

MEETING MINUTES
(prepared by HydroGeoLogic, Inc.)
Operable Unit 1 On-Post

Fort Ord Base Closure Team Meeting
14 April 2010, 1:30 PM
Monterey, California

1. Groundwater Remediation System Update

HGL provided the following summary of system operations:

- Except for a brief 15-minute shutdown on 24 March, the Northwest Treatment System (NWTS) has operated continuously since the last Base Closure Team (BCT) meeting on 23 March 2010. Repairs to the injection pump control program, the pressure gauge diaphragm, and the cracked pipe are expected to begin later this month and be completed by the end of April. Pending completion, the system is operating using only the two lead granular activated carbon (GAC) vessels as agreed upon at last month's BCT meeting.
- HydroGeoLogic, Inc. (HGL) temporarily increased pumping from MW-OU1-85-A on 24 March 2010 from approximately 15 gallons per minute (gpm) to 30 gpm in attempt to sustain injection pump operation pending software repairs. Current total pumping is approximately 64 gpm. Under the current operating conditions, approximately 40% of the treated water is returned to the injection well and the Fort Ord Natural Reserve (FONR) infiltration trenches.
- Extraction well EW-OU1-60-A was pumping only intermittently after sample collection on 22 March 2010 and has not operated since approximately 24 March. The un-validated sample results for EW-OU1-60-A were non-detect for all contaminants of concern (COCs).
- The treatment system's average flow rate ranged between approximately 60 gpm and 64 gpm since the last BCT meeting. The total volume pumped from startup in 2006 through 05 April 2010 is over 124,000,000 gallons. During this period, the NWTS has removed nearly 4.2 pounds (0.34 gallons) of trichloroethene (TCE) and 0.38 pounds (0.036 gallons) of cis-1,2-dichloroethene. Performance samples were collected during the week of 22 March 2010 and validated results should be available very soon. Preliminary results are discussed below. Thus far in 2010, approximately 0.13 pounds of TCE (0.011 gallons) and 0.006 pounds (0.0006 gallons) of cis-1,2-dichloroethene have been removed.
- Preliminary laboratory analytical results for the March 2010 performance sampling effort were received yesterday. TCE concentrations were very similar to the December values and continued the generally declining trend observed since startup. Only two pumping wells (EW-OU1-71-A and MW-OU1-87-A) showed slight increases ($\leq 1 \mu\text{g/L}$) and the overall total TCE concentration measured at the treatment system influent of $2.3 \mu\text{g/L}$ is unchanged since June 2009. The recent analytical data will be incorporated into the attached Table 1 and Figure 5.3b for the next BCT meeting.

2. Long-term Monitoring Update

Sampling occurred during the week of 22 – 26 March 2010 and un-validated analytical results were received yesterday. These data will be incorporated into the attached Figure 5.3b and a revised figure will be presented at the next BCT meeting. HGL provided the following summary of the preliminary results for the 2010 first quarter long-term monitoring (LTM) sampling event:

- TCE concentrations continued to decline or remain stable at less than the 5.0 µg/L at most wells throughout the LTM network. Minimal increases were observed at monitoring well MW-OU1-82-A (1.4 µg/L, up from 0.88 µg/L) and MW-OU1-23-A (3.9 µg/L versus 3.8 µg/L) and TCE concentrations at both locations remained well below the cleanup target of 5.0 µg/L. TCE concentration continued to exceed the cleanup target and showed increases at EW-OU1-52-A (6.5 µg/L, up from 5.0 µg/L) and MW-OU1-61-A (15.5 µg/L, up from 9.9 µg/L). Both values are less than the maximum TCE concentrations observed in generally up-gradient wells in previous years and are believed to represent continued migration of higher concentration zones towards the extraction wells.
- The off-post wells down-gradient from MW-OU1-61-A remained at non-detect (MW-OU1-70-A) or less than the method reporting limit at MW-OU1-69-A2 (decreased from 0.39J µg/L to 0.27J µg/L). TCE concentrations in the two active extraction wells along the northwest boundary were non-detect in EW-OU1-60-A and 0.9 µg/L in EW-OU1-66-A. These data indicate that the boundary extraction wells continue to prevent off-Post plume migration.
- Well MW-OU1-50-A (upgradient from MW-OU1-61-A) showed further TCE concentration decrease, dropping to 0.43J µg/L from 1.0 µg/L in the previous sample. TCE at this location ranged from 20 µg/L to 42 µg/L between 2004 and 2006 and from 8 µg/L to 16 µg/L during the 2006 through 2008 interval. This trend suggests that the TCE concentrations at MW-OU1-61-A will decline at some point in the future as the high concentration zone migrating past MW-OU1-50-A moves towards the extraction wells on the northwest boundary.
- The current data also shows the trailing edge of the plume is migrating northward as TCE dropped from 10 µg/L to 7.8 µg/L at monitoring well EW-OU1-53-A.
- Figure 5.3b depicts the September 2009 sampling locations and TCE concentrations.

3. Report Submittals

Table 2 summarizes the status of scheduled reports through 2010. The Draft 2009 Annual and Fourth Quarter Groundwater Monitoring Report was submitted during the second week in February. The agencies approved via electronic mail the sampling frequency recommended in the Draft 2009 Annual and Fourth Quarter Groundwater Monitoring Report. These changes, which included shifting three wells from semi-annual to annual schedule, were implemented during the March sampling event. The California Department of Toxic Substance Control, the US Environmental Protection Agency, and the California Regional Water Quality Control Board indicated that they had no other comments. The Fort Ord Community Advisory Group submitted seven questions. Some of these questions were briefly reviewed and HGL will provide draft responses before the next BCT meeting.

4. Other

4a) MW-OU1-61-A TCE Concentration Trend

The agencies submitted various questions on 23 February 2010 concerning the NWTS operation and observed TCE concentrations at MW-OU1-60-A. Key questions concerned the following topics:

- a. Hydrologic Setting
- b. Conceptual Understanding of TCE Trend at MW-OU1-61-A
- c. Characterization of TCE Trend at MW-OU1-61-A
- d. Projected TCE Concentrations at MW-OU1-61-A
- e. Potential TCE Migration beyond NW Boundary and Screen Interval versus Sampling Depth
- f. Future NWTS Operations

The above questions were addressed during the BCT meeting on 23 March. HGL indicated that the increase in TCE observed at MW-OU1-61-A is consistent with the understanding of the groundwater flow system and the conclusions reached at the previous meeting in regard to the above questions. HGL will continue to monitor the TCE concentration in MW-OU1-61-A and will evaluate the need for any operational changes as additional data is received.

4b) 2010 Rare Plant Survey

HGL and Bill Collins (US Army Biologist) are seeking agreement from the U.S. Fish & Wildlife Service (USFWS) that the 2010 rare plant monitoring can be suspended based on the survey results from 2004 – 2009. As of this meeting, USFWS had not reached a decision.

4c) Draft Explanation of Significant Difference (ESD)

The US Environmental Protection Agency indicated that they are still reviewing the Draft ESD submitted by the Army.

The meeting then moved on to other topics and the OU-1 on-Post remediation discussion ended.

Table 1

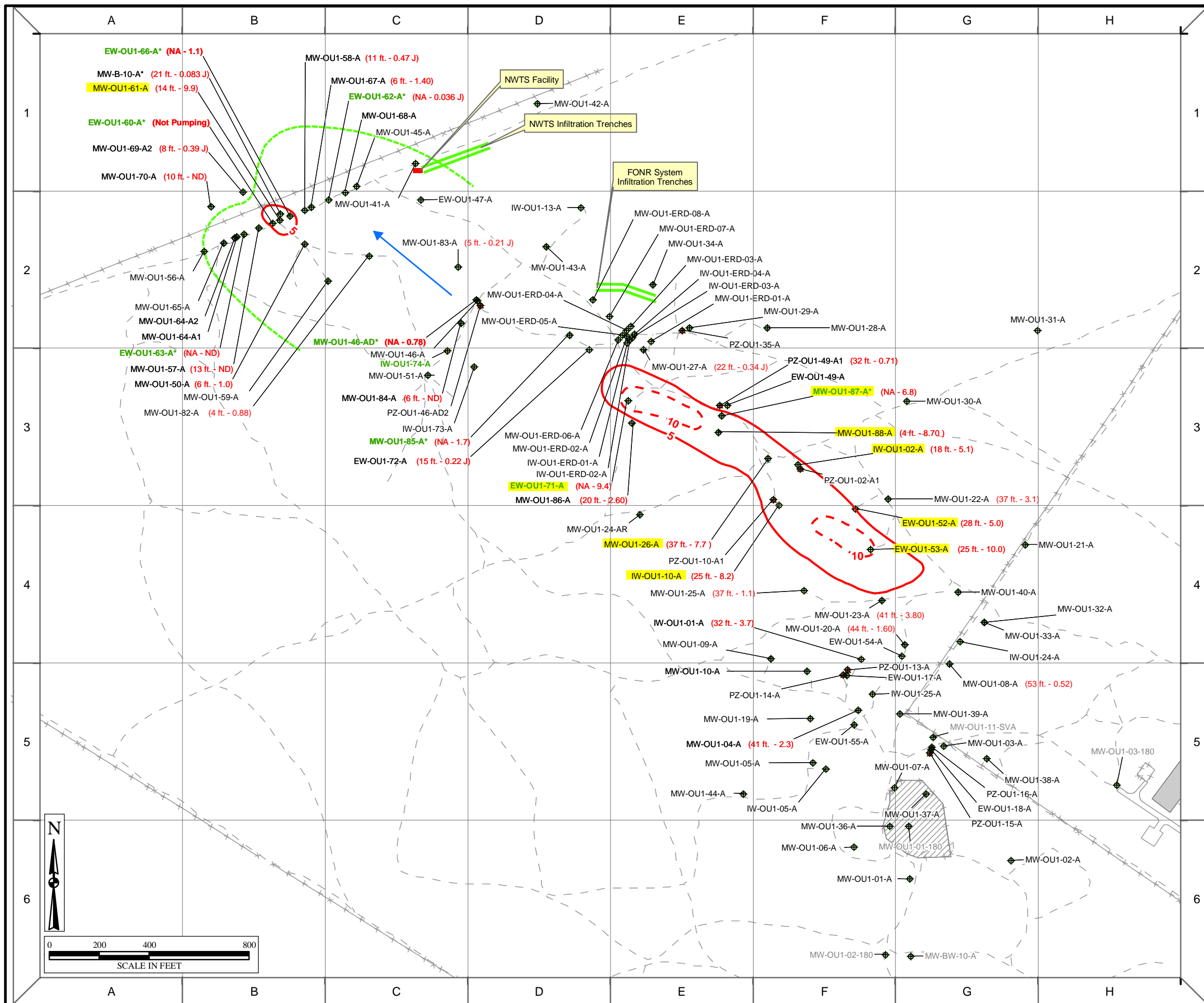
**TCE and Cis-1,2-DCE in OU-1 FONR Groundwater Remediation System - Performance Monitoring
BCT Meeting for Former Fort Ord, at Monterey CA - April 2010**

Sample Date	FONR Extraction Well (listed from south to north)				Boundary Extraction Well (listed from west to east)				NWTS			
	Began Operation October 2007				Began Operation July 2006				INFLUENT	MIDPOINT	EFFLUENT	
	MW-87	EW-71	MW-85	MW-46AD	EW-63	EW-60	EW-66	EW-62				
TCE (µg/L)												
11/9/2007	16	13	19	14	ND	ND	1.7	ND	11	ND	ND	
1/18/2008	11	11	8.9	8.2	ND	ND	1.2	ND	6.0	ND	ND	
3/18/2008	11	14	6.7	5.8	ND	0.29	1.5	ND	5.6	ND	ND	
5/27/2008	9.7	18	2.5	6.1	ND	ND	1.8	ND	3.9	ND	ND	
7/21/2008	9.1	14	4.4	3.4	ND	0.78	1.4	ND	3.6	ND	ND	
9/29/2008	9.3 J	15 J	4.3 J	2.9 J	ND	0.90 J	1.7 J	ND	3.8 J	0.19 J	ND	
12/1/2008	5.8	11	2.6	1.6	ND	0.82	0.91	ND	2.7	0.35 J	ND	
1/26/2009	5.9	10	2.2	1.2	ND	0.48 J	0.78	ND	2.4	ND	ND	
3/9/2009	5.8	9.9	2.1	1.2	ND	0.95	0.86	ND	2.7	ND	ND	
6/11/2009	6.9	11	2.4	1.5	ND	0.88	1.7	ND	2.6	0.14 J	ND	
9/15/2009	6.8	9.4	1.7	0.78	ND	inactive	1.1	0.036 J	2.3	0.35 J	ND	
12/14/2009	6.9	7.5	0.84	not sampled	not sampled	inactive	0.94	not sampled	2.3	0.65 J	ND	
3/22/2010	7.2	8.5	0.62	0.55	inactive	ND	0.90	inactive	2.3	ND	ND	
cis-1,2-DCE (µg/L)												
11/9/2007	1.9	1.6	2.3	1.70	ND	ND	ND	ND	1.3	ND	ND	
1/18/2008	1.20	1.40	1.00	1.20	ND	ND	0.11	ND	0.66	ND	ND	
3/18/2008	1.20	1.50	0.74	0.63	ND	ND	ND	ND	0.59	0.11	ND	
5/27/2008	0.88	2.10	0.26	0.74	ND	ND	ND	ND	0.36	0.21	ND	
7/21/2008	0.80	1.50	0.52	0.37	ND	ND	ND	ND	0.41	0.34	ND	
9/29/2008	0.99	1.60	0.54	0.30	ND	ND	0.13	ND	0.42	0.42	0.12	
12/1/2008	0.67	1.30	0.33	0.21 J	ND	ND	ND	ND	0.27 J	0.37 J	0.19 J	
1/26/2009	0.63	1.20	0.29 J	0.12 J	ND	ND	ND	ND	0.26 J	0.24 J	ND	
3/9/2009	0.62	1.20	0.29 J	0.13 J	ND	ND	ND	ND	0.23 J	0.26 J	ND	
6/11/2009	0.71	1.10	0.30 J	0.13 J	ND	ND	0.14 J	ND	0.24 J	0.28 J	ND	
9/15/2009	0.80	1.00	0.22 J	0.08 J	ND	inactive	0.03 J	ND	0.22 J	0.37 J	0.03 J	
12/14/2009	0.67	0.65	0.10 J	not sampled	not sampled	inactive	ND	not sampled	0.21 J	0.30 J	0.11 J	
3/22/2010	0.67	0.79	ND	ND	inactive	ND	ND	inactive	0.20 J	0.11 J	0.13 J	
Italics (if used) indicate data not yet validated				Bold font indicates concentration > ACL								

Table 2
Outstanding Deliverables Schedule (2010)
BCT Meeting for Former Fort Ord, Marina CA –January 2010

Deliverable	Scheduled Submittal	Status / Remarks (Bold font indicates submittal)
<i>Primary Deliverables</i>		
None scheduled		
<i>Secondary Deliverables</i>		
Draft 2007 Annual and Fourth Quarter Groundwater Monitoring Report	May-2010	In progress.
Agency Comments	July-2010	
Final 2007 Annual and Fourth Quarter Groundwater Monitoring Report	August-2010	Task not started.
Agency Comments	NA	
Draft 2008 Annual and Fourth Quarter Groundwater Monitoring Report	May-2009	Comments received on 2nd through 4th Quarter reports
Agency Comments	Sept-2009	Received
Final 2008 Annual and Fourth Quarter Groundwater Monitoring Report	December-2009	Submitted 18 December 2009
Agency Comments	NA	
Draft 2009 Annual and Third Quarter Groundwater Monitoring Report	January-2010	Submitted 05 February 2010
Agency Comments	April-2010	
Final 2009 Annual and Third Quarter Groundwater Monitoring Report	April-2010	Task not started – Agency review of Draft is underway.
Agency Comments	NA	
Final Rebound Evaluation Report	March-2010	Task not started.
Agency Comments	NA	
2010 First Quarter Groundwater Monitoring Report	May-2010	Task not started - Samples to be collected in March.
Agency Comments	July-2010	
Draft 2010 Annual and Third Quarter Groundwater Monitoring Report	October-2010	Task not started - Samples to be collected in September.
Agency Comments	December-2010	
Final 2010 Annual and Third Quarter Groundwater Monitoring Report	January-2011	Task not started.
Agency Comments	NA	

Figure 5.3b
OU-1 FONR
TCE Concentrations in Groundwater
September 2009



- Legend**
- ⊕ Monitoring Well
 - ⊕ Extraction Well
 - ⊕ Bold green font indicates active well.
 - ⊕ Injection Well
 - ⊕ Bold green font indicates active well.
 - ⊕ Well Not Sampled
 - ▲ Piezometer
 - MW-OU1-87-A Locations With September 2009 TCE Concentration At Or Above ACL (5 µg/L)
 - 5- TCE Contour (µg/L) Based on September 2009 Data
 - - - Inferred Extent - See Notes Below
 - MW-OU1-87-A Well ID
 - (42 ft. - 9.30) September 2009 TCE Result (µg/L)
 - Sample Elevation (feet above mean sea level)
 - - - Trail/Unimproved Road
 - ××× Fence
 - Treated Water Infiltration Trench
 - - - Estimated Northwest Treatment System Capture Zone
 - Former Fire Drill Area
 - ← General Direction of Groundwater Flow

Notes:
 Units of TCE concentrations are in ppb
 ND = Non-detect
 NA = Depth is not applicable - sample is from pumping well
 J = Estimated Value
 µg/L = Micrograms per liter
 Wells shown with an asterisk were not used to develop contour boundaries. Active extraction wells were typically not included because the data is not location-specific. Data from extraction well EW-OU1-71-A was used to infer the 10 µg/L TCE contour (shown as dashed line) because the results at that well (9.4 µg/L) and at nearby wells suggest higher TCE concentrations in that vicinity. The TCE concentration at EW-OU1-53-A was 10 µg/L and nearby well data was less than 10 µg/L. Consequently, the 10 µg/L contour enclosing well EW-OU1-53-A was also dashed because the extent is inferred from recent results. Data from MW-B-10-A was excluded because the well does not fully penetrate the A-Aquifer.
 Well names appearing in gray were not included in OU1-Groundwater Monitoring Program.
 Wells for which no data are posted were not sampled.

Y:/Fort_Ord/OM9/TO_201/GW_Monitoring_Y6Q3/
 TCE_in_GW_September_2009.mxd
 Source: HGL
 12/29/09 TB

