0.5 U	120 Ui	0.5 U	2 U	2 U	2 U	8.0	2 U
MW-6	Water	07/07/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-6	Water	10/16/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-6	Water	01/30/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-6	Water	04/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-6	Water	07/26/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-6	Water	10/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-6	Water	05/05/05	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 U	0.5 U	2 U	0.5 U	2 UJ	0.5 U	2 U	2 U	2 U	2 U	2 U
MW-7	Water	07/07/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-7	Water	10/16/03	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-7	Water	01/30/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-7	Water	04/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-7	Water	07/26/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-7	Water	10/29/04	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U
MW-7	Water	05/05/05	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 U	0.5 U	2 U	0.5 U	2 UJ	0.5 U	2 U	2 U	2 U	2 U	2 U
MW-8	Water	02/25/05	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	2 U	2 U

NOTE: Water concentrations are in µg/L. Soil concentrations are in µg/kg. U = not detected at or above the indicated method reporting limit. J = estimated concentration.
D = the reported result is from a dilution. i = the MRL/MDL has been elevated due to a chromatographic interference.

Table 5
Lead in Groundwater
Brix Maritime
Portland, Oregon

Location	Matrix	Date Sampled	Total Lead (ppb)		Dissolved Lead (ppb)	
MW-1	Water	02/28/03	288		0.03	
MW-1	Water	07/07/03	1.34		0.05	
MW-1	Water	10/16/03	1.41		0.06	
MW-1	Water	01/30/04	0.05		0.02	U
MW-1	Water	04/29/04	0.11		0.02	U
MW-1 Duplicate	Water	04/29/04	0.11		0.04	
MW-1	Water	07/26/04	2.35		2.12	
MW-1 Duplicate	Water	07/26/04	1.81		1.93	
MW-1	Water	10/29/04	0.27		0.03	
MW-1	Water	02/25/05	0.23		0.02	U
MW-1 Duplicate	Water	02/25/05	0.22		0.02	
MW-1	Water	05/05/05	0.08		0.06	
MW-1 Duplicate	Water	05/05/05	0.09		0.02	U
MW-2	Water	02/28/03	57.6		0.04	
MW-2	Water	07/07/03	0.04		0.05	
MW-2	Water	10/16/03	25.9		0.58	
MW-2	Water	01/13/04	0.03		0.02	U
MW-2	Water	04/29/04	0.02	U	0.02	
MW-2	Water	07/26/04	13		3.39	
MW-2	Water	10/29/04	31.9		0.11	
MW-2	Water	05/05/05	0.52		0.09	
MW-3	Water	07/30/02	0.88		0.13	
MW-3	Water	02/28/03	65.9		0.05	
MW-3	Water	07/07/03	0.36		0.08	
MW-3	Water	10/16/03	0.22		0.05	
MW-3	Water	01/13/04	0.1		0.05	
MW-3	Water	04/29/04	0.05		0.02	
MW-3	Water	07/26/04	0.13		1.00	
MW-3	Water	10/29/04	0.05		0.06	
MW-3	Water	02/25/05	0.03		0.02	U
MW-3	Water	05/05/05	0.02		0.05	
MW-4	Water	07/29/02	0.36		0.02	U
MW-4	Water	02/28/03	0.70		0.02	U
MW-4	Water	07/07/03	0.78	J	0.02	
MW-4 Duplicate	Water	07/07/03	0.18	J	0.03	
MW-4	Water	10/16/03	0.46		0.03	
MW-4 Duplicate	Water	10/16/03	0.54		0.02	U
MW-4	Water	01/13/04	0.08		0.03	
MW-4	Water	04/29/04	0.47		0.09	
MW-4	Water	07/26/04	0.04		0.03	
MW-4	Water	10/29/04	0.16		0.02	U
MW-4 Duplicate	Water	10/29/04	0.16		0.02	U
MW-4	Water	02/25/05	0.12		0.02	
MW-4	Water	05/05/05	0.02	U	0.02	U
MW-5	Water	02/28/03	131		0.06	
MW-5 Duplicate	Water	02/28/03	116		0.03	
MW-5	Water	01/13/04	0.06		0.02	
MW-5 Duplicate	Water	01/13/04	0.08		0.02	
MW-5	Water	05/05/05	0.02	U	0.09	
MW-6	Water	07/07/03	0.1		0.02	U
MW-6	Water	10/16/03	0.03		0.07	
MW-6	Water	01/13/04	0.09		0.02	U
MW-6	Water	04/29/04	0.08		0.03	
MW-6	Water	07/26/04	0.51		0.10	
MW-6	Water	10/29/04	0.26		0.03	
MW-6	Water	05/05/05	0.29		0.05	
MW-7	Water	07/07/03	0.17		0.02	U
MW-7	Water	10/16/03	0.02	U	0.03	
MW-7	Water	01/13/04	0.1		0.02	U
MW-7	Water	04/29/04	0.02	U	0.02	
MW-7	Water	07/26/04	0.18		0.04	
MW-7	Water	10/29/04	0.04		0.03	
MW-7	Water	05/05/05	0.02	U	0.07	
MW-8	Water	02/25/05	0.17		0.22	

Note: U = not detected at method reporting limit. ppb = parts per billion. J = estimated
Water concentrations are in µg/L.

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Table 6
Metals in Groundwater
Brix Maritime
Portland, Oregon

Location	Matrix	Date Sampled	Arsenic Total (ppb)	Arsenic Dissolved (ppb)	Barium Total (ppb)	Barium Dissolved (ppb)	Cadmium Total (ppb)	Cadmium Dissolved (ppb)	Chromium Total (ppb)	Chromium Dissolved (ppb)	Copper Total (ppb)	Copper Dissolved (ppb)	Lead Total (ppb)	Lead Dissolved (ppb)	Manganese Total (ppb)	Manganese Dissolved (ppb)	Zinc Total (ppb)	Zinc Dissolved (ppb)
MW-1	Water	02/25/05	12.8	12.0	190	194	0.15	0.15	1.4	1.2	0.2	0.1	0.23	0.02 U	5980	6150	2.2	1.5
MW-1 Duplicate	Water	02/25/05	12.2	12.8	194	195	0.15	0.13	1.2	1.3	0.3	0.1 U	0.22	0.02	5880	6190	2.3	1.4
MW-1	Water	05/05/05	8.9	8.8	99.8	99	0.06	0.07	1.0	1.4	0.7	0.5	0.08	0.06	4190	4280	2.0	2.4
MW-1 Duplicate	Water	05/05/05	9.1	8.7	100	95.8	0.08	0.06	1.0	1.3	0.9	0.6	0.09	0.02 U	4250	4140	2.2	1.7
MW-2	Water	05/05/05	0.7	0.5	68.1	63	0.09	0.10	0.9	0.8	3.3	2.3	0.52	0.09	905	1270	5.9	4.4
MW-3	Water	02/25/05	4.1	4.3	53.8	54.6	0.07	0.06	0.3	0.5	0.1 U	0.1 U	0.03	0.02 U	2230	2130	3.3	1.6
MW-3	Water	05/05/05	6.0	6.4	40.6	39.6	0.04	0.04	0.7	0.7	0.2	0.3	0.02	0.05	1580	1640	3.4	1.5
MW-4	Water	02/25/05	1.3	1.1	21.5	18.4	0.10	0.06	0.4	0.3	1.1	0.1	0.12	0.02	558	591	5.4	1.7
MW-4	Water	05/05/05	0.5 U	0.5 U	24.7	24.1	0.06	0.05	0.3	0.6	1.1	0.8	0.02 U	0.02 U	2160	2330	3.8	3.4
MW-5	Water	05/05/05	13.4	14.1	86.5	85.8	0.07	0.06	0.8	1.1	0.5	0.5	0.02 U	0.09	5240	5360	3.6	2.7
MW-6	Water	05/05/05	8.4	8.5	66.7	65.7	0.11	0.07	0.8	0.9	0.7	0.5	0.29	0.05	4160	4170	6.3	4.2
MW-7	Water	05/05/05	9.8	9.8	40.3	39.8	0.06	0.06	0.4	0.7	0.6	0.7	0.02 U	0.07	2300	2200	3.8	4.3
MW-8	Water	02/25/05	1.3	1.1	87.2	85.1	0.12	0.10	0.8	0.4	0.3	0.1 U	0.17	0.22	3090	3060	20.2	20.0

Note: U = not detected at method reporting limit. ppb = parts per billion. J = estimated
Water concentrations are in µg/L.

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Table 7
Soil Sampling Results
Total Petroleum Hydrocarbons and Polychlorinated Biphenols
Brix Maritime
Portland, Oregon

Location	Matrix	Date Sampled	Diesel Range Organics		Residual Range Organics		Aroclor 1016		Aroclor 1221		Aroclor 1232		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
TF-1-N	Soil	05/05/05	23	U	**140**	O	0.1	U	0.2	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
TF-1-N (Silica Gel Treated)	Soil	05/05/05	23	U	**97**	O	NA		NA		NA		NA		NA		NA		NA	
TF-2-COM	Soil	05/05/05	**140**	Z	**440**	Z	0.1	U	0.2	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
TF-2-COM (Silica Gel Treated)	Soil	05/05/05	28	U	110	U	NA		NA		NA		NA		NA		NA		NA	

Note:
NA = Not Applicable
O = The chromatic fingerprint of the sample resembles an oil, but does not match the calibration standard.
U = The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
Z = The chromatographic fingerprint does not resemble a petroleum product.

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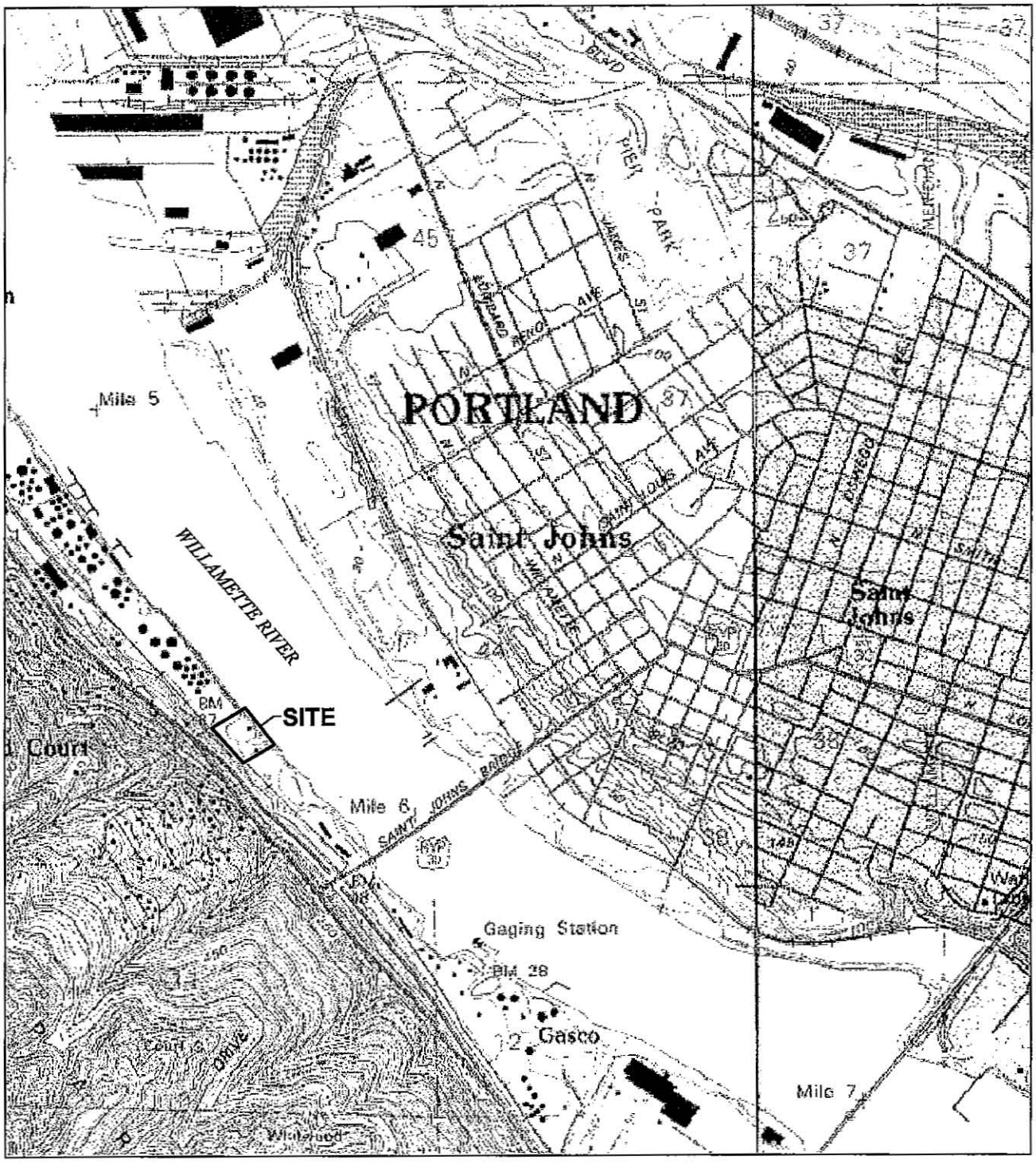
FIGURES

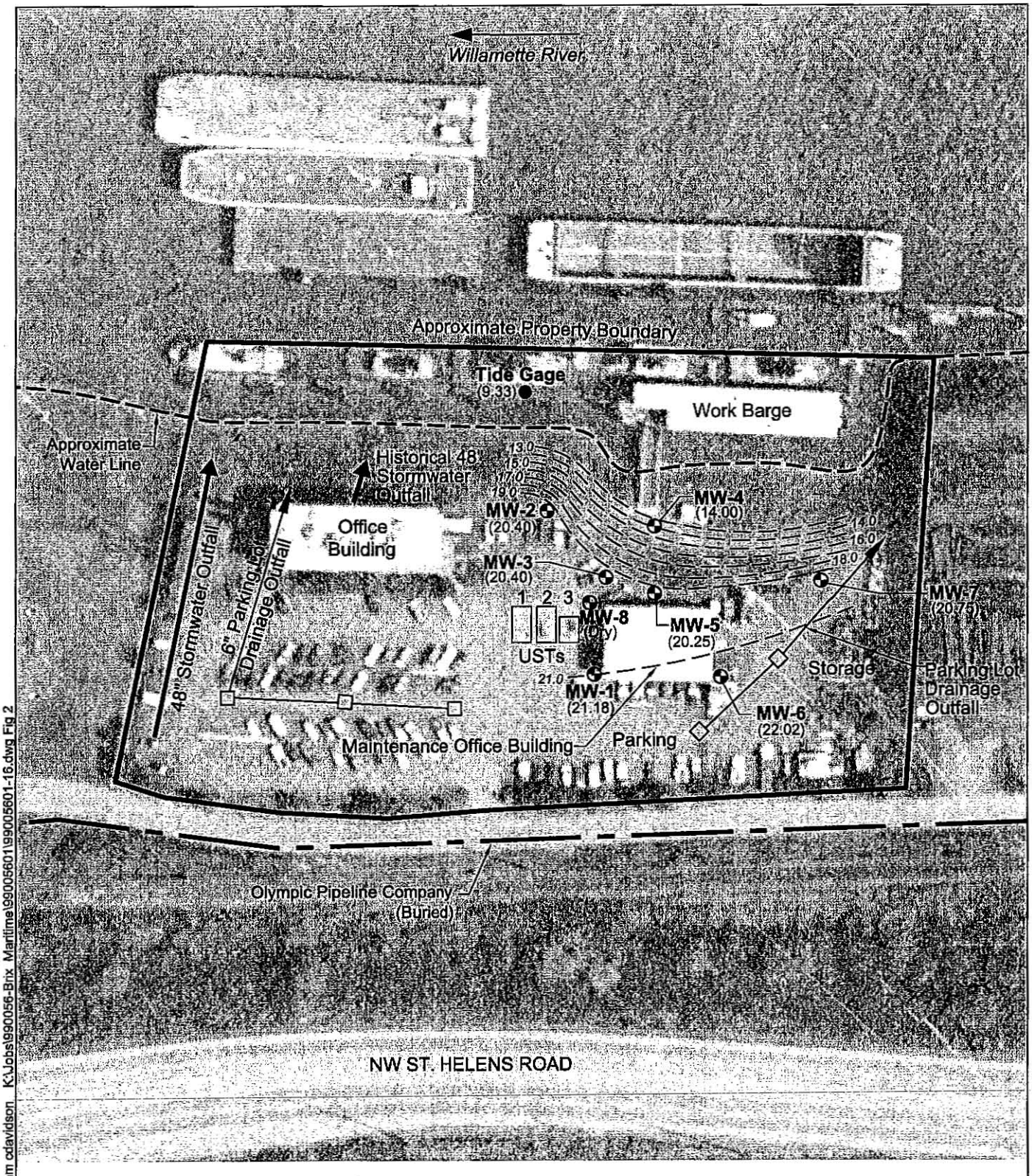


0 1500
Approximate Scale in Feet

Apr 01, 2003 4:09pm cdavidson I:\CAD\Jobs\990056-Brix_Maritime\99005601\99005601-03.dwg FIG 1

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 1
Site Location Map
Brix Maritime
Portland, Oregon



Jun 06, 2005 10:04am cdavidson K:\Jobs\990056-Brix Maritime\990056011990056601-16.dwg Fig 2

⊕MW-1	Monitoring Well Location and Number	— 12 —	Potentiometric Surface Contour in Feet
(22.92)	Groundwater Elevation in Feet (NAVD 88)	□	Stormwater Catch Basin

0 100
Scale in Feet

Source: Aerial photograph acquired from WAC, Corp. 1991.

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 2
Well Location and Potentiometric Surface Map (May 5, 2005)
Brix Maritime
Portland, Oregon

Appendix A
Field Sampling Data Package

ANCHOR ENVIRONMENTAL, L.L.C.

Anchor Environmental, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Phone 503.670.1108
Fax 503.670.1128

Memorandum

To: File 990056-01

From: Kelly R. Titkemeier

Date: May 6, 2005

Re: May 2005 Groundwater Sample Collection at Brix Maritime, Portland, Oregon

OVERVIEW

On May 5, 2005, Anchor measured groundwater elevations in monitoring wells MW-1 through MW-8 and recorded the elevation of the river from the on-site staff gauge. Groundwater samples were collected from monitoring wells MW-1 through MW-7. Eight water samples (including one duplicate sample) were submitted for analysis of VOCs by U.S. Environmental Protection Agency (USEPA) Method 8260; gasoline by NWTPH-Gx; diesel and heavy oils by NWTPH-Dx; PAHs by USEPA Method 8270-SIM; and total and dissolved arsenic, barium, cadmium, chromium, copper, manganese, lead, and zinc. Trip blanks were submitted for VOC and NWTPH-Gx analyses. Soil adjacent to two on-site transformers was sampled and submitted for analysis of diesel and heavy oils by NWTPH-Dx and polychlorinated biphenols (PCBs) by EPA method 8081. Soil adjacent to the north side of the first transformer (TF -1) was sampled and submitted for analysis. Samples of soil adjacent to the east, south, and west sides of the second transformer (TF-2) were collected. A composite sample of soil on the east, south, and west sides of the second transformer was submitted for laboratory analysis; the other three samples will be held at the laboratory, pending the results of the composite sample.

PURGING AND SAMPLING

Before sampling, wells were purged of at least three casing volumes of groundwater until field parameters (temperature, pH, specific conductivity, and dissolved oxygen) stabilized. Temperature, pH, specific conductivity, and dissolved oxygen values were measured and recorded after each casing volume was removed. Field sampling parameters are presented in the attached table.

Each well was purged using a peristaltic pump and pump tubing that was connected to dedicated polyethylene tubing. As purging for each well finished, pumping rates were reduced and samples were collected directly from the pump tubing. Samples for dissolved metals were field-filtered using an in-line high-capacity 0.45 micron filter prior to field preservation with nitric acid.

Quality control consisted of collecting and analyzing one duplicate sample from MW-1. Trip blanks were submitted for VOC analysis by USEPA Method 8260+MTBE and gasoline by NWTPH-Gx.

SAMPLE HANDLING AND SHIPPING

Eight samples were placed in iced shipping containers and transported by courier to Columbia Analytical Services (CAS), Kelso, Washington, under chain of custody documentation.

Attachments: Table of Sampling Field Parameters
Water Level Survey
Field Sampling Data Sheets
Chain-of-Custody Documentation

Table
Sampling Field Parameters
Brix Maritime
May 2005

Well	Blind Code	Date Sampled	Depth to Water (feet)	Pore Volumes Purged	Gallons Removed	pH	Specific Conductance µS	Temperature °C	Dissolved Oxygen mg/L
Monitoring Wells									
MW-1	BM-050505-7	5/5/2005	20.63	3	0.9	7.04	715	15.64	0.47
MW-2	BM-050505-6	5/5/2005	21.73	3	1.5	6.16	650	15.38	1.62
MW-3	BM-050505-5	5/5/2005	21.55	3	1.5	6.38	387	13.88	0.31
MW-4	BM-050505-3	5/5/2005	9.55	3	2.7	5.60	315	14.17	0.43
MW-5	BM-050505-4	5/5/2005	21.41	3	0.6	7.72	759	15.08	0.66
MW-6	BM-050505-1	5/5/2005	19.19	3.5	3.5	6.68	543	15.30	0.23
MW-7	BM-050505-2	5/5/2005	20.20	3	2.4	6.95	432	15.71	0.30
QA/QC									
MW-1	BM-050505-8	5/5/2005	20.63	3	0.9	7.04	715	15.64	0.47

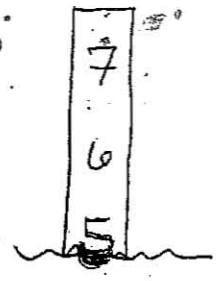
\\union\portland\Projects\BRIX\Sampling\T 2004\Brix Table_050505

Depth to Water Measurements
Brix Maritime
Portland, Oregon

cloudy, 55°F, light/med wind from SW/h

Anchor Environmental, L.L.C.				Site: Brix Maritime	
				Project No. : 990056-01	
Well	Date (MM/DD/YY)	Time (2400)	DTW (feet)	Comments	
MW-1	05/05/05	0830	20.63	slight petroleum odor; no measurable prod.	
MW-2		0932	21.73		
MW-3		0923	21.55	slight petroleum odor	
MW-4		0941	9.55	white bugs, 1-2mm in ~~leg~~ kept length	
MW-5		0916	21.41	slight petroleum odor noted when sampling, but not during water levels	
MW-6		0900	19.19		
MW-7		0907	20.20		
MW-8		0842	20.81		
River Gauge		1100		no visible sheen	

Note: DTW = Depth to Water; DTP = Depth to Product



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FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Brix Maritime **WELL ID:** MW-1
SITE ADDRESS: Portland, Oregon **BLIND ID:** BM-050505-7
DUP ID: BM-050505-8 **NA** 190

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		TEMPERATURE:	°F 60.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
5/5/05	08:30	22.15	—	20.63	—	~~0.25~~	X1	0.25
/ /	:	.	.	.	.	1.52	X3	0.74

Gal/ft = (dia./2)² x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount	Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	5/5/05	19:00	B	6	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		2	250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		✓
White Poly	/ /	:			250, 500, 1L	None	YES	NO	NA	
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	NO		✓
Red Diss. Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

Total Bottles (include duplicate count): ~~18~~ 20

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER ~~BOTTLE~~ TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8021) (8260B) (BTEX) (NWTPH-G)
AMBER - Glass	(PAH) (TPH-HCID) (NWTPH-Dx) (TPH-418.1) (Oil &Grease)
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (NO_3) (NO_2) (F)
YELLOW - Poly	(COD) (TOC) (Total PO_4) (Total Keldahl Nitrogen) (NH_3) (NO_3/NO_2)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na)
RED DISSOLVED - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica)

WATER QUALITY DATA

Purge Start Time: 18:15 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	°F Temp °C	Other	Diss O_2 (mg/l)	Water Quality
4		.	.		.		.	
3	B	0.9	7.04	715	15.64	-65.8	0.47	clear, colorless
2	B	0.6	7.07	697	15.64	-65.6	0.51	clear, colorless
1	B	0.3	7.11	694	15.63	-65.9	0.53	clear, colorless
0		0.00	.		.		.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

SAMPLER: Kelly R Tittemeier (PRINTED NAME) Kelly R Tittemeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Brix Maritime **WELL ID:** MW-2
SITE ADDRESS: Portland, Oregon **BLIND ID:** BM-050505-6
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN		?	TEMPERATURE:	°F 60. °C				

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
5/5/05	09:32	24.25	—	21.73	—	2.52	X1	0.41
/ /	:	.	.	.	.		X3	1.23

Gal/ft = (dia./2)² x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount	Volume mL	Preservative [circle]	Ice	Filter	pH	√ if used
VOA Glass	5/5/05	18:00	B	6	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		2	250, 500, 1L	(None) HCl (H_2SO_4)	YES	NO		✓
White Poly	/ /	:			250, 500, 1L	None	YES	NO	NA	
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	NO		✓
Red Diss. Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

Total Bottles (include duplicate count): 10

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8021) (8260B) (BTEX) (NWTPH-G)
AMBER - Glass	(PAH) (TPH-HCID) (NWTPH-Dx) (TPH-418.1) (Oil &Grease)
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (NO_3) (NO_2) (F)
YELLOW - Poly	(COD) (TOC) (Total PO_4) (Total Keldahl Nitrogen) (NH_3) (NO_3/NO_2)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na)
RED DISSOLVED - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica)

WATER QUALITY DATA Purge Start Time: 17:35 Pump/Bailer Inlet Depth:

Meas. [Casing]	Method § [Select A-G]	Purged (gal) [Cumulative Totals]	pH	E Cond (µS)	°F Temp °C [Circle units]	Other	Diss O_2 (mg/l)	Water Quality [Clarity, Color]
4		.	.		.		.	
3	B	1.5	6.16	1650	15.38	6.6	1.62	clear, colorless
2	B	1.0	6.08	1656	15.39	10.3	1.80	clear, colorless
1	B	0.5	6.08	1659	15.42	10.4	1.93	clear, colorless
0		0.00	.		.		.	

SAMPLER: Kelly R. Tittemeier (PRINTED NAME) Kelly R. Tittemeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Brix Maritime **WELL ID:** MW-3
SITE ADDRESS: Portland, Oregon **BLIND ID:** BM-050505-5
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY

WEATHER:	SUNNY	CLOUDY	RAIN	?	TEMPERATURE: °F 65. °C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
5/5/05	09:23	24.60	—	21.55	—	3.05	X1	0.50
/ /	:	.	.	.	.		X3	1.49

Gal/ft = (dia./2)² x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount	Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	5/5/05	17:15	B	6	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		2	250, 500, 1L	None, HCl, H_2SO_4	YES	NO		✓
White Poly	/ /	:			250, 500, 1L	None	YES	NO	NA	
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	NO		✓
Red Diss. Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

Total Bottles (include duplicate count): 10

Analysis Allowed per Bottle Type	BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
	VOA - Glass	(8021) (8260B) (BTEX) (NWTPH-G)
	AMBER - Glass	(PAH) (TPH-HCID) (NWTPH-Dx) (TPH-418.1) (Oil &Grease)
	WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (NO_3) (NO_2) (F)
	YELLOW - Poly	(COD) (TOC) (Total PO_4) (Total Keldahl Nitrogen) (NH_3) (NO_3/NO_2)
	GREEN - Poly	(Cyanide)
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na)
	RED DISSOLVED - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica)

WATER QUALITY DATA Purge Start Time: 16 : 50 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	°F Temp °C	Other	Diss O_2 (mg/l)	Water Quality
4		.	.		.		.	
3	B	1.5	6.38	387	13.88	-36.7	0.31	clear/colorless
2	B	1.0	6.24	390	13.87	-30.7	0.38	clear/colorless
1	B	0.5	6.25	389	13.90	-27.9	0.45	clear/colorless
0		0.00	.		.		.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

SAMPLER: Kelly R Tittremeier (PRINTED NAME) Kelly R Tittremeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Brix Maritime **WELL ID:** MW-4
SITE ADDRESS: Portland, Oregon **BLIND ID:** BM-050505-3
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN	?	TEMPERATURE:	°F 65. °C					

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
5/5/05	09:41	14.80	—	9.55	—	5.25	X1	0.86
/ /	:	.	.	.	.		X3	2.57

Gal/ft = (dia./2)² x 0.163	1" =	0.041	2" =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth:

Bottle Type	Date	Time	Method §	Amount	Volume mL	Preservative [circle]	Ice	Filter	pH	√ if used
VOA Glass	5/5/05	15:50	B	6	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		2	250, 500, 1L	(None) HCl (H_2SO_4)	YES	NO		✓
White Poly	/ /	:			250, 500, 1L	None	YES	NO	NA	
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	NO		✓
Red Diss. Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

Total Bottles (include duplicate count): 10

Analysis Allowed per Bottle Type	BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
	VOA - Glass	(8021) (8260B) (BTEX) (NWTPH-G)
	AMBER - Glass	(PAH) (TPH-HCID) (NWTPH-Dx) (TPH-418.1) (Oil &Grease)
	WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (NO_3) (NO_2) (F)
	YELLOW - Poly	(COD) (TOC) (Total PO_4) (Total Keldahl Nitrogen) (NH_3) (NO_3/NO_2)
	GREEN - Poly	(Cyanide)
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na)
	RED DISSOLVED - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica)

WATER QUALITY DATA

Purge Start Time: 15:10 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	°F Temp °C	Other	Diss O_2 (mg/l)	Water Quality
4		.	.		.		.	
3	B	2.7	5.60	315	14.17	21.9	0.43	clear, colorless
2	B	1.8	5.48	313	14.22	29.1	0.54	clear, colorless
1	B	0.9	5.41	314	14.50	33.7	0.74	clear, colorless *
0		0.00	.		.		.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

* Some rust-colored, floc-like material

SAMPLER: Kelly R. Tikkemeier (PRINTED NAME) Kelly R. Tikkemeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Brix Maritime **WELL ID:** MW-5
SITE ADDRESS: Portland, Oregon **BLIND ID:** BM-050505-4
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY	CLOUDY	RAIN		?				TEMPERATURE:	°F 65.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft) From Sites

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
5/5/05	09:16	22.20	—	21.41	—	0.79	X 1	~~0.13~~ KRTC
5/5/05	15:15	22.42	.	21.41	.	1.01	X 3	~~0.39~~ KRTO.

Gal/ft = (dia./2)² x 0.163	1" =	0.041	2" =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount	Volume mL	Preservative [circle]	Ice	Filter	pH	√ if used
VOA Glass	5/5/05	16:40	B	6	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		2	250, 500, 1L	None, HCl, H_2SO_4	YES	NO		✓
White Poly	/ /	:			250, 500, 1L	None	YES	NO	NA	
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	NO		✓
Red Diss. Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

Total Bottles (include duplicate count): 10

Analysis Allowed per Bottle Type	BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
	VOA - Glass	(8021) (8260B) (BTEX) (NWTPH-G)
	AMBER - Glass	(PAH) (TPH-HCID) (NWTPH-Dx) (TPH-418.1) (Oil &Grease)
	WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (NO_3) (NO_2) (F)
	YELLOW - Poly	(COD) (TOC) (Total PO_4) (Total Keldahl Nitrogen) (NH_3) (NO_3/NO_2)
	GREEN - Poly	(Cyanide)
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na)
	RED DISSOLVED - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica)

WATER QUALITY DATA Purge Start Time: 16:20 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	°F Temp °C	Other	Diss O_2 (mg/l)	Water Quality
4		.	.		.		.	
3	B	0.6	7.72	759	15.08	-90.5	0.66	clear, colorless
2	B	0.4	7.89	778	15.14	-101.8	1.16	clear, colorless
1	B	0.2	7.98	794	15.16	-105.9	1.45	clear, colorless
0		0.00	.		.		.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

SAMPLER: Kelly R. Titkemeier (PRINTED NAME) Kelly R. Titkemeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Brix Maritime **WELL ID:** MW-6
SITE ADDRESS: Portland, Oregon **BLIND ID:** BM-050505-1
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY

WEATHER:	SUNNY	CLOUDY	RAIN	?	TEMPERATURE: °F 55. °C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
5/5/05	09:00	25.05	—	19.19	—	5.86	X1	0.96
/ /	:	.	.	.	.		X3	2.87

Gal/ft = (dia./2)² x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount	Volume mL	Preservative [circle]	Ice	Filter	pH	√ [if used]
VOA Glass	5/5/05	14:15	B	6	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		2	250, 500, 1L	None, HCl, H_2SO_4	YES	NO		✓
White Poly	/ /	:			250, 500, 1L	None	YES	NO	NA	
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	NO		✓
Red Diss. Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

Total Bottles (include duplicate count): 10

Analysis Allowed per Bottle Type	BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
	VOA - Glass	(8021) (8260B) (BTEX) (NWTPH-G)
	AMBER - Glass	(PAH) (TPH-HCID) (NWTPH-Dx) (TPH-418.1) (Oil &Grease)
	WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (NO_3) (NO_2) (F)
	YELLOW - Poly	(COD) (TOC) (Total PO_4) (Total Keldahl Nitrogen) (NH_3) (NO_3/NO_2)
	GREEN - Poly	(Cyanide)
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na)
	RED DISSOLVED - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica)

WATER QUALITY DATA Purge Start Time: ~~10:10~~ KET 12:30 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	°F Temp °C	Other	Diss O_2 (mg/l)	Water Quality
** 4	B	3.5	6.68	543	15.30	-55.1	0.23	clear, colorless
3	B	3.0	8.29	533	15.04	-83.9	0.17	clear, colorless
* 2	B	2.0	8.20	552	15.07	-83.2	0.25	clear, colorless
1	B	1.0	8.66	579	15.26	-103.0	0.77	clear, colorless
0		0.00	.		.		.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

** recalibrated multiple times, still problems

problems with meter

SAMPLER: Kelly R. Tittkemeier (PRINTED NAME) Kelly R. Tittkemeier (SIGNATURE)

FIELD SAMPLING DATA SHEET

ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW Redwood Lane, Suite 110
Portland, OR 97224
Office: (503) 670-1108 Fax: (503) 670-1128

PROJECT NAME: Brix Maritime **WELL ID:** MW-7

SITE ADDRESS: Portland, Oregon **BLIND ID:** BM-050505-2

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY

WEATHER:	SUNNY	CLOUDY	RAIN	?	TEMPERATURE:	°F 60. °C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness] [Water Column] [Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW		Volume (gal)
5/5/05	09:07	25.00	—	20.20	—	4.80	X1	0.78
/ /	:	.	.	.	.		X3	2.35

Gal/ft = (dia./2)² x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	√
VOA Glass	5/5/05	~~13:50~~	B	6	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	15:00		2	250, 500, 1L	None, HCl, H_2SO_4	YES	NO		✓
White Poly	/ /	:			250, 500, 1L	None	YES	NO	NA	
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	NO		✓
Red Diss. Poly	/ /	:		1	250, 500, 1L	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

Total Bottles (include duplicate count): 10

Analysis Allowed per Bottle Type	BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
	VOA - Glass	(8021) (8260B) (BTEX) (NWTPH-G)
	AMBER - Glass	(PAH) (TPH-HCID) (NWTPH-Dx) (TPH-418.1) (Oil &Grease)
	WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (NO_3) (NO_2) (F)
	YELLOW - Poly	(COD) (TOC) (Total PO_4) (Total Keldahl Nitrogen) (NH_3) (NO_3/NO_2)
	GREEN - Poly	(Cyanide)
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na)
	RED DISSOLVED - Poly	(As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica)

WATER QUALITY DATA Purge Start Time: 14:20 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	E Cond (µS)	°F Temp °C	Other	Diss O_2 (mg/l)	Water Quality
4		.	.		.		.	
3	B	2.4	6.95	432	15.71	-50.4	0.30	clear/colorless
2	B	1.6	6.65	428	15.60	-36.7	0.60	clear/colorless
1	B	0.8	6.50	424	15.62	-28.4	0.37	clear/colorless
0		0.00	.		.		.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

SAMPLER: Kelly R. Titkemeier (PRINTED NAME) Kelly R. Titkemeier (SIGNATURE)

Appendix B
Laboratory Report

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

Columbia Analytical Services INC.
An Employee - Owned Company

July 5, 2005 Service Request No: K2503312

John Renda
Anchor Environmental
6650 SW Redwood Lane Suite 110
Portland, OR 97224

RE: BRIX Maritime-Portland, OR / 990056-01

Dear John:

Enclosed is the revised report for the sample(s) submitted to our laboratory on May 7, 2005. For your reference, these analyses have been assigned our service request number K2503312.

A Tier IIa report has been prepared.

We apologize for any inconvenience this may have created.

Please call if you have any questions. My extension is 3281.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Hh for
Abbie Spielman
Project Chemist

AS/jeb

NELAP Accredited ACIL Seal of Excellence Award
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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.

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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.

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Case Narrative

Confidential Business Information

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Anchor Environmental	Service Request No.:	K2503312
Project:	BRIX Maritime	Date Received:	5/7/05
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 II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Ten water samples were received for analysis at Columbia Analytical Services on 5/7/05. No discrepancies were noted upon initial sample inspection. 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.

Metals

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

Diesel Range Organics by NWTPH-Dx

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

Gasoline Range Organics by NWTPH-Gx

Elevated Method Reporting Limits:
Samples BM-050505-7 and BM-050505-8 required dilutions due to elevated levels of Gasoline Range Organics. The reporting limits are adjusted to reflect the dilutions.

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

Volatile Organic Compounds by EPA Method 8260B

Elevated Method Reporting Limits:
Samples BM-050505-7 and BM-050505-8 required dilutions due to elevated levels of target analyte. The reporting limits are adjusted to reflect the dilution.

Lab Control Sample Exceptions:
The advisory criterion was exceeded for the following analytes in Laboratory Control Sample (LCS) KWG0507851-3: 1, 2, 4-Trimethylbenzene, 4-Isopropyltoluene, and n-Butylbenzene. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Initial Calibration Exceptions:
The primary evaluation criterion was exceeded for one or more of the following analytes in Initial Calibrations (ICAL) ID CAL4380 and CAL4423: Chloromethane, Chloroethane, and Methylene Chloride. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the

Approved by [signature] Date 6/6/05

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mean Relative Standard Deviation (RSD) of all analyte in the calibration. The result of the mean RSD calculation was 6.6% for CAL 4380, and 5.9% for CAL4423. The calibration meets the alternative evaluation criteria. Note that CAS/Kelso policy does not allow the use of averaging if any analyte in the ICAL exceeds 30% RSD.

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

Polynuclear Aromatic Hydrocarbons by EPA Method 8270C

Elevated Method Reporting Limits:
The reporting limit is elevated for Acenaphthylene in samples BM-050505-7 and BM-050505-8. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the reporting limit. The result is flagged to indicate the matrix interference.

Initial Calibration Exceptions:
The primary evaluation criterion was exceeded for the following analytes in Initial Calibration (ICAL) ID CAL4424: Quinoline, Indeno (1, 2, 3-cd) pyrene, Dibenz (a, h) anthracene. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the mean Relative Standard Deviation (RSD) of all analytes in the calibration. The result of the mean RSD calculation was 11.3%. The calibration meets the alternative evaluation criteria. Note that CAS/Kelso policy does not allow the use of averaging if any analyte in the ICAL exceeds 30% RSD.

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

Approved by Allie [illegible] Date 6/6/05

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Chain of Custody Documentation

Columbia Analytical Services INC.
An Employee - Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: K2503312

PAGE 1 OF 2 COC #

PROJECT NAME: BRIX MARITIME - PORTLAND, OR
PROJECT NUMBER:
PROJECT MANAGER: JOHN RENDA
COMPANY/ADDRESS: ANCHOR ENVIRONMENTAL, L.L.C.
6650 SW REDWOOD LN, STE 110
CITY/STATE/ZIP: PORTLAND, OR 97224
E-MAIL ADDRESS: JRENDA@ANCHORENV.COM
PHONE #: 503-670-1108 x12 FAX#: 503-670-1128
SAMPLER'S SIGNATURE: Kelly R. Tittemeier

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☒	Hydrocarbons (*see below) Gas ☒ Diesel ☐ Oil ☐ BTEX ☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☒	Metals (Total or Dissolved) (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	NWTPH-GX				REMARKS
BM-050505-1	5/5/05	1415		H_2O	10		X	X						X	X									
-2		1500					X	X						X	X									
-3		1550					X	X						X	X									
-4		1640					X	X						X	X									
-5		1715					X	X						X	X									
-6		1800					X	X						X	X									
-7		1900					X	X						X	X									
-8		1905					X	X						X	X									
Trip Blank		NA			2		X																	
Trip Blank		NA			2															X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
✓ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # ___
Bill To: ___

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
✓ Standard (10-15 working days)
___ Provide FAX Results

___ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al (As) Sb (Ba) Be B Ca (Cd) Co (Cr) (Cu) Fe (Pb) Mg (Mn) Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al (As) Sb (Ba) Be B Ca (Cd) Co (Cr) (Cu) Fe (Pb) Mg (Mn) Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI (NORTHWEST) OTHER: ___ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Kelly R. Tittemeier 5-6-05/0830	A. Snell 5/6/05 1700		
Signature / Date/Time	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Kelly R. Tittemeier Anchor Env	CAS		
Printed Name / Firm	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

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BRIXINHOUSE000109

Columbia Analytical Services Inc.
Cooler Receipt and Preservation Form

PC HD

Project/Client Anchor Env. Work Order K250 3312

Cooler received on 5-6-05 and opened on 5-6-05 by RW

1. Were custody seals on outside of coolers? Y N
   If yes, how many and where? 2 Front
2. Were custody seals intact? Y N
3. Were signature and date present on the custody seals? Y N
4. Is the shipper's airbill available and filed? If no, record airbill number: CAS courier Y N
5. COC#

Temperature of cooler(s) upon receipt: (°C)	2.3	-0.9	1.3	
Temperature Blank: (°C)	0.4	3.8	2.0	

Were samples hand delivered on the same day as collection? ~~Y N~~

6. Were custody papers properly filled out (ink, signed, etc.)? Y N
7. Type of packing material present inserts, ice
8. **Did all bottles arrive in good condition (unbroken)?** Y N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)? Y N
10. Did all bottle labels and tags agree with custody papers? Y N
11. **Were the correct types of bottles used for the tests indicated?** Y N
12. Were all of the preserved bottles received at the lab with the appropriate pH? Y N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? Y N
14. Did the bottles originate from CAS/K or a branch laboratory? Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** ~~Y N~~
16. Was C12/Res negative? Y N

Explain any discrepancies: 2 sets of trips Rec'd 1 set "trip1" 1 set "Trip2"

RESOLUTION:

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

Confidential Business Information

Metals

Confidential Business Information

METALS

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Anchor Environmental

Service Request: K2503312

Project No.: 990056-01

Project Name: BRIX Maritime-Portland, OR

Sample No.	Lab Sample ID.
Batch QCD	K2503304-001D
Batch QCS	K2503304-001S
BM-050505-1	K2503312-001
BM-050505-1 DISS	K2503312-001 DISS
BM-050505-1D	K2503312-001D
BM-050505-1S	K2503312-001S
BM-050505-2	K2503312-002
BM-050505-2 DISS	K2503312-002 DISS
BM-050505-3	K2503312-003
BM-050505-3 DISS	K2503312-003 DISS
BM-050505-4	K2503312-004
BM-050505-4 DISS	K2503312-004 DISS
BM-050505-5	K2503312-005
BM-050505-5 DISS	K2503312-005 DISS
BM-050505-6	K2503312-006
BM-050505-6 DISS	K2503312-006 DISS
BM-050505-7	K2503312-007
BM-050505-7 DISS	K2503312-007 DISS
BM-050505-8	K2503312-008
BM-050505-8 DISS	K2503312-008 DISS
Method Blank	K2503312-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: Total and Dissolved Metals

Signature: [signature]

Date: 6/3/05

Confidential Business Information

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Anchor Environmental	Service Request:	K2503312
Project No.:	990056-01	Date Collected:	05/05/05
Project Name:	BRIX Maritime-Portland, OR	Date Received:	05/07/05
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: BM-050505-1 MW-6 Lab Code: K2503312-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	8.4		
Barium	200.8	0.05	1	5/12/05	5/25/05	66.7		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.11		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.8		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.7		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.29		
Manganese	200.8	5.00	100	5/12/05	5/26/05	4160		
Zinc	200.8	0.5	1	5/12/05	5/25/05	6.3		

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-1 DISS MW-6 Lab Code: K2503312-001 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	8.5		
Barium	200.8	0.05	1	5/12/05	5/25/05	65.7		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.07		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.9		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.5		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.05		
Manganese	200.8	5.00	100	5/12/05	5/26/05	4170		
Zinc	200.8	0.5	1	5/12/05	5/25/05	4.2		

% Solids: 0.0

Comments: Dissolved Metals

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METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-2 MW-7 Lab Code: K2503312-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	9.8		
Barium	200.8	0.05	1	5/12/05	5/25/05	40.3		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.06		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.4		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.6		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.02	U	
Manganese	200.8	2.50	50	5/12/05	5/26/05	2300		
Zinc	200.8	0.5	1	5/12/05	5/25/05	3.8		

% Solids: 0.0

Comments:

Confidential Business Information

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-2 DISS MW-7 Lab Code: K2503312-002 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	9.8		
Barium	200.8	0.05	1	5/12/05	5/25/05	39.8		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.06		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.7		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.7		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.07		
Manganese	200.8	2.50	50	5/12/05	5/26/05	2200		
Zinc	200.8	0.5	1	5/12/05	5/25/05	4.3		

% Solids: 0.0

Comments: Dissolved Metals

Confidential Business Information

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Anchor Environmental	Service Request:	K2503312
Project No.:	990056-01	Date Collected:	05/05/05
Project Name:	BRIX Maritime-Portland, OR	Date Received:	05/07/05
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: BM-050505-3 MW-4 Lab Code: K2503312-003

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	0.5	U	
Barium	200.8	0.05	1	5/12/05	5/25/05	24.7		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.06		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.3		
Copper	200.8	0.1	1	5/12/05	5/25/05	1.1		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.02	U	
Manganese	200.8	2.50	50	5/12/05	5/26/05	2160		
Zinc	200.8	0.5	1	5/12/05	5/25/05	3.8		

% Solids: 0.0

Comments:

Confidential Business Information

METALS

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INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-3 DISS MW-4 Lab Code: K2503312-003 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	0.5	U	
Barium	200.8	0.05	1	5/12/05	5/25/05	24.1		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.05		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.6		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.8		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.02	U	
Manganese	200.8	2.50	50	5/12/05	5/26/05	2330		
Zinc	200.8	0.5	1	5/12/05	5/25/05	3.4		

% Solids: 0.0

Comments: Dissolved Metals

Confidential Business Information

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Anchor Environmental	Service Request:	K2503312
Project No.:	990056-01	Date Collected:	05/05/05
Project Name:	BRIX Maritime-Portland, OR	Date Received:	05/07/05
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: BM-050505-4 MW-5 Lab Code: K2503312-004

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	13.4		
Barium	200.8	0.05	1	5/12/05	5/25/05	86.5		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.07		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.8		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.5		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.02	U	
Manganese	200.8	5.00	100	5/12/05	5/26/05	5240		
Zinc	200.8	0.5	1	5/12/05	5/25/05	3.6		

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-4 DISS MW-5 Lab Code: K2503312-004 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	14.1		
Barium	200.8	0.05	1	5/12/05	5/25/05	85.8		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.06		
Chromium	200.8	0.2	1	5/12/05	5/25/05	1.1		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.5		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.09		
Manganese	200.8	5.00	100	5/12/05	5/26/05	5360		
Zinc	200.8	0.5	1	5/12/05	5/25/05	2.7		

% Solids: 0.0

Comments: Dissolved Metals

Confidential Business Information

METALS

INORGANIC ANALYSIS DATA SHEET

Client:	Anchor Environmental	Service Request:	K2503312
Project No.:	990056-01	Date Collected:	05/05/05
Project Name:	BRIX Maritime-Portland, OR	Date Received:	05/07/05
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: BM-050505-5 MW-3 Lab Code: K2503312-005

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	6.0		
Barium	200.8	0.05	1	5/12/05	5/25/05	40.6		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.04		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.7		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.2		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.02		
Manganese	200.8	2.50	50	5/12/05	5/26/05	1580		
Zinc	200.8	0.5	1	5/12/05	5/25/05	3.4		

% Solids: 0.0

Comments:

Confidential Business Information

METALS

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INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-5 DISS MW-3 Lab Code: K2503312-005 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	6.4		
Barium	200.8	0.05	1	5/12/05	5/25/05	39.6		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.04		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.7		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.3		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.05		
Manganese	200.8	2.50	50	5/12/05	5/26/05	1640		
Zinc	200.8	0.5	1	5/12/05	5/25/05	1.5		

% Solids: 0.0

Comments: Dissolved Metals

Confidential Business Information

METALS

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INORGANIC ANALYSIS DATA SHEET

Client:	Anchor Environmental	Service Request:	K2503312
Project No.:	990056-01	Date Collected:	05/05/05
Project Name:	BRIX Maritime-Portland, OR	Date Received:	05/07/05
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: BM-050505-6 MW-2 Lab Code: K2503312-006

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	0.7		
Barium	200.8	0.05	1	5/12/05	5/25/05	68.1		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.09		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.9		
Copper	200.8	0.1	1	5/12/05	5/25/05	3.3		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.52		
Manganese	200.8	1.00	20	5/12/05	5/26/05	905		
Zinc	200.8	0.5	1	5/12/05	5/25/05	5.9		

% Solids: 0.0

Comments:

METALS

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INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-6 DISS MW-2 Lab Code: K2503312-006 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	0.5		
Barium	200.8	0.05	1	5/12/05	5/25/05	63.0		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.10		
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.8		
Copper	200.8	0.1	1	5/12/05	5/25/05	2.3		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.09		
Manganese	200.8	1.00	20	5/12/05	5/26/05	1270		
Zinc	200.8	0.5	1	5/12/05	5/25/05	4.4		

% Solids: 0.0

Comments: Dissolved Metals

Confidential Business Information

METALS

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INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-7 MW-1 Lab Code: K2503312-007

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	8.9		
Barium	200.8	0.05	1	5/12/05	5/25/05	99.8		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.06		
Chromium	200.8	0.2	1	5/12/05	5/25/05	1.0		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.7		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.08		
Manganese	200.8	5.00	100	5/12/05	5/26/05	4190		
Zinc	200.8	0.5	1	5/12/05	5/25/05	2.0		

% Solids: 0.0

Comments:

Confidential Business Information

METALS

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INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-7 DISS MW-1 Lab Code: K2503312-007 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	8.8		
Barium	200.8	0.05	1	5/12/05	5/25/05	99.0		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.07		
Chromium	200.8	0.2	1	5/12/05	5/25/05	1.4		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.5		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.06		
Manganese	200.8	5.00	100	5/12/05	5/26/05	4280		
Zinc	200.8	0.5	1	5/12/05	5/25/05	2.4		

% Solids: 0.0

Comments: Dissolved Metals

Confidential Business Information

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client:	Anchor Environmental	Service Request:	K2503312
Project No.:	990056-01	Date Collected:	05/05/05
Project Name:	BRIX Maritime-Portland, OR	Date Received:	05/07/05
Matrix:	WATER	Units:	µG/L
		Basis:	NA

Sample Name: BM-050505-8 MW-1 (DUP) Lab Code: K2503312-008

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	9.1		
Barium	200.8	0.05	1	5/12/05	5/25/05	100		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.08		
Chromium	200.8	0.2	1	5/12/05	5/25/05	1.0		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.9		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.09		
Manganese	200.8	5.00	100	5/12/05	5/26/05	4250		
Zinc	200.8	0.5	1	5/12/05	5/25/05	2.2		

% Solids: 0.0

Comments:

Confidential Business Information

METALS

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INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected: 05/05/05
Date Received: 05/07/05
Units: µG/L
Basis: NA

Sample Name: BM-050505-8 DISS MW-1 (DUP) Lab Code: K2503312-008 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	8.7		
Barium	200.8	0.05	1	5/12/05	5/25/05	95.8		
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.06		
Chromium	200.8	0.2	1	5/12/05	5/25/05	1.3		
Copper	200.8	0.1	1	5/12/05	5/25/05	0.6		
Lead	200.8	0.02	1	5/12/05	5/25/05	0.02	U	
Manganese	200.8	5.00	100	5/12/05	5/26/05	4140		
Zinc	200.8	0.5	1	5/12/05	5/25/05	1.7		

% Solids: 0.0

Comments: Dissolved Metals

Confidential Business Information

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Anchor Environmental
Project No.: 990056-01
Project Name: BRIX Maritime-Portland, OR
Matrix: WATER

Service Request: K2503312
Date Collected:
Date Received:
Units: µG/L
Basis: NA

Sample Name: Method Blank
Lab Code: K2503312-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	200.8	0.5	1	5/12/05	5/25/05	0.5	U	
Barium	200.8	0.05	1	5/12/05	5/25/05	0.05	U	
Cadmium	200.8	0.02	1	5/12/05	5/25/05	0.02	U	
Chromium	200.8	0.2	1	5/12/05	5/25/05	0.2	U	
Copper	200.8	0.1	1	5/12/05	5/25/05	0.1	U	
Lead	200.8	0.02	1	5/12/05	5/25/05	0.02	U	
Manganese	200.8	0.05	1	5/12/05	5/26/05	0.05	U	
Zinc	200.8	0.5	1	5/12/05	5/25/05	0.5	U	

% Solids: 0.0

Comments:

Confidential Business Information

METALS
- 5a -
SPIKE SAMPLE RECOVERY

Client: Anchor Environmental
Service Request: K2503312
Project No.: 990056-01
Units: µg/L
Project Name: BRIX Maritime-Portland, OR
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: Batch QCS
Lab Code: K2503304-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	70 - 130	23.1		2.3		20.0	104		200.8
Barium	70 - 130	57.9		35.2		20.0	114		200.8
Cadmium	70 - 130	19.5		0.16		20.0	97		200.8
Chromium	70 - 130	20.7		0.4		20.0	102		200.8
Copper	70 - 130	24.9		5.4		20.0	98		200.8
Lead	70 - 130	19.0		0.17		20.0	94		200.8
Manganese		442		362		20.0	400		200.8
Zinc	70 - 130	31.9		12.0		20.0	100		200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Form V (PART 1) - IN

Confidential Business Information

METALS
- 5a -
SPIKE SAMPLE RECOVERY

Client: Anchor Environmental
Service Request: K2503312
Project No.: 990056-01
Units: µg/L
Project Name: BRIX Maritime-Portland, OR
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: BM-050505-1S
Lab Code: K2503312-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	70 - 130	28.0		8.4		20.0	98		200.8
Barium	70 - 130	86.8		66.7		20.0	101		200.8
Cadmium	70 - 130	20.0		0.11		20.0	99		200.8
Chromium	70 - 130	22.0		0.8		20.0	106		200.8
Copper	70 - 130	19.4		0.7		20.0	94		200.8
Lead	70 - 130	19.1		0.29		20.0	94		200.8
Manganese		4250		4160		20.0	400		200.8
Zinc	70 - 130	24.5		6.3		20.0	91		200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Confidential Business Information

METALS
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DUPLICATES

Client: Anchor Environmental
Service Request: K2503312
Project No.: 990056-01
Units: µg/L
Project Name: BRIX Maritime-Portland, OR
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name:Batch QCD
Lab Code: K2503304-001D

Analyte	Control Limit(%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		2.3		2.6		13		200.8
Barium	20	35.2		38.0		8		200.8
Cadmium	20	0.16		0.18		13		200.8
Chromium		0.4		0.4		13		200.8
Copper	20	5.4		6.0		10		200.8
Lead	20	0.17		0.16		3		200.8
Manganese	20	362		403		11		200.8
Zinc	20	12.0		12.8		6		200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Form VI - IN

Confidential Business Information

METALS
- 6 -
DUPLICATES

Client: Anchor Environmental
Service Request: K2503312
Project No.: 990056-01
Units: µg/L
Project Name: BRIX Maritime-Portland, OR
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: BM-050505-1D
Lab Code: K2503312-001D

Analyte	Control Limit(%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic	20	8.4		8.3		2		200.8
Barium	20	66.7		65.8		1		200.8
Cadmium	20	0.11		0.09		18		200.8
Chromium		0.8		0.8		1		200.8
Copper	20	0.7		0.6		4		200.8
Lead	20	0.29		0.27		8		200.8
Manganese	20	4160		4190		1		200.8
Zinc	20	6.3		5.9		6		200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

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LABORATORY CONTROL SAMPLE

Client: Anchor Environmental Service Request: K2503312

Project No.: 990056-01

Project Name: BRIX Maritime-Portland, OR

Aqueous LCS Source: Inorganic Ventures Solid LCS Source:

Analyte	Aqueous ug/L True	Aqueous ug/L Found	Aqueous ug/L %R	Solid (mg/kg) True	Solid (mg/kg) Found	C	Limits		%R
Arsenic	20.0	20.1	100						
Barium	20.0	20.6	103						
Cadmium	20.0	20.9	104						
Chromium	20.0	20.3	102						
Copper	20.0	20.4	102						
Lead	20.0	19.7	99						
Manganese	20.0	21.0	105						
Zinc	20.0	20.4	102						