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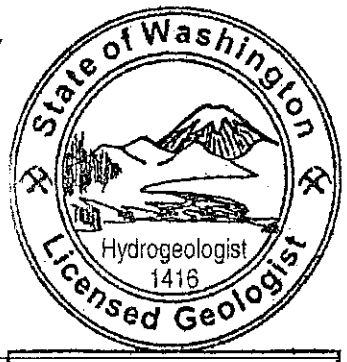
TECHNICAL MEMORANDUM

COPY

DATE: May 26, 2011

FROM: Brad Berggren, PE, LHG – Saga Environmental and Engineering, Inc.

RE: Exterior Wood Groundwater Monitoring Review



Brad J. Berggren

Background

Exterior Wood, Inc. built and has continuously operated a wood treatment facility in Washougal, Washington (the facility) since 1977. The facility's operations consist of treating raw lumber and plywood in four pressurized retorts. Between the fall of 1992 and the fall of 1995, three environmental assessments of soil and groundwater quality were completed at the facility. The 1995 assessment activities followed the discovery, and reporting to USEPA and the Washington Department of Ecology, of a condition on the drip pad that may have caused a release of diluted chromated copper arsenic (CCA) solution to the subsurface. In response to the discovery, Exterior Wood completed several actions in 1995, including the source removal via excavation and off-site disposal of over 200 cubic yards of contaminated soil, installation of groundwater monitoring wells and rehabilitation of the drip pad to meet new Subpart W drip pad regulations.

The assessment activities completed between 1992 and 1995 identified soil and groundwater beneath the drip pad containing detectable concentrations of chromium, copper, and arsenic. Exterior Wood discontinued the primary use of the chromated copper arsenic (CCA) wood treatment solution in approximately 2001, except for *de minimis* use in agricultural applications. An arsenic and chromium free alternative treating solution has been used since 2001 (CA-C). In conjunction with this primary treatment solution change, was a change in treatment operations to limit the remaining *de minimis* CCA treatment operations to the west end of the drip pad. Since the assessment activities 1995, Exterior Wood has continued to monitor groundwater quality at the facility.

Groundwater Monitoring

Nine groundwater monitoring wells are installed at the facility, primarily around the drip pad in up-gradient, down-gradient and side-gradient locations to facilitate evaluation of groundwater quality in the vicinity of the drip pad (see attached Figure 1, as well as Figure 2 Groundwater Elevations March 29, 2011; Groundwater Monitoring and Sampling Report – March 2011, GeoEngineers, Inc. April 22, 2011).

Groundwater monitoring has been conducted generally on a quarterly to semi-annual basis since 1995. GeoEngineers, Inc. has conducted the groundwater sampling since 1998. Until 2001, groundwater samples were submitted for analysis of both total and dissolved arsenic, chromium and copper. Currently, groundwater monitoring is focused on analysis of dissolved arsenic, chromium and copper.

Groundwater samples are collected utilizing a low-flow sampling technique, and field measurements of dissolved oxygen, oxidation-reduction potential, temperature, pH, specific conductivity and depth to water are also recorded for each well during each sampling event.

Hydrogeology

The facility is on a parcel of land in an industrial area of the Port of Camas/Washougal. The facility is bordered by Index Street to the south and southwest and the Burke's Paint Factory Outlet to the east. The Columbia River runs south of Index Street and is separated from Index Street by a levee which parallels the present course of the river. The Gibbons Creek Remnant Channel, a slough associated with the Columbia River system, is adjacent to the north/northwest perimeter of the facility. The water level of the Gibbons Creek Remnant Channel, and its discharge into the Columbia River, is regulated by a pumping station located approximately 200 feet west of the facility near the terminus of the Gibbons Creek Remnant Channel at Index Street.

Unconsolidated materials observed beneath the facility include a mixture of fine sands and silts. The upper 2 to 9 feet of materials generally consist of dark gray to brown poorly-graded fine sand to silty sand. Generally below these upper fine to silty sands are dark gray to brown are sandy silt and silt, which grades into clayey silt with increasing depth.

The observed depth to groundwater beneath the facility ranges from approximately 1 to 12 feet below ground surface. Review of the groundwater elevation data indicates that groundwater flow appears consistent to the north, with minor components of flow to the northwest and northeast (see attached Figure 2 Groundwater Elevations January 11, 2011; Groundwater Monitoring and Sampling Report – January 2011, GeoEngineers, Inc. January 31, 2011 and Table 1).

Based on the historic data, shallow groundwater at the facility appears to flow from the Columbia River northward beneath the drip pad and the remainder of the facility and discharge to the Gibbons Creek Remnant Channel. Assuming a range of $1x10^{-3}$ to $1x10^{-4}$ cm/sec for the hydraulic conductivity of the silty subsurface materials, a groundwater flow gradient range of 0.0078 ft/ft (1995 reported value) to 0.0135 ft/ft (approximate 2011 value), and an effectively porosity of 30%, average groundwater flow velocities are estimated to range between 2.5 and 50 ft/ yr. The effective migration rate of arsenic, chromium, and copper-impacted groundwater from beneath the drip pad is expected to be near the lower end of this range.

One exception to the generally consistent northward groundwater flow pattern is an apparent area of lower than expected groundwater level in the vicinity of Well MW-6. Monitoring Well MW-6 is the closest monitoring well to the groundwater supply well utilized by Exterior Wood to make up a portion of their process water (see attached Figures 1 and 2). The lower than expected groundwater levels consistently observed in Well MW-6 may reflect an influence by groundwater extraction from the water supply well.

Groundwater Quality Results

During the most recent groundwater monitoring events (January and March 2011);

- Dissolved arsenic was detected in groundwater samples from all wells, except Wells MW-2 and MW-9 during the January 2011 sampling event,
- Dissolved chromium was detected in groundwater samples from only three (3) monitoring wells (MW-1 and MW-6 both events, and MW-9 in the March 2011 event), and
- Dissolved copper was detected in groundwater from only four (4) monitoring wells (MW-1 and MW-2 both events; MW-4 and MW-9 only one event).

These January and March 2011 data are generally similar to the data from previous monitoring events. The concentrations of dissolved arsenic, chromium, and copper reported in recent and historic groundwater samples from the monitoring wells at the facility are summarized on the attached Figure 3 and Table 2 (Groundwater Monitoring and Sampling Report – March 2011, GeoEngineers, Inc. April 22, 2011).

Groundwater concentrations of arsenic and chromium in samples collected from down-gradient Monitoring Wells MW-3, MW-8, MW-9 and MW-10 have remained below MTCA Method A Cleanup Levels for Groundwater. In addition, concentrations of arsenic, chromium and copper in groundwater from down-gradient Monitoring Wells MW-3, MW-8, MW-9 and MW-10 have remained relatively stable since groundwater monitoring began in 1995 or 1997. Review of groundwater quality data from these

down-gradient monitoring wells does not indicate a release to the subsurface of arsenic, chromium, and/or copper from the drip pad since the rehabilitation in 1995.

Monitoring Well MW-11, as well as Monitoring Well MW-4, are up-gradient and adjacent to the drip pad. Dissolved arsenic concentrations in groundwater samples from up-gradient Well MW-11 continue to exceed (and have exceeded since the well's installation in 1997) the Ecology Model Toxics Control Act (MTCA) Method A Cleanup Levels for Groundwater. In addition, up-gradient Well MW-4 was installed in 1993 prior to rehabilitation of the drip pad and dissolved arsenic concentrations in groundwater samples collected from that well have consistently (until just the last year) exceeded the Ecology Model Toxics Control Act (MTCA) Method A Cleanup Levels for Groundwater. The concentrations of arsenic, chromium, and copper observed in groundwater samples from these up-gradient wells are consistent with other groundwater samples collected during the assessment activities completed between 1993 and 1995 and are believed to be related to releases to the subsurface prior to the drip pad rehabilitation in late 1995.

Monitoring Wells MW-6, MW-1 and MW-2 are located along the eastern edge of the Exterior Wood property. Well MW-6 is located immediately adjacent to the eastern end of Retort 3 and is down-gradient of the extreme eastern end of the drip pad. In addition, based upon review of historical assessment reports from the early 1990's, Well MW-6 is positioned adjacent to a portion of the drip pad where some of the greatest chromium concentrations in soil were observed prior to rehabilitation of the drip pad in 1995. Chromium concentrations observed in groundwater samples collected from Monitoring Well MW-6 appear to have increased over the last two (2) years. The elevated chromium concentrations observed over the last two (2) years may be related to generally higher groundwater elevations also observed in this well over the past two years. The cause of the generally higher groundwater elevations over the past two years is uncertain, but may be related to a relative decline in Exterior Wood's wood treating operations over the last few years. This decline in wood treating operations in recent years may have lead to a reduction in groundwater extraction from the groundwater supply well (i.e., reduced need for groundwater due to reduced quantities of process water associated with decline in wood treating) which could have lead to a rebound (or rise) in nearby groundwater levels. Considering the subsurface contamination observed in the vicinity of Well MW-6 prior to rehabilitation of the drip pad in 1995 and discontinued use of CCA treating solutions (other than de-minimus use at the opposite end of the drip pad) in 2001, the recent elevated chromium concentrations observed in groundwater from Well MW-6 are believed to be related to historic releases to the subsurface and not indicative of a recent release from the drip pad.

Monitoring Wells MW-1 and MW-2 are generally down-gradient to side-gradient of Well MW-6 and the extreme eastern end of the drip pad. Concentrations of arsenic, chromium, and copper observed in groundwater samples from Well MW-2 have remained relatively stable and consistently below MTCA Method A Cleanup Levels for Groundwater. Dissolved arsenic concentrations at or above the MTCA Method A

Cleanup Levels for Groundwater have been irregularly detected in groundwater from Well MW-1 since 1997. Arsenic concentrations, and to a lesser extent chromium and copper concentrations, observed in groundwater samples from Well MW-1 appear elevated over the last year. It is unclear if the recent elevated arsenic concentrations observed over the last year in Well MW-1 represent an increasing concentration trend or represent another temporary fluctuation similar to those observed in 2004 and 2006. In either case, the observed increase in arsenic concentrations in groundwater from this well are not believed to indicate a recent release from the drip pad (other closer and more directly down-gradient monitoring wells have not indicated similar arsenic concentration changes, including Well MW-6 which is also positioned at the eastern end of the drip pad). The recent and historic arsenic concentrations observed in groundwater from Well MW-1 may be representative of groundwater migration from the immediately adjacent Burke's Paint Factory Outlet property (during the assessment activities completed in 1995, it was reported that dissolved arsenic had been detected in groundwater samples collected on this adjacent property).

Conclusions

The groundwater monitoring program implemented by Exterior Wood since 1995 has been effective in monitoring groundwater conditions at the facility. Review of the groundwater monitoring data indicates the actions completed in 1995, including source removal and rehabilitation of the drip pad, and subsequent process changes have been effective in limiting historic subsurface impacts to the vicinity of the drip pad.

The January and March 2011 groundwater monitoring data are generally similar to the data from previous monitoring events, except for the increased dissolved chromium concentration in the groundwater samples from Well MW-6 and the generally greater arsenic concentrations observed in samples collected from MW-1 over the last year. Over the past year, only the dissolved concentrations of arsenic in groundwater samples from Wells MW-1 (side-gradient to down-gradient) and MW-11 (up-gradient) and the dissolved concentrations of chromium in groundwater sampled from Well MW-6 (immediately adjacent and down-gradient) have exceeded the Ecology Model Toxics Control Act (MTCA) Method A Cleanup Levels for Groundwater.

Based upon a review of the available groundwater monitoring and historical assessment data, the elevated concentrations of arsenic and chromium observed in recent groundwater samples from two of the nine wells located around the drip pad (i.e., MW-1 and MW-6) are believed to be the result of historical releases to the subsurface (i.e., releases prior to rehabilitation of the drip pad in late 1995 or in the case of MW-1 possibly the adjacent property). The elevated arsenic and chromium concentrations observed in these wells located near the extreme east end of the drip pad and facility are not believed to be associated with releases after the drip pad was rehabilitated in 1995 for the following reasons;

- Elevated concentrations of arsenic, chromium, and copper were detected in subsurface soil and groundwater during the assessments completed between 1992 and 1995. In addition, concentrations of these metals in recent groundwater samples are similar to those observed in groundwater samples from the early 1990's

- Two of the monitoring wells (i.e., MW-4 and MW-11) with the highest concentrations of arsenic in groundwater samples are in an up-gradient groundwater flow direction from the drip pad and reflect historic groundwater conditions prior to rehabilitation of the drip pad in 1995

- Exterior Wood has not utilized a chromated copper arsenic (CCA) wood treatment solution since 2001, except for *de minimis* agricultural applications limited to the west end of the drip pad

- Other groundwater monitoring wells that are closer and more directly down-gradient of drip pad areas with documented historic soil and groundwater contamination (pre-1995 drip pad rehabilitation) and/or areas of post-2001 de-minimus CCA treatment operations (west end of the drip pad) have not indicated similar arsenic concentration changes

- Monitoring Well MW-6 is the only well with groundwater samples containing chromium concentrations exceeding the MTCA Method A Cleanup Levels for Groundwater. This well is located in an area that the historical assessment sampling in the early 1990's observed soil samples with chromium concentrations greater than many other areas beneath the former drip pad.

- Collection and physical testing of impervious liner material samples from the drip pad in 2009 did not indicate any physical or chemical damage that would affect its ability to sufficiently protect the subsurface.

Recommendations

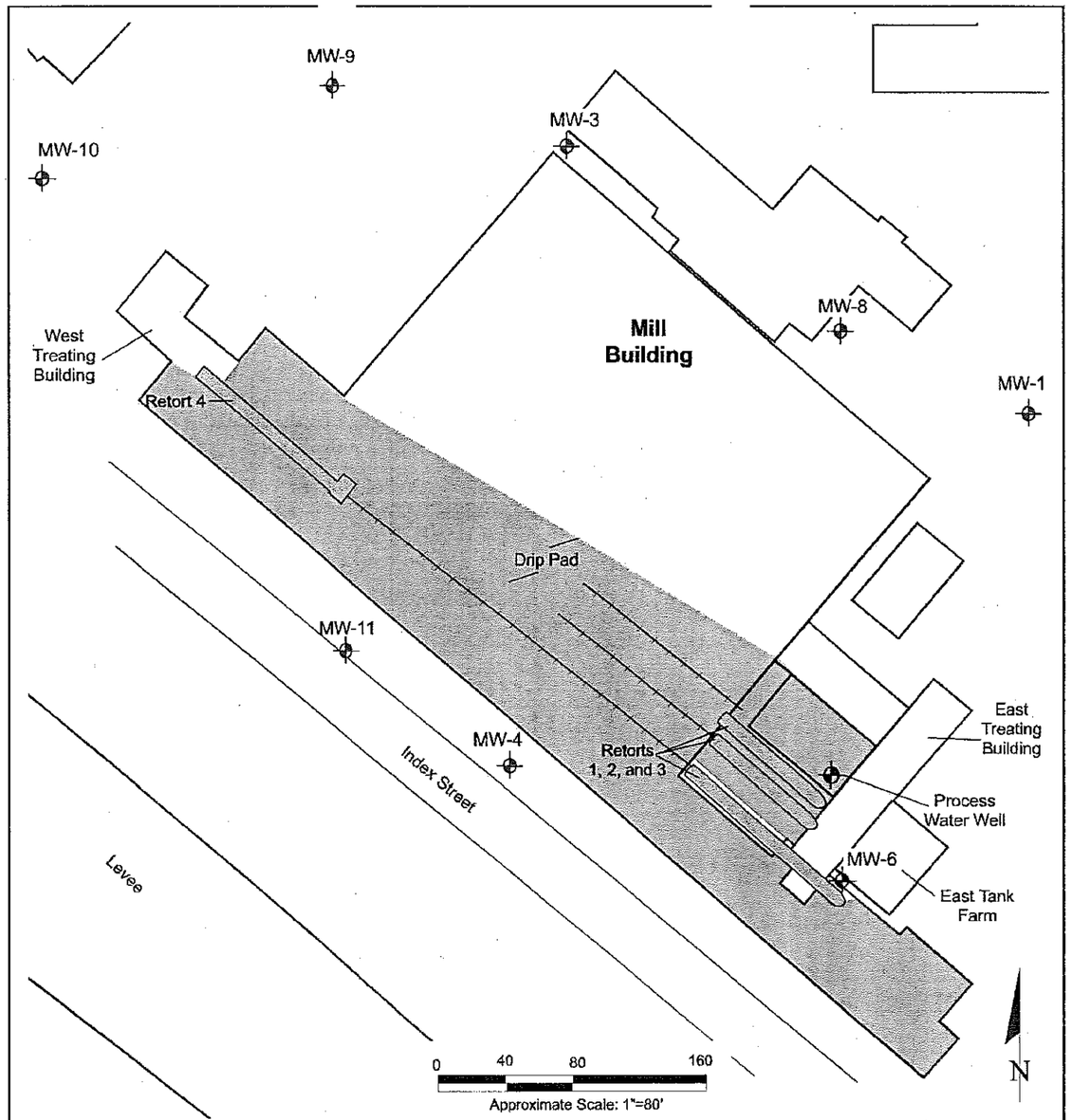
After review of the existing groundwater monitoring data, Saga Environmental recommends that groundwater monitoring of dissolved arsenic and chromium continue for all facility monitoring wells on a quarterly basis during the next year to further evaluate concentration and water level trends over time. In particular, quarterly monitoring over the next year is intended to further evaluate the recent elevated concentrations of arsenic and chromium observed in Monitoring Wells MW-1 and MW-6, respectively. After a year, Saga Environmental recommends that the frequency of groundwater monitoring for dissolved arsenic and chromium be reassessed. However, copper concentrations in groundwater samples have been monitored for over 10 years and generally have been below laboratory reporting limits for both historical and more recent

sampling events. Consequently, it is recommended that the frequency of groundwater sample analysis for copper be reduced to an annual event.

It is also recommended that groundwater samples continue to be collected utilizing a low-flow sampling technique, and field measurements of dissolved oxygen, oxidation-reduction potential, temperature, pH, specific conductivity and depth to water also be recorded for each well during each sampling event.

In addition, research into the construction and operational details of the groundwater supply well present at the facility is recommended. Collection of a water sample from this supply well is also recommended during the next groundwater monitoring sampling event. The intent of this effort is to better understand the well's potential influence on groundwater levels, groundwater quality, and groundwater flow in the vicinity of the drip pad.

ATTACHMENTS



LEGEND

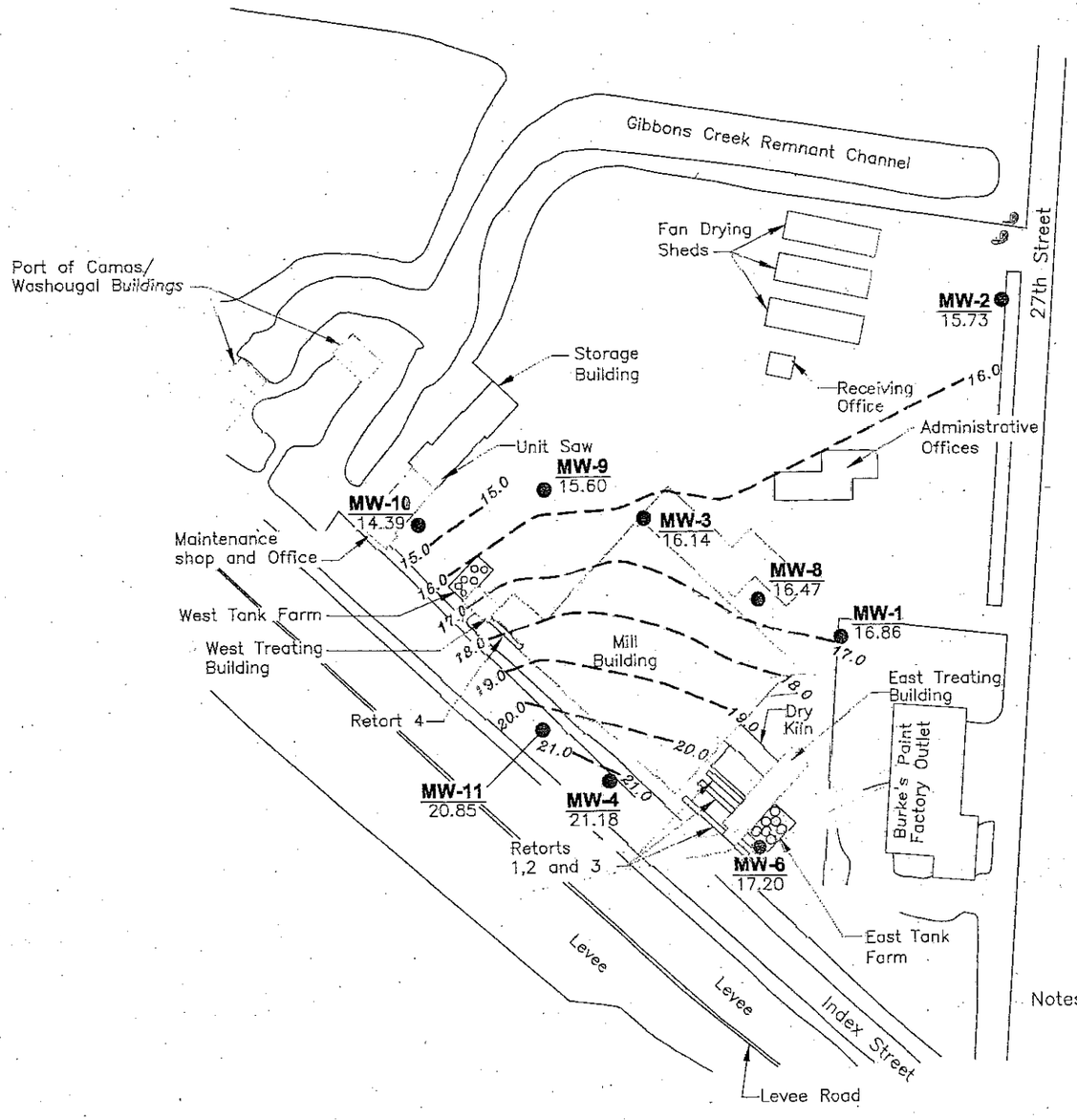
- Structure
- Retort
- Drip Pad
- Tram Track
- Approximate Monitoring Well Location
- Approximate Process Water Supply Well Location

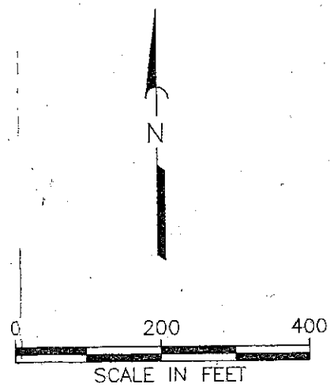
Sources:
- Exterior Wood 2009
- Google Earth 2009
- GeoEngineers 2011

Figure 1
Drip Pad and Monitoring Well Locations

Exterior Wood
2685 Index Street
Washougal, Washington

Project No. 098301.00 May 2011





EXPLANATION:

MW-1 16.86 ●	MONITORING WELL GROUNDWATER ELEVATION IN FEET ON 01/11/11
15.0 – – – –	INFERRED GROUNDWATER CONTOUR ELEVATION.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. Elevations are measured from an arbitrary site datum.
4. MW-6 not used to calculated groundwater contours.

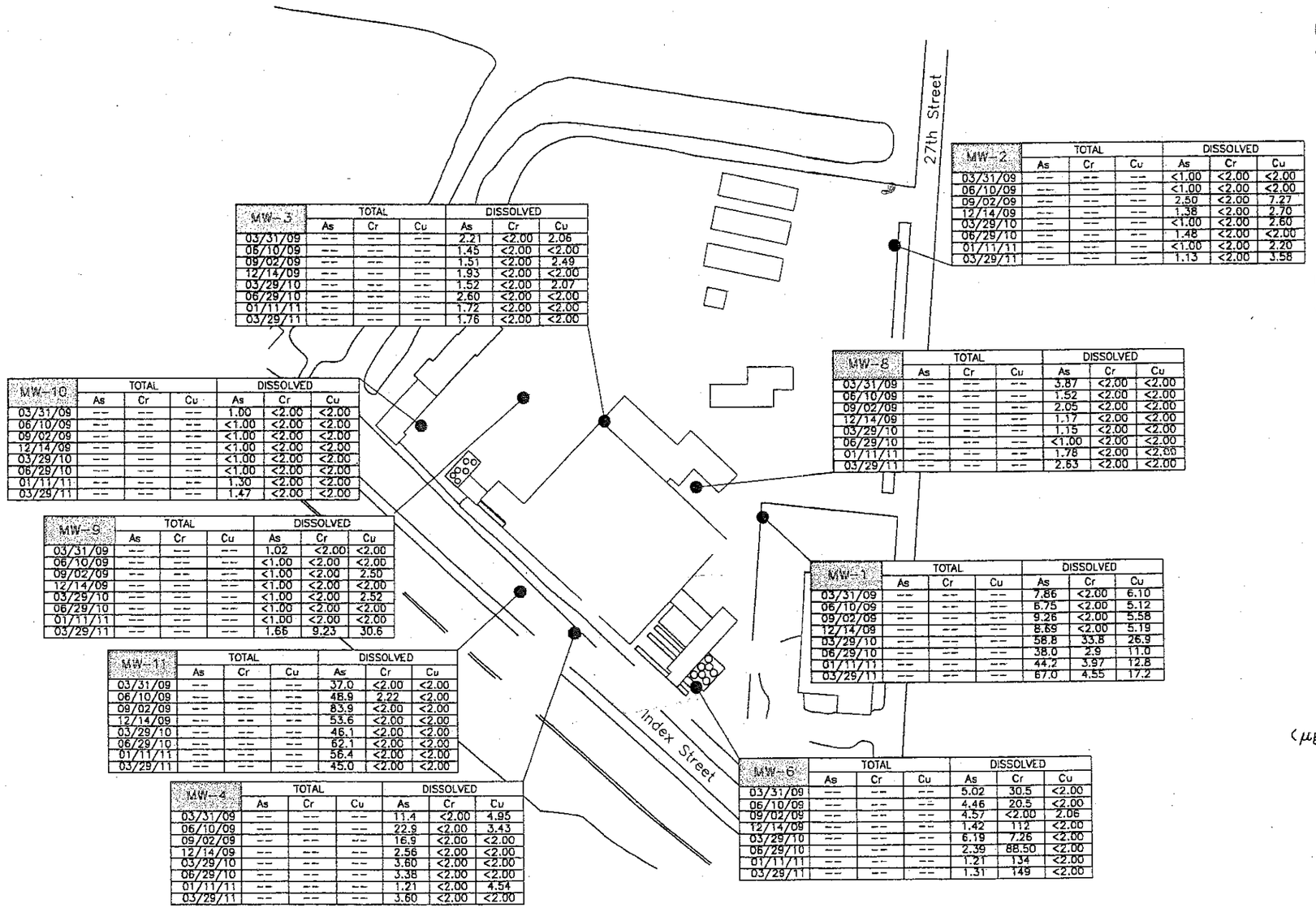
Reference: Drawing entitled, "Potentiometric Surface, July 22, 1997," dated 10/03/97, provided by Geraghty & Miller, Inc.

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GROUNDWATER ELEVATIONS
JANUARY 11, 2011

FIGURE 2

PORT:JH : SGY
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MW-3	TOTAL			DISSOLVED		
	As	Cr	Cu	As	Cr	Cu
03/31/09	--	--	--	2.21	<2.00	2.06
06/10/09	--	--	--	1.45	<2.00	<2.00
09/02/09	--	--	--	1.51	<2.00	2.49
12/14/09	--	--	--	1.93	<2.00	<2.00
03/29/10	--	--	--	1.52	<2.00	2.07
06/29/10	--	--	--	2.60	<2.00	<2.00
01/11/11	--	--	--	1.72	<2.00	<2.00
03/29/11	--	--	--	1.76	<2.00	<2.00

MW-2	TOTAL			DISSOLVED		
	As	Cr	Cu	As	Cr	Cu
03/31/09	--	--	--	<1.00	<2.00	<2.00
06/10/09	--	--	--	<1.00	<2.00	<2.00
09/02/09	--	--	--	2.50	<2.00	7.27
12/14/09	--	--	--	1.38	<2.00	2.70
03/29/10	--	--	--	<1.00	<2.00	2.60
06/29/10	--	--	--	1.48	<2.00	<2.00
01/11/11	--	--	--	<1.00	<2.00	2.20
03/29/11	--	--	--	1.13	<2.00	3.58

MW-10	TOTAL			DISSOLVED		
	As	Cr	Cu	As	Cr	Cu
03/31/09	--	--	--	1.00	<2.00	<2.00
06/10/09	--	--	--	<1.00	<2.00	<2.00
09/02/09	--	--	--	<1.00	<2.00	<2.00
12/14/09	--	--	--	<1.00	<2.00	<2.00
03/29/10	--	--	--	<1.00	<2.00	<2.00
06/29/10	--	--	--	<1.00	<2.00	<2.00
01/11/11	--	--	--	1.30	<2.00	<2.00
03/29/11	--	--	--	1.47	<2.00	<2.00

MW-8	TOTAL			DISSOLVED		
	As	Cr	Cu	As	Cr	Cu
03/31/09	--	--	--	3.87	<2.00	<2.00
06/10/09	--	--	--	1.52	<2.00	<2.00
09/02/09	--	--	--	2.05	<2.00	<2.00
12/14/09	--	--	--	1.17	<2.00	<2.00
03/29/10	--	--	--	1.15	<2.00	<2.00
06/29/10	--	--	--	<1.00	<2.00	<2.00
01/11/11	--	--	--	1.78	<2.00	<2.00
03/29/11	--	--	--	2.63	<2.00	<2.00

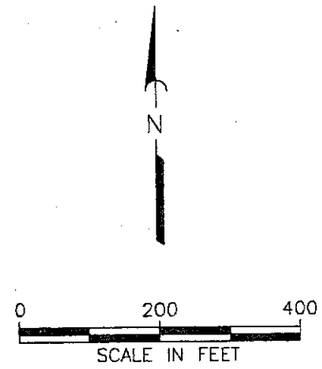
MW-9	TOTAL			DISSOLVED		
	As	Cr	Cu	As	Cr	Cu
03/31/09	--	--	--	1.02	<2.00	<2.00
06/10/09	--	--	--	<1.00	<2.00	<2.00
09/02/09	--	--	--	<1.00	<2.00	2.50
12/14/09	--	--	--	<1.00	<2.00	<2.00
03/29/10	--	--	--	<1.00	<2.00	2.52
06/29/10	--	--	--	<1.00	<2.00	<2.00
01/11/11	--	--	--	<1.00	<2.00	<2.00
03/29/11	--	--	--	1.66	9.23	30.6

MW-1	TOTAL			DISSOLVED		
	As	Cr	Cu	As	Cr	Cu
03/31/09	--	--	--	7.86	<2.00	6.10
06/10/09	--	--	--	6.75	<2.00	5.12
09/02/09	--	--	--	9.26	<2.00	5.58
12/14/09	--	--	--	8.69	<2.00	5.19
03/29/10	--	--	--	58.8	33.8	26.9
06/29/10	--	--	--	38.0	2.9	11.0
01/11/11	--	--	--	44.2	3.97	12.8
03/29/11	--	--	--	67.0	4.55	17.2

MW-11	TOTAL			DISSOLVED		
	As	Cr	Cu	As	Cr	Cu
03/31/09	--	--	--	37.0	<2.00	<2.00
06/10/09	--	--	--	48.9	2.22	<2.00
09/02/09	--	--	--	83.9	<2.00	<2.00
12/14/09	--	--	--	53.6	<2.00	<2.00
03/29/10	--	--	--	46.1	<2.00	<2.00
06/29/10	--	--	--	62.1	<2.00	<2.00
01/11/11	--	--	--	56.4	<2.00	<2.00
03/29/11	--	--	--	45.0	<2.00	<2.00

MW-6	TOTAL			DISSOLVED		
	As	Cr	Cu	As	Cr	Cu
03/31/09	--	--	--	5.02	30.5	<2.00
06/10/09	--	--	--	4.46	20.5	<2.00
09/02/09	--	--	--	4.57	<2.00	2.06
12/14/09	--	--	--	1.42	112	<2.00
03/29/10	--	--	--	6.19	7.26	<2.00
06/29/10	--	--	--	2.39	88.50	<2.00
01/11/11	--	--	--	1.21	134	<2.00
03/29/11	--	--	--	1.31	149	<2.00

MW-4	TOTAL			DISSOLVED		
	As	Cr	Cu	As	Cr	Cu
03/31/09	--	--	--	11.4	<2.00	4.95
06/10/09	--	--	--	22.9	<2.00	3.43
09/02/09	--	--	--	16.9	<2.00	<2.00
12/14/09	--	--	--	2.56	<2.00	<2.00
03/29/10	--	--	--	3.60	<2.00	<2.00
06/29/10	--	--	--	3.38	<2.00	<2.00
01/11/11	--	--	--	1.21	<2.00	4.54
03/29/11	--	--	--	3.60	<2.00	<2.00



EXPLANATION:

- ● MONITORING WELL
- As ARSENIC ($\mu g/l$)
- Cr CHROMIUM ($\mu g/l$)
- Cr VI HEXAVALENT CHROMIUM ($\mu g/l$)
- Cu COPPER ($\mu g/l$)
- ($\mu g/l$) MICROGRAMS PER LITER
- -- NOT ANALYZED

Notes: 1. The locations of all features shown are approximate.

2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

3. See Figure 2 for identification of site features.

Reference: Drawing entitled, "Potentiometric Surface, July 22, 1997," dated 10/03/97, provided by Geraghty & Miller, Inc.

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TOTAL AND DISSOLVED CONCENTRATIONS OF ARSENIC, CHROMIUM, AND COPPER

FIGURE 3

PORT:JH : CMV

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TABLE 1
SUMMARY OF GROUNDWATER ELEVATIONS
EXTERIOR WOOD, INC. FACILITY
WASHOUGAL, WASHINGTON

Monitoring Well Number[1]	Date Measured	Water Depth From Top of Casing (feet)	Groundwater Elevation[2] (feet)
MW-1	01/09/97	3.12	17.45
	01/20/97	2.92	17.65
	02/28/97	3.86	16.71
	03/28/97	3.76	16.81
	04/24/97	3.25	17.32
	05/30/97	4.18	16.39
	07/01/97	4.27	16.30
	07/22/97	4.61	15.96
	09/04/97	5.25	15.32
	01/22/98	3.45	17.12
	04/22/98	4.63	15.94
	07/21/98	5.31	15.26
	10/22/98	5.64	14.93
	04/16/99	4.26	16.31
	10/15/99	6.02	14.55
	04/27/00	4.35	16.22
	10/25/00	5.13	15.44
	04/19/01	4.39	16.18
	07/14/04	5.60	14.97
	12/16/04	4.13	16.44
	06/07/05	4.39	16.18
	12/13/05	4.50	16.07
	06/07/06	4.35	16.22
	12/20/06	3.61	16.96
	04/10/08	3.93	16.64
	10/30/08	5.48	15.09
	03/31/09	3.38	17.19
	06/10/09	4.58	15.99
	09/02/09	5.63	14.94
	12/14/09	4.73	15.84
	03/29/10	3.10	17.47
	06/26/10	4.11	16.46
	01/11/11	3.71	16.86
	03/29/11	2.89	17.68
MW-2	01/09/97	4.40	15.33
	01/20/97	3.54	16.19
	02/28/97	4.40	15.33
	03/28/97	4.74	14.99
	04/24/97	2.72	17.01
	05/30/97	5.15	14.58
	07/01/97	3.51	16.22
	07/22/97	6.00	13.73
	09/04/97	6.69	13.04
	01/22/98	3.83	15.90
	04/22/98	4.99	14.74
	07/21/98	5.69	14.04
	10/22/98	6.45	13.28
	04/16/99	5.75	13.98
	10/15/99	6.93	12.80
	04/27/00	5.59	14.14
	10/25/00	5.12	14.38
	04/19/01	5.52	14.21
	07/14/04	6.52	13.21
	12/16/04	4.72	15.01
	06/07/05	4.77	14.96

Monitoring Well Number[1]	Date Measured	Water Depth From Top of Casing (feet)	Groundwater Elevation[2] (feet)
MW-2 (Continued)	12/13/05	4.78	14.95
	06/07/06	4.81	14.92
	12/20/06	4.75	14.98
	04/10/08	3.07	16.66
	10/30/08	7.44	12.29
	03/31/09	3.47	16.26
	06/10/09	5.55	14.18
	09/02/09	11.11	8.62
	12/14/09	5.64	14.09
	03/29/10	0.53	19.20
	06/26/10	5.14	14.59
	01/11/11	4.00	15.73
	03/29/11	1.55	18.18
MW-3	01/09/97	3.07	16.95
	01/20/97	2.93	17.09
	02/28/97	3.74	16.28
	03/28/97	3.61	16.41
	04/24/97	3.44	16.58
	05/30/97	3.98	16.04
	07/01/97	4.06	15.96
	07/22/97	4.40	15.62
	09/04/97	4.95	15.07
	01/22/98	3.38	16.64
	04/22/98	4.40	15.62
	07/21/98	4.88	15.14
	10/22/98	5.35	14.67
	01/22/98	3.38	16.64
	04/22/98	4.40	15.62
	07/21/98	4.88	15.14
	10/22/98	5.35	14.67
	04/16/99	4.16	15.86
	10/15/99	5.65	14.37
	04/27/00	4.45	15.57
	10/25/00	5.05	14.97
	04/19/01	4.43	15.59
	07/14/04	5.35	14.67
	12/16/04	4.20	15.82
	06/07/05	4.40	15.62
	12/13/05	4.62	15.89
	06/07/06	4.40	15.62
	12/20/06	3.71	16.31
	04/10/08	4.19	15.83
	10/30/08	5.25	14.77
	03/31/09	3.63	16.39
	06/10/09	4.50	15.52
	09/02/09	5.34	14.68
	12/14/09	4.63	15.39
	03/29/10	4.10	15.92
	06/26/10	4.14	15.88
	01/11/11	3.88	16.14
	03/29/11	3.35	16.67
MW-4	01/09/97	1.70	21.86
	01/20/97	1.20	22.36
	02/28/97	1.70	21.86
	03/28/97	1.71	21.85
	04/24/97	1.46	22.10
	05/30/97	1.57	21.99
	07/01/97	1.44	22.12
	07/22/97	2.85	20.71
	09/04/97	3.26	20.30
	01/22/98	1.82	21.74
	04/22/98	2.24	20.71
	07/21/98	3.62	19.33
	10/22/98	3.73	19.22
	04/16/99	1.80	21.15
	10/15/99	5.13	17.82
	04/27/00	2.20	20.75
	10/25/00	4.07	18.88
	04/19/01	2.84	20.11

Monitoring Well Number[1]	Date Measured	Water Depth From Top of Casing (feet)	Groundwater Elevation[2] (feet)
MW-4 (Continued)	07/14/04	3.96	18.99
	12/16/04	2.85	20.10
	06/07/05	2.14	20.81
	12/13/05	3.13	20.82
	06/07/06	2.20	20.75
	12/20/06	2.68	20.27
	04/10/08	1.60	21.35
	10/30/08	4.75	18.20
	03/31/09	0.80	22.15
	06/10/09	1.23	21.72
	09/02/09	1.70	21.25
	12/14/09	1.63	21.32
	03/29/10	1.00	21.95
	06/26/10	0.94	22.01
	01/11/11	1.77	21.18
	03/29/11	1.02	21.93
MW-6	01/09/97	5.21	17.74
	01/20/97	4.88	18.07
	02/28/97	5.91	17.04
	03/28/97	5.85	17.10
	04/24/97	5.00	17.95
	05/30/97	6.24	16.71
	07/01/97	6.05	16.90
	07/22/97	6.81	16.14
	09/04/97	7.40	15.55
	01/22/98	5.39	17.56
	04/22/98	6.56	16.39
	07/21/98	7.20	15.75
	10/22/98	7.60	15.35
	04/16/99	5.78	17.17
	10/15/99	8.00	14.95
	04/27/00	6.52	16.43
	10/25/00	6.98	15.97
	04/19/01	6.51	16.44
	07/14/04	7.51	15.44
	12/16/04	6.18	16.77
	06/07/05	6.34	16.61
	12/13/05	6.56	16.39
	06/07/06	6.30	16.65
	12/20/06	5.31	17.64
	04/10/08	5.96	16.99
	10/30/08	7.34	15.61
	03/31/09	5.58	17.37
	06/10/09	6.58	16.37
	09/02/09	5.75	17.20
	12/14/09	6.70	16.25
	03/29/10	4.76	18.19
	06/26/10	6.17	16.78
	01/11/11	5.75	17.20
	03/29/11	4.82	18.13
MW-8	01/09/97	3.91	17.36
	01/20/97	3.76	17.51
	02/28/97	4.68	16.59
	03/28/97	4.54	16.73
	04/24/97	4.25	17.02
	05/30/97	4.96	16.31
	07/01/97	5.00	16.27
	07/22/97	5.48	15.79
	09/04/97	6.00	15.27
	01/22/98	4.28	16.99
	04/22/98	5.42	15.85
	07/21/98	6.03	15.24
	10/22/98	6.39	14.88
	04/16/99	5.10	16.17
	10/15/99	6.75	14.52
	04/27/00	5.38	15.89
	10/25/00	5.92	15.35
	04/19/01	5.28	15.99
	07/14/04	6.35	14.92

Monitoring Well Number[1]	Date Measured	Water Depth From Top of Casing (feet)	Groundwater Elevation[2] (feet)
MW-8 (Continued)	12/16/04	5.08	16.19
	06/07/05	5.30	15.97
	12/13/05	5.38	15.89
	06/07/06	5.30	15.97
	12/20/06	4.54	16.73
	04/10/08	5.04	16.23
	10/30/08	6.24	15.03
	03/31/09	4.43	16.84
	06/10/09	5.47	15.80
	09/02/09	6.35	14.92
	12/14/09	5.62	15.65
	03/29/10	4.90	16.37
	06/26/10	5.05	16.22
	01/11/11	4.80	16.47
	03/29/11	4.15	17.12
MW-9	01/09/97	3.97	16.40
	01/20/97	3.78	16.59
	02/28/97	4.54	15.83
	03/28/97	4.38	15.99
	04/24/97	4.29	16.08
	05/30/97	4.77	15.60
	07/01/97	4.87	15.50
	07/22/97	5.11	15.26
	09/04/97	5.68	14.69
	01/22/98	4.24	16.13
	04/22/98	5.12	15.25
	07/21/98	5.60	14.77
	10/22/98	6.14	14.27
	04/16/99	6.00	14.41
	10/15/99	6.33	14.04
	04/27/00[3]	-	-
	10/25/00	5.92	14.45
	04/19/01	5.23	15.14
	07/14/04	6.11	14.26
	12/16/04	5.16	15.21
	06/07/05	5.24	15.13
	12/13/05	5.33	15.04
	06/07/06	5.20	15.17
	12/20/06	4.64	15.73
	04/10/08	5.07	15.30
	10/30/08	6.08	14.29
	03/31/09	4.55	15.82
	06/10/09	5.34	15.03
	09/02/09	6.20	14.17
	12/14/09	5.50	14.87
	03/29/10	4.74	15.63
	06/26/10	4.98	15.39
	01/11/11	4.77	15.60
	03/29/11	4.29	16.08
MW-10	01/09/97	5.94	15.92
	01/20/97	5.85	16.01
	02/28/97	6.52	15.34
	03/28/97	6.37	15.49
	04/24/97	6.24	15.62
	05/30/97	6.59	15.27
	07/01/97	6.69	15.17
	07/22/97	6.99	14.87
	09/04/97	7.59	14.27
	01/22/98	6.26	15.60
	04/22/98	7.09	14.77
	07/21/98	7.24	14.62
	10/22/98	11.96	13.82
	04/16/99	7.07	18.71
	10/15/99	8.25	13.61
	04/27/00	7.58	14.28
	10/25/00	6.05	15.81
	04/19/01	7.78	14.08
	07/14/04	7.88	13.98
	12/16/04	7.68	14.18

Monitoring Well Number[1]	Date Measured	Water Depth From Top of Casing (feet)	Groundwater Elevation[2] (feet)
MW-10 (Continued)	06/07/05	7.78	14.08
	12/13/05	7.75	14.11
	06/07/06	8.20	13.66
	12/20/06	7.46	14.40
	04/10/08	7.49	14.37
	10/30/08	8.18	13.68
	03/31/09	6.53	15.33
	06/10/09	7.73	14.13
	09/02/09	7.96	13.90
	12/14/09	7.80	14.06
	03/29/10	7.40	14.46
	06/26/10	7.44	14.42
	01/11/11	7.47	14.39
	03/29/11	7.33	14.53
MW-11	01/09/97	3.35	19.45
	01/20/97	3.34	19.46
	02/28/97	3.74	19.06
	03/28/97	3.94	18.86
	04/24/97	3.77	19.03
	05/30/97	3.85	18.95
	07/01/97	3.94	18.86
	07/22/97	4.79	18.01
	09/04/97	5.50	17.30
	01/22/98	2.90	19.90
	04/22/98	3.44	19.36
	07/21/98	4.83	17.97
	10/22/98	5.29	17.51
	04/16/99	3.70	19.10
	10/15/99	6.42	16.38
	04/27/00[4]	–	–
	10/25/00	4.43	18.37
	04/19/01	3.63	19.17
	07/14/04	4.38	18.42
	12/16/04	3.38	19.42
	06/07/05	2.86	19.94
	12/13/05	3.20	19.60
	06/07/06	3.30	19.50
	12/20/06	3.19	19.61
	04/10/08	3.15	19.65
	10/30/08	4.60	18.20
	03/31/09	1.93	20.87
	06/10/09	2.31	20.49
	09/02/09	3.17	19.63
	12/14/09	2.63	20.17
	03/29/10	1.87	20.93
	06/26/10	1.95	20.85
	01/11/11	1.95	20.85
	03/29/11	1.99	20.81

Notes:

[1]Approximate locations of monitoring wells are shown in Figures 2 and 3.

[2]Groundwater elevations were determined by subtracting the water depths from the tops of the casing rim elevations. The casing rims were surveyed relative to an assumed site elevation of 20.0 feet. The benchmark is unknown.

[3]Stacked wood prevented access to monitoring well MW-9 on April 27, 2000.

[4]Monitoring well MW-11 could not be located on April 27, 2000.

"–" = not measured

Shading indicates data collected during previous investigations (AGRA, 1993; 1995; and Geraghty & Miller, 1997b; 1997c; 1997d).

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TABLE 2

SUMMARY OF GROUNDWATER SAMPLE CHEMICAL ANALYTICAL DATA[1]
TOTAL AND DISSOLVED ARSENIC, CHROMIUM AND COPPER

EXTERIOR WOOD, INC. FACILITY

WASHOUGAL, WASHINGTON

Monitoring Well Number[2]	Date Sampled	Total Metals (EPA Method 6020) (µg/l)			Dissolved Metals (EPA Method 6020; Hexavalent Chromium, EPA Method 7195) (µg/l)			
		Arsenic	Chromium	Copper	Arsenic	Chromium	Hexavalent Chromium	Copper
MW-1	04/13/93	–	–	–	<4.0	–	–	–
	08/22/95	<5.0	<10.0	20	<5.0	<10.0	–	<10.0
	01/20/97	<5.0	5	5	5	<5.0	–	<5.0
	04/24/97	26	<5.0	<5.0	<5.0	<5.0	–	<5.0
	07/22/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	01/22/98	7	14	8	<5.0	<5.0	–	<5.0
	07/21/98	26.9	45.7	73.8	3.00	<1.00	–	<2.00
	04/16/99	41.5	21.8	26.5	11.8	1.10	–	<10.0
	10/15/99	10.6	8.40	11.6	8.00	1.50	–	<10.0
	04/27/00	19.9	15.1	16.1	4.21	1.05	–	<2.00
	10/25/00	14.1	16.0	17.3	4.49	1.10	–	1.65
	04/19/01	22.5	11.5	13.1	3.78	<1.00	–	<2.00
	07/14/04	–	–	–	24.10	<1.00	–	2.21
	12/16/04	–	–	–	2.71	1.30	–	<2.00
	06/07/05	–	–	–	3.13	<2.00	–	<2.00
	12/13/05	–	–	–	5.32	<1.00	–	<2.00
	06/07/06	–	–	–	10.8	<1.00	–	5.62
	12/20/06	–	–	–	24.1	1.64	–	8.11
	04/10/08	–	–	–	11.8	<1.00	–	8.43
	10/30/08	–	–	–	6.40	2.13	–	5.81
	03/31/09	–	–	–	7.86	<2.00	–	6.10
	06/10/09	–	–	–	6.75	<2.00	–	5.12
	09/02/09	–	–	–	9.26	<2.00	–	5.58
	12/14/09	–	–	–	8.69	<2.00	–	5.19
	03/29/10	–	–	–	58.8	33.8	–	26.9
	06/29/10	–	–	–	38.0	2.94	–	11.0
	01/11/11	–	–	–	44.2	3.97	–	12.8
	03/29/11	–	–	–	67.0	4.55	–	17.2
MW-2	04/13/93	–	–	–	<4.0	–	–	–
	08/22/95	<5.0	30	30	<5.0	<10.0	–	<10.0
	01/20/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	04/24/97	<5.0	<5.0	6	<5.0	<5.0	–	<5.0
	07/22/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	01/22/98	<5.0	11	15	<5.0	<5.0	–	<5.0
	07/21/98	2.00	6.40	13.3	<1.00	<1.00	–	2.20
	04/16/99	2.10	12.0	19.2	<1.00	<1.00	–	<10.0
	10/15/99	<1.00	1.40	<10.0	<1.00	1.10	–	<10.0
	04/27/00	<1.00	8.75	14.0	<1.00	<1.00	–	<2.00
	10/25/00	1.11	3.01	5.87	<1.00	<1.00	–	2.21
	04/19/01	<1.00	4.80	7.11	<1.00	<1.00	–	2.12
	07/14/04	–	–	–	<1.00	<1.00	–	<2.00
	12/16/04	–	–	–	<1.00	1.02	–	<2.00

Monitoring Well Number[2]	Date Sampled	Total Metals (EPA Method 6020) (µg/l)			Dissolved Metals (EPA Method 6020; Hexavalent Chromium, EPA Method 7195) (µg/l)			
		Arsenic	Chromium	Copper	Arsenic	Chromium	Hexavalent Chromium	Copper
MW-2 cont.	06/07/05	–	–	–	<1.00	<2.00	–	<2.00
	12/13/05	–	–	–	<1.00	<1.00	–	<2.00
	06/07/06	–	–	–	<1.00	<1.00	–	1.24
	12/20/06	–	–	–	<1.00	<1.00	–	2.05
	04/10/08	–	–	–	1.01	<1.00	–	<2.00
	10/30/08	–	–	–	3.50	<2.00	–	<2.00
	03/31/09	–	–	–	<1.00	<2.00	–	<2.00
	06/10/09	–	–	–	<1.00	<2.00	–	<2.00
	09/02/09	–	–	–	2.46	<2.00	–	7.27
	12/14/09	–	–	–	1.38	<2.00	–	2.70
	03/29/10	–	–	–	<1.00	<2.00	–	2.60
	06/29/10	–	–	–	1.48	<2.00	–	<2.00
	01/11/11	–	–	–	<1.00	<2.00	–	2.20
	03/29/11	–	–	–	1.13	<2.00	–	3.58
MW-3	04/13/93	–	–	–	<4.0	–	–	–
	08/23/95	<5.0	<10.0	<10.0	<5.0	<10.0	–	<10.0
	01/20/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	04/24/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	07/22/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	01/22/98	9	12	10	<5.0	<5.0	–	<5.0
	07/21/98	2.40	1.00	<10.0	1.35	<1.00	–	2.80
	04/16/99	2.00	<1.00	<10.0	1.60	<1.00	–	<10.0
	10/15/99	2.36	2.30	<10.0	<1.00	1.40	–	<10.0
	04/27/00	13.7	11.8	4.63	2.83	1.26	–	2.21
	10/25/00	3.69	1.38	3.01	3.17	1.85	–	2.73
	04/19/01	3.71	1.10	<2.00	4.28	3.66	–	2.08
	07/14/04	–	–	–	2.56	<1.00	–	<2.00
	12/16/04	–	–	–	3.33	1.33	–	3.85
	06/07/05	–	–	–	2.78	<2.00	–	3.10
	12/13/05	–	–	–	3.16	<1.00	–	2.61
	06/07/06	–	–	–	2.16	<1.00	–	1.97
	12/20/06	–	–	–	2.49	<1.00	–	2.74
	04/10/08	–	–	–	2.59	<1.00	–	2.47
	10/30/08	–	–	–	2.51	<2.00	–	2.19
	03/31/09	–	–	–	2.21	<2.00	–	2.06
	06/10/09	–	–	–	1.45	<2.00	–	<2.00
	09/02/09	–	–	–	1.51	<2.00	–	2.49
	12/14/09	–	–	–	1.93	<2.00	–	<2.00
	03/29/10	–	–	–	1.52	<2.00	–	2.07
	06/29/10	–	–	–	2.60	<2.00	–	<2.00
	01/11/11	–	–	–	1.72	<2.00	–	<2.00
	03/29/11	–	–	–	1.76	<2.00	–	<2.00
MW-4	04/13/93	–	–	–	5.6	–	–	–
	08/23/95	31	20	40	16	<10.0	–	<10.0
	01/20/97	68	19	43	36	<5.0	–	<5.0
	04/25/97	34	<5.0	<5.0	15	<5.0	–	<5.0
	07/22/97	8	<5.0	9	<5.0	<5.0	–	<5.0
	01/22/98	68	25	57	38	<5.0	–	<5.0
	04/22/98	77	53	120	39	<5.0	–	<5.0
	07/21/98	90.3	77.8	203	34.0	<1.00	–	<2.00

Monitoring Well Number[2]	Date Sampled	Total Metals (EPA Method 6020) (µg/l)			Dissolved Metals (EPA Method 6020; Hexavalent Chromium, EPA Method 7195) (µg/l)			
		Arsenic	Chromium	Copper	Arsenic	Chromium	Hexavalent Chromium	Copper
MW-4 cont.	10/22/98	111	77.2	181	60.2	<1.00	–	<10.0
	04/16/99	23.6	12.7	55.1	11.0	<1.00	–	<10.0
	10/15/99	4.55	53.1	108	63.6	2.60	–	<10.0
	04/27/00	23.2	20.3	59.9	9.72	1.79	–	4.97
	10/25/00	29.8	35.1	90.7	18.8	12.0	–	4.67
	04/19/01	7.70	9.96	51.6	3.17	1.98	–	27.4
	04/19/01[3]	7.26	8.38	48.2	3.35	3.33	–	25.9
	07/14/04	–	–	–	23.60	<1.00	–	<2.00
	12/16/04	–	–	–	18.50	<1.00	–	<2.00
	06/07/05	–	–	–	13.50	<2.00	–	3.97
	12/13/05	–	–	–	8.96	<1.00	–	<2.00
	06/07/06	–	–	–	13.0	<1.00	–	0.67
	12/20/06	–	–	–	9.51	<1.00	–	2.75
	04/10/08	–	–	–	16.8	<1.00	–	3.76
	10/30/08	–	–	–	24.0	<2.00	–	<2.00
	03/31/09	–	–	–	11.4	<2.00	–	4.95
	06/10/09	–	–	–	22.9	<2.00	–	3.43
	09/02/09	–	–	–	16.9	<2.00	–	<2.00
	12/14/09	–	–	–	2.56	<2.00	–	<2.00
	03/29/10	–	–	–	3.60	<2.00	–	<2.00
	06/29/10	–	–	–	3.38	<2.00	–	<2.00
	01/11/11	–	–	–	1.21	<2.00	–	4.54
	03/29/11	–	–	–	1.11	<2.00		5.84
MW-5[4]	09/08/95	141	10	<10.0	118	<10.0	–	<2.00
MW-6	09/08/95	<5.0	<10.0	<10.0	<5.0	<10.0	–	<10.0
	01/20/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	04/24/97	<5.0	9	6	<5.0	<5.0	–	<5.0
	07/22/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	01/22/98	7	6	<5.0	<5.0	<5.0	–	<5.0
	07/21/98	20.7	39.4	17.0	3.10	1.80	–	5.60
	04/16/99	9.60	51.3	<10.0	1.40	37.7	–	<10.0
	10/15/99	29.3	3.40	<10.0	14.0	2.90	–	<10.0
	04/27/00	5.81	7.01	3.68	3.72	1.69	–	2.83
	10/25/00	7.60	8.98	3.54	39.0	2.79	–	2.01
	04/19/01	14.4	6.72	2.56	4.67	<1.00	–	<2.00
	07/14/04	–	–	–	2.99	2.27	<10.0	4.09
	12/16/04	–	–	–	3.95	2.24	–	2.87
	06/07/05	–	–	–	4.55	2.06	<10.0	2.75
	12/13/05	–	–	–	3.48	12.2	12.3	2.08
	06/07/06	–	–	–	3.03	6.6	5.20	1.52
	12/20/06	–	–	–	2.25	18.9	16.0	2.19
	04/10/08	–	–	–	4.19	4.62	–	3.13
	10/30/08	–	–	–	5.98	2.31	–	2.43
	03/31/09	–	–	–	5.02	30.5	–	<2.00
	06/10/09	–	–	–	4.46	20.5	–	<2.00
	09/02/09	–	–	–	4.57	<2.00	–	2.06
	12/14/09	–	–	–	1.42	112	–	<2.00
	03/29/10	–	–	–	6.19	7.26	–	<2.00

Monitoring Well Number[2]	Date Sampled	Total Metals (EPA Method 6020) (µg/l)			Dissolved Metals (EPA Method 6020; Hexavalent Chromium, EPA Method 7195) (µg/l)			
		Arsenic	Chromium	Copper	Arsenic	Chromium	Hexavalent Chromium	Copper
MW-6 cont.	06/29/10	–	–	–	2.39	88.5	–	<2.00
	01/11/11	–	–	–	1.21	134	–	<2.00
	03/29/11	–	–	–	1.31	149	–	<2.00
MW-7[4]	09/08/95	10	40	10	<5.0	10	–	<10.0
MW-8	01/20/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	04/24/97	<5.0	5	6	<5.0	<5.0	–	<5.0
	07/22/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	01/22/98	<5.0	26	35	<5.0	<5.0	–	<5.0
	07/21/98	16.5	167	247	<1.00	<1.00	–	2.10
	04/16/99	<5.00	60.0	99.5	<1.00	<1.00	–	<10.0
	10/15/99	<1.00	6.30	10.4	<1.00	1.10	–	<10.0
	04/27/00	3.60	29.5	50.6	1.27	<1.00	–	<2.00
	10/25/00	4.52	39.1	41.4	1.23	<1.00	–	<2.00
	04/19/01	1.14	10.1	13.1	<1.00	<1.00	–	<2.00
	07/14/04	–	–	–	<1.00	<1.00	–	<2.00
	12/16/04	–	–	–	<1.00	<1.00	–	<2.00
	06/07/05	–	–	–	<1.00	<2.00	–	<2.00
	12/13/05	–	–	–	<1.00	<1.00	–	<2.00
	06/07/06	–	–	–	<1.00	<1.00	–	<0.500
	12/20/06	–	–	–	2.00	<1.00	–	<2.00
	04/10/08	–	–	–	3.03	<1.00	–	<2.00
	10/30/08	–	–	–	3.15	5.32	–	8.58
	03/31/09	–	–	–	3.87	<2.00	–	<2.00
	06/10/09	–	–	–	1.52	<2.00	–	<2.00
	09/02/09	–	–	–	2.05	<2.00	–	<2.00
	12/14/09	–	–	–	1.17	<2.00	–	<2.00
	03/29/10	–	–	–	1.15	<2.00	–	<2.00
	06/29/10	–	–	–	1.50	<2.00	–	<2.00
	01/11/11	–	–	–	1.78	<2.00	–	<2.00
	03/29/11	–	–	–	2.63	<2.00	–	<2.00
MW-9	01/20/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	04/24/97	<5.0	<5.0	7	<5.0	<5.0	–	<5.0
	07/22/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	01/22/98	<5.0	17	25	<5.0	<5.0	–	<5.0
	04/22/98	<5.0	20	37	<5.0	<5.0	–	<5.0
	07/21/98	5.80	46.4	84.9	<1.00	<1.00	–	2.70
	04/16/99	1.30	7.80	14.6	<1.00	<1.00	–	<10.0
	10/15/99	<1.00	5.60	14.4	<1.00	1.30	–	<10.0
	04/27/00[5]	–	–	–	–	–	–	–
	10/25/00	3.35	30.5	52.5	1.01	1.71	–	1.84
	04/19/01	<1.00	5.14	10.1	<1.00	<1.00	–	2.55
	07/14/04	–	–	–	1.00	<1.00	–	<2.00
	12/16/04	–	–	–	2.00	<1.00	–	<2.00
	06/07/05	–	–	–	<1.00	<2.00	–	2.36
	12/13/05	–	–	–	<1.00	<1.00	–	2.77
	06/07/06	–	–	–	<1.00	<1.00	–	2.25
	12/20/06	–	–	–	1.37	<1.00	–	<2.00
	04/10/08	–	–	–	<1.00	<1.00	–	<2.00
	10/30/08	–	–	–	1.71	<2.00	–	2.62

Monitoring Well Number[2]	Date Sampled	Total Metals (EPA Method 6020) (µg/l)			Dissolved Metals (EPA Method 6020; Hexavalent Chromium, EPA Method 7195) (µg/l)			
		Arsenic	Chromium	Copper	Arsenic	Chromium	Hexavalent Chromium	Copper
MW-9 cont.	03/31/09	–	–	–	1.02	<2.00	–	<2.00
	06/10/09	–	–	–	<1.00	<2.00	–	<2.00
	09/02/09	–	–	–	<1.00	<2.00	–	2.50
	12/14/09	–	–	–	<1.00	<2.00	–	<2.00
	03/29/10	–	–	–	<1.00	<2.00	–	2.52
	06/29/10	–	–	–	<1.00	<2.00	–	<2.00
	01/11/11	–	–	–	<1.00	<2.00	–	<2.00
	03/29/11	–	–	–	1.66	9.23	–	30.6
MW-10	01/20/97	<5.0	<5.0	6	<5.0	<5.0	–	<5.0
	04/25/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	07/22/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	01/22/98	<5.0	13	20	<5.0	<5.0	–	<5.0
	07/21/98	4.90	37.9	66.5	<1.00	<1.00	–	3.80
	10/22/98	<1.00	26.0	53.0	<1.00	<1.00	–	<10.0
	04/16/99	1.10	5.10	10.0	<1.00	<1.00	–	<10.0
	10/15/99	61.2	11.5	24.5	<1.00	1.10	–	<10.0
	04/27/00	<1.00	4.04	7.68	1.20	<1.00	–	<2.00
	10/25/00	1.69	10.5	17.9	1.06	2.19	–	2.20
	04/19/01	1.03	2.81	7.79	<1.00	<1.00	–	<2.00
	07/14/04	–	–	–	1.33	<1.00	–	<2.00
	12/16/04	–	–	–	<1.00	<1.00	–	<2.00
	06/07/05	–	–	–	<1.00	<2.00	–	<2.00
	12/13/05	–	–	–	<1.00	<1.00	–	<2.00
	06/07/06	–	–	–	<1.00	<1.00	–	<0.500
	12/20/06	–	–	–	<1.00	<1.00	–	<2.00
	04/10/08	–	–	–	1.15	<1.00	–	<2.00
	10/30/08	–	–	–	2.90	<2.00	–	<2.00
	03/31/09	–	–	–	1.00	<2.00	–	<2.00
	06/10/09	–	–	–	<1.00	<2.00	–	<2.00
	09/02/09	–	–	–	<1.00	<2.00		<2.00
	12/14/09	–		–	<1.00	<2.00	–	<2.00
	03/29/10	–	–	–	<1.00	<2.00	–	<2.00
	06/29/10	–	–	–	<1.00	<2.00	–	<2.00
	01/11/11	–	–	–	1.30	<2.00	–	<2.00
	03/29/11	–	–	–	1.47	<2.00	–	<2.00
MW-11	01/20/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	04/24/97	<5.0	<5.0	<5.0	<5.0	<5.0	–	<5.0
	07/22/97	16	<5.0	<5.0	14	<5.0	–	<5.0
	01/22/98	13	<5.0	11	11	<5.0	–	<5.0
	04/22/98	23	<5.0	15	22	<5.0	–	<5.0
	07/21/98	35.5	4.70	14.4	29.1	<1.00	–	<2.00
	10/22/98	29.8	10.5	32.3	33.0	<1.00	–	<10.0
	04/16/99	29.2	3.70	23.1	22.5	<1.00	–	<10.0
	10/15/99	43.5	1.70	<10.0	41.2	1.30	–	<10.0
	04/27/00[6]	–	–	–	–	–	–	–
	10/25/00	238	3.34	12.2	58.5	1.69	–	3.45
	04/19/01	116	1.01	13.2	32.8	3.01	–	2.20
	07/14/04	–	–	–	62.5	2.44	–	<2.00
	12/16/04	–	–	–	43.3	<1.00	–	<2.00
	06/07/05	–	–	–	51.9	<2.00	–	<2.00

Monitoring Well Number[2]	Date Sampled	Total Metals (EPA Method 6020) (µg/l)			Dissolved Metals (EPA Method 6020; Hexavalent Chromium, EPA Method 7195) (µg/l)			
		Arsenic	Chromium	Copper	Arsenic	Chromium	Hexavalent Chromium	Copper
MW-11 cont.	12/13/05	–	–	–	47.3	1.67	–	<2.00
	06/07/06	–	–	–	50.2	1.15	–	<0.500
	12/20/06	–	–	–	45.0	2.02	–	<2.00
	04/10/08	–	–	–	47.8	1.27	–	2.09
	10/30/08	–	–	–	59.8	<2.00	–	<2.00
	03/31/09	–	–	–	37.0	<2.00	–	<2.00
	06/10/09	–	–	–	48.9	2.22	–	<2.00
	09/02/09	–	–	–	83.9	<2.00		<2.00
	12/14/09	–	–	–	53.6	<2.00	–	<2.00
	03/29/10	–	–	–	46.1	<2.00	–	<2.00
	06/29/10	–	–	–	62.1	<2.00	–	<2.00
	01/11/11	–	–	–	56.4	<2.00	–	<2.00
	03/29/11	–	–	–	45.0	<2.00	–	<2.00
Model Toxics Control Act (MTCA) Method A Cleanup Levels for Groundwater[7]								
		5	50	64008	5	50	50	64008

Notes:

[1]Chemical analyses were conducted by TestAmerica of Beaverton, Oregon.

[2]Approximate locations of monitoring wells are shown in Figures 2 and 3.

[3]Duplicate groundwater sample collected from monitoring well.

[4]Monitoring wells MW-5 and MW-7 were abandoned during corrective actions conducted on the drip pad during 1996.

[5]Stacked wood prevented access to monitoring well MW-9 on April 27, 2000.

[6]Monitoring well MW-11 could not be located on April 27, 2000.

[7]From Washington State Department of Ecology's Model Toxics Control Act Cleanup Regulation (Chapter 173-340 WAC), November 2007.

[8] Method A not established, Method B cleanup level is shown.

µg/l = micrograms per liter

"–" = Not analyzed

TABLE 3
FIELD SAMPLING PARAMETERS
EXTERIOR WOOD, INC. FACILITY
WASHOUGAL, WASHINGTON

Well Number	Date	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Specific Conductance (ms/cm)	ORP (mv)
MW-1	3/29/10	10.32	6.24	9.95	0.167	171.8
	6/29/10[1]	13.6	7.00	0.46	0.21	–
	1/11/11	11.02	6.50	0.53	0.181	163.4
	3/29/11	10.02	6.24	1.37	0.178	178.8
MW-2	3/29/10	11.67	6.12	0.98	0.152	139.3
	6/29/10[1]	14.8	7.00	0.50	0.121	–
	1/11/11	12.06	6.37	0.29	0.121	151.3
	3/29/11	11.87	6.39	1.84	0.118	154.2
MW-3	3/29/10	12.17	6.48	0.55	0.569	56.7
	6/29/10[1]	13.6	7.00	0.64	0.373	–
	1/11/11	13.02	6.65	0.12	0.429	82.7
	3/29/11	12.21	6.61	0.16	0.513	119.7
MW-4	3/29/10	10.78	6.66	0.65	0.12	51.9
	6/29/10[1]	14.00	7.00	0.59	0.064	–
	1/11/11	10.33	7.03	3.07	0.043	89.1
	3/29/11	11.14	6.68	1.52	0.049	163.7
MW-6	3/29/10	12.97	6.57	0.65	0.929	36.4
	6/29/10[1]	13.30	7.00	3.31	0.32	–
	1/11/11	13.46	7.07	0.08	0.258	71.6
	3/29/11	12.55	6.95	2.01	0.329	114
MW-8	3/29/10	13.49	6.43	0.57	0.537	51.9
	6/29/10[1]	15.70	7.00	0.53	0.358	–
	1/11/11	13.80	6.62	0.50	0.429	11.1
	3/29/11	13.58	6.65	0.16	0.468	62.9
MW-9	3/29/10	12.23	6.36	0.70	0.602	145.2
	6/29/10[1]	15.20	7.00	0.51	0.412	–
	1/11/11	12.70	6.59	0.11	0.484	113.1
	3/29/11	11.30	6.39	0.30	0.617	97
MW-10	3/29/10	12.97	6.56	0.77	0.786	62.5
	6/29/10[1]	15.70	7.00	0.77	0.571	–
	1/11/11	12.92	7.00	0.06	0.585	-3.9
	3/29/11	13.16	6.72	0.12	0.784	-32.2
MW-11	3/29/10	11.36	6.81	0.59	0.767	-113.1
	6/29/10[1]	15.4	7.00	0.93	–	–
	1/11/11	11.19	6.93	0.14	0.626	-135.8
	3/29/11	11.88	6.85	0.14	0.84	-147

Notes:

[1]No ORP measurements taken due to malfunctioning field equipment

ORP = oxidation-reduction potential

°C = degrees celsius

mg/l = milligrams per liter

mv = millivolts

µs/cm = microsiemens per centimeter