

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

Fort Ord Hazardous and Toxic Waste Base Closure Team (BCT) Meeting  
25 June 2010, 1:30 PM  
Monterey, California

**1. Groundwater Remediation System Update**

HGL provided the following summary of system operations:

The Northwest Treatment System (NWTS) has operated continuously since 30 April 2010, except for a brief shutdown on 10 June 2010 (approximately 4.5 hours) to repair the high-pressure alarm switch. Extraction well EW-OU1-66-A (the remaining pumping well on the northwest boundary – the others are off-line) stopped pumping due to a low voltage episode sometime between 07 June and 14 June 2010. Operation was restored at that well on 16 June 2010, and the flow control logic was adjusted to reduce the possibility of a recurrence.

EW-OU1-60-A continued to show zero pumping at the flow rate and volume meters; however, it was determined during the re-start of EW-OU1-66-A on 16 June 2010 that a very minimal flow (below the sensitivity range of the meters) is occurring at EW-OU1-60-A – perhaps 0.1 gallon per minute (gpm). We will continue to monitor EW-OU1-60-A during the weekly O&M inspections to determine if this minimal flow rate is continuing.

The four extraction wells in the interior portion of the OU-1 plume have operated normally since the last BCT meeting. Thus far in 2010, the NWTS has removed approximately 0.23 pound of trichloroethene (TCE). Since system start-up in 2006, the NWTS has removed approximately 4.7 pounds of total volatile organic compounds.

Performance monitoring samples for the second quarter 2010 will be collected on 21 June 2010. Laboratory analytical results for TCE from the March 2010 performance sampling effort have been validated and are shown in Table 1. These results were discussed during the April BCT meeting and are summarized below (italicized) for reference:

- *TCE exceeded the aquifer cleanup level (ACL) only at the two extraction wells nearest to the original source area (EW-OU1-71-A and MW-OU1-87-A). TCE concentrations increased by 1 microgram per liter ( $\mu\text{g/L}$ ) at EW-OU1-71-A to 8.5  $\mu\text{g/L}$  and rose slightly from 6.9  $\mu\text{g/L}$  to 7.2  $\mu\text{g/L}$  at MW-OU1-87-A.*
- *TCE concentrations at EW-OU1-66-A, MW-OU1-85-A and MW-OU1-46-AD continued to decline and all were less than 1 microgram per liter ( $\mu\text{g/L}$ ). Concentrations at the latter two wells are approaching the detection limit (0.62  $\mu\text{g/L}$  and 0.55  $\mu\text{g/L}$ , respectively.)*
- *EW-OU1-60-A was sampled and TCE was not detected. This well had not been sampled since June 2009.*
- *The influent TCE to the treatment plant was stable at 2.3  $\mu\text{g/L}$  and the effluent concentration remained non-detect. Cis-1,2-dichloroethene (Cis-1,2-DCE) was present in the effluent at 0.13  $\mu\text{g/L}$  (well below the carbon change criteria of 3.0  $\mu\text{g/L}$ ).*

Extraction wells EW-OU1-62-A and EW-OU1-63-A on the northwest boundary were taken out of service in January as discussed in previous BCT meetings. Wells MW-OU1-57-A and MW-OU1-58-A were

designated as replacement samples but were inadvertently omitted from the sampling program in March. These wells were sampled on 03 May 2010. The validated analytical results for TCE at these wells are:

- MW-OU1-57-A Non-detect
- MW-OU1-58-A 0.34 J µg/L

These results are consistent with data from these wells since 2007 and will be included in the 2010 First Quarter Groundwater Monitoring Report.

## **2. Long-Term Monitoring Update**

Validated laboratory analytical results from the March 2010 long-term monitoring (LTM) sampling event have also been received and are shown in Figure 7 (preliminary draft extracted from 2010 First Quarter Groundwater Monitoring Report in preparation). There were no changes from the preliminary results discussed at the April BCT meeting. A brief summary of these data are provided below for reference.

- *The maximum TCE concentration reported in the first quarter 2010 LTM event was 7.8 µg/L at well EW-OUI-53-A. This is a decline from the 11 µg/L to 10 µg/L detected during 2009.*
- *Un-validated sample results for the long term monitoring semiannual sampling showed general declines in TCE concentration at most wells in comparison to the previous samples collected in September 2009. TCE increased only at the following locations:*
  - *MW-OUI-61-A from 9.9 µg/L to 15.0 µg/L*
  - *EW-OUI-52-A from 5.0 µg/L to 6.5 µg/L*
  - *MW-OUI-82-A from 0.88 µg/L to 1.4 µg/L*
  - *MW-OUI-23-A from 3.8 µg/L to 3.9 µg/L*
- *TCE concentrations decreased at 11 wells and remained at non-detect at off-Post well MW-OUI-70-A. The more notable decreases included the following wells within the trailing portion of the plume (listed in order of increasing distance from the southernmost [i.e., nearest] extraction well):*
  - *MW-OUI-86-A from 2.6 µg/L to 1.2 µg/L*
  - *MW-OUI-26-A from 7.7 µg/L to 6.4 µg/L*
  - *IW-OUI-10-A from 8.2 µg/L to 6.0 µg/L*
  - *EW-OUI-53-A (this well and well MW-OUI-23-A define the trailing edge of the plume) from 10.0 µg/L to 7.8 µg/L*

## **3. Report Submittals**

Table 2 summarizes the status of scheduled reports through 2010. HGL received comments from the Fort Ord Community Action Group on the Draft 2009 Annual and Fourth Quarter Groundwater Monitoring Report and worked with the Army to address those comments. Draft responses were provided to the agencies for review. The agencies indicated that the comment responses were satisfactory. The final report version is being prepared.

Preparation has also begun on the First Quarter 2010 Groundwater Monitoring Report.

#### **4. Other**

##### ***4a) 2010 Rare Plant Survey***

The U.S. Fish & Wildlife Service did not respond to the recommendation that the 2010 rare plant monitoring be suspended. Therefore, the OU-1 rare plant survey was not performed this year. HGL did survey the reference plot and will incorporate those data into the 2010 Annual Fort Ord Natural Reserve Impact Report.

##### ***4b) IW-OU1-10-A System Expansion***

HGL has received bids for construction of the proposed remediation system expansion and is working with the Army to implement this project. The IW-OU1-10-A Design Technical Memorandum is tentatively scheduled for submittal in late July or early August. Construction will begin after the review and comment response is completed. HGL is requesting a rapid review if possible (within 2 to 3 weeks) to facilitate compliance with the Habitat Management Plan (in particular, to complete the project within the dry season). A draft outline of this Technical Memorandum is provided as Attachment 1 for reference. The regulatory agencies stated that the proposed review schedule and IW-OU1-10-A Design Technical Memorandum outline were acceptable.

##### ***4c) Previous Meeting Minutes***

No comments were received on the Draft May 2010 BCT OU-1 meeting minutes and these minutes are now accepted as final.

There were no other discussion items related to the OU-1 On-Post remedial action.

**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 - June 2010**

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

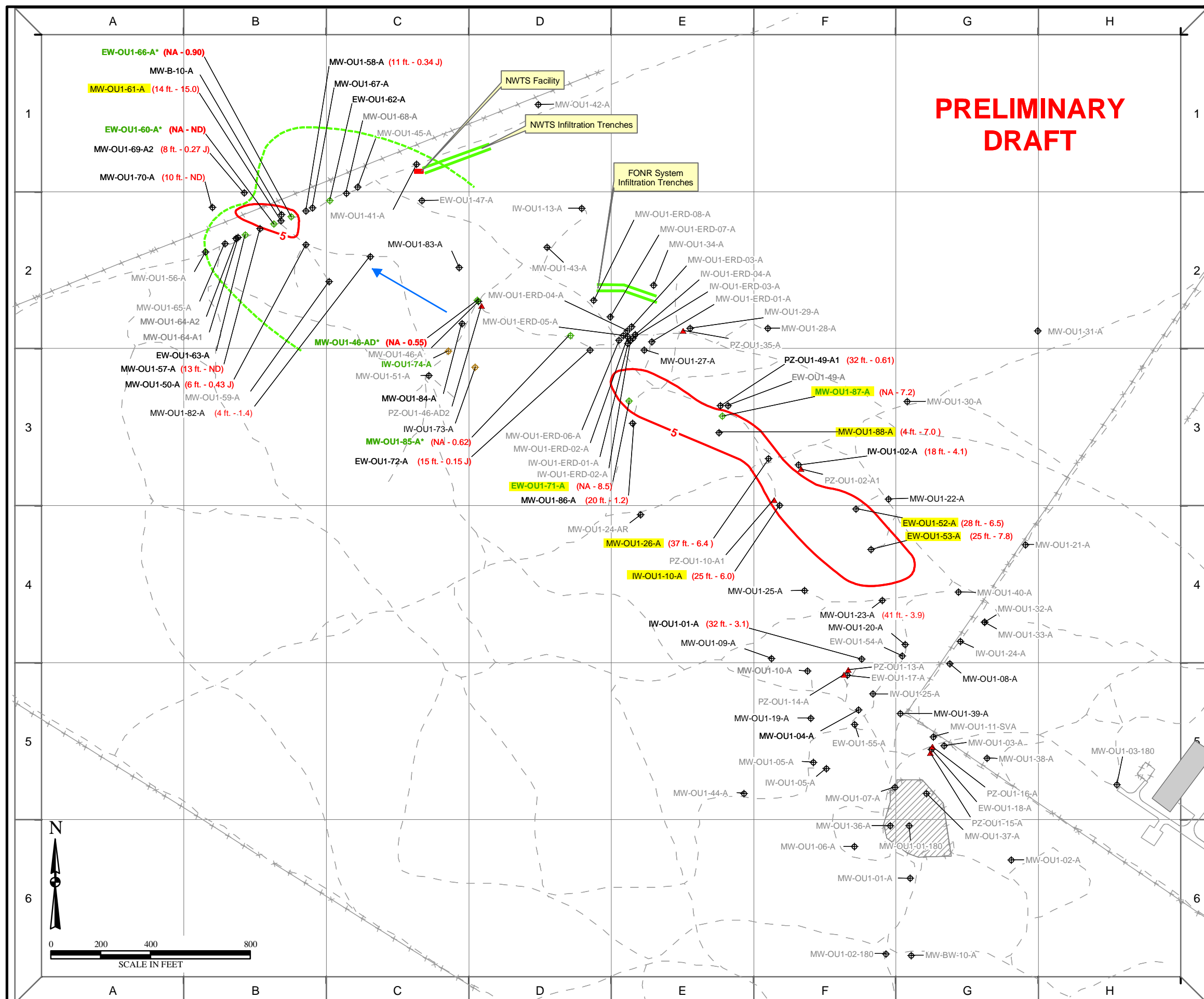
**Table 2**  
**Deliverable Schedule**  
**IPM / BCT Meeting for Former Fort Ord, Marina CA – June 2010**

Deliverable	Scheduled Submittal	Status / Remarks ( <b>Bold font indicates submittal</b> )
<i>Primary Deliverables</i>		
<b>None Scheduled for 2010</b>		
<i>Secondary Deliverables</i>		
Draft 2007 Annual and Fourth Quarter Groundwater Monitoring Report	June 2010	In Progress.
Agency Comments	August 2010	
Final 2007 Annual and Fourth Quarter Groundwater Monitoring Report	September-2010	
Agency Comments	NA	
<b>First Quarter 2008 Groundwater Monitoring Report</b>	<b>July 2009</b>	<b>Submitted 21 August 2009</b>
Agency Comments	NA	
<b>Third Quarter 2008 Groundwater Monitoring Report</b>	<b>March 2009</b>	<b>Submitted 19 March 2009</b>
Agency Comments	May 2009	No Comment
<b>Draft 2008 Annual and Fourth Quarter Groundwater Monitoring Report</b>	May 2009	Comments received on 2 <sup>nd</sup> through 4 <sup>th</sup> Quarter reports
Agency Comments	Sept 2009	Received
<b>Final 2008 Annual and Fourth Quarter Groundwater Monitoring Report</b>	December 2009	Submitted 18 December 2009
Agency Comments	NA	
<b>First Quarter 2009 Groundwater Monitoring Report</b>	June 2009	Submitted 22 June 2009
Agency Comments	August 2009	No Comment
<b>Draft 2009 Annual and Third Quarter Groundwater Monitoring Report</b>	February 2010	Submitted 08 February 2009
Agency Comments	April 2010	Agencies approved changes to 2010 sample frequency with no other comments. FOCAG comments are being addressed.
Final 2009 Annual and Third Quarter Groundwater Monitoring Report	May 2010	
Agency Comments	NA	
Final Rebound Evaluation Report	June 2010	In Progress.
Agency Comments	NA	
Draft IW-OU1-10-A Design Technical Memorandum	July 2010	
Agency Comments	August 2010	
Final IW-OU1-10-A Design Technical Memorandum	August 2010	

**Bold** denotes completed submittals.

**Figure 7**  
**OU-1 FONR**  
**TCE Concentrations in Groundwater**  
**March 2010**

**PRELIMINARY  
DRAFT**



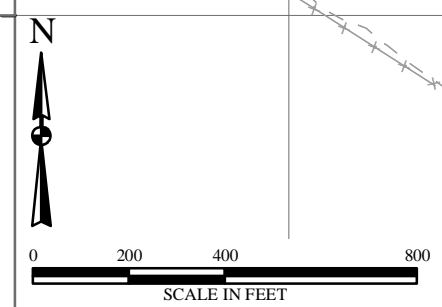
**Legend**

- ◊ Monitoring Well
- ◊ Extraction Well  
**Bold green font indicates active well**
- ◊ Injection Well  
**Bold green font indicates active well**
- ▲ Piezometer
- MW-OU1-88-A** Locations With March 2010 TCE Concentration At Or Above ACL (5 µg/L)
- 5 —** TCE Contour (µg/L) Based on March 2010 Data
- Well ID
- (4 ft. - 7.0) — March 2010 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 wells EW-OU1-71-A and MW-OU1-87-A were used to infer the 5 µg/L TCE contour because the results at those wells suggest higher TCE concentrations nearby.  
Well names appearing in gray were not included in OU1-Groundwater Monitoring Program.  
Wells for which no data are posted were not sampled.

X:/OMA009/FT\_Ord/TO\_201/Maps/GW\_Monitoring\_Y7Q1/  
TCE\_in\_GW\_Mar\_2010.mxd

Source: HGL  
06/07/10 PD



## Former Fort Ord Operable Unit 1 Remediation System Expansion Cost Proposal

### Attachment 7.2.2A

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#### Outline: IW-OU1-10-A Remediation System Expansion Design Technical Memorandum

1. Project Overview
2. Project Description
  - a. Pump and Pipeline Modifications
  - b. Power
  - c. Treatment Plant Modifications
  - d. Construction Activities
  - e. Environmental Monitoring
  - f. Waste Management
3. Estimated Construction Schedule
4. Groundwater Quality and System Performance Monitoring
5. Documentation

#### List of Figures

- a) Project Site and Current Plume Extent
- b) Design Drawings:
  - a. Vicinity Map & Index to Drawings
  - b. Civil, Structural, Mechanical Legends And Standard Abbreviations
  - c. Site Layout, Piping & Well Locations
  - d. Trench, Yard Pipe & Details
  - e. Extraction Wellhead Vaults & Detail
  - f. Instrumentation and Control and Electrical Legend
  - g. Instrumentation Installation Detail
  - h. Modifications to Annunciator Panel Controls
  - i. Treatment System Electrical Plan, Panel Schedules and Control Diagrams
- c) Revised Groundwater Monitoring Network

#### List of Tables – none planned