

HGL Update
Fort Ord Operable Unit 1
Groundwater Remediation, Well Destruction, and Treatment Plant Decommissioning
Santa Rosa, California
1:00 p.m., 5 December 2013

OU-1 Treatment Plant Operations

The Northwest Treatment System (NWTS) operated nearly continuously from 6 November 2013 through 1 December 2013. The system was shut down for approximately 1.5 hours on 6 November 2013 in preparation for PG&E to conduct transformer work. The transformer work was rescheduled for 14 November 2013, which caused the system to be shut down for approximately 7 hours. Extraction wells EW-OU1-60-A, EW-OU1-66-A, MW-OU1-87-A, and IW-OU1-10-A are operating and total pumping from those wells is approximately 34 gallons per minute. Extraction well IW-OU1-10-A was restarted on 14 October and will be run intermittently (along with extraction well MW-OU1-46-A) for approximately 1 month to maintain operability and provide additional data from the next sampling event to monitor overall performance. Since system startup in 2006, the NWTS has pumped approximately 205 million gallons of groundwater and removed approximately 6.0 pounds of total volatile organic compounds, primarily trichloroethene (TCE). An estimated 0.06 pound of TCE has been removed since the NWTS 18 September 2013 sampling event.

OU-1 Groundwater Quality Data

The validated September sampling results were presented and discussed at the November Base Closure Team (BCT) meeting. The results showed essentially stable TCE concentrations since the June 2013 sampling event. Extraction well and treatment system sample results are presented in attached Tables 1A and 1B and Figure 1 shows the TCE concentration contours based on the validated September 2013 data.

As agreed at the November BCT meeting, HGL will collect the following samples from monitoring wells and the NWTS in December 2013:

- Monitoring wells MW-OU1-88-A and MW-OU1-61-A
- Extraction wells MW-OU1-87-A and IW-OU1-10-A (restarted on 14 October 2013)

The sampling event is tentatively scheduled for 17 December 2013.

Reporting/Federal Facility Agreement Schedule

All scheduled submittals have been made for primary and secondary deliverables. The status of submitted and anticipated reports for 2013 and 2014 is summarized in Table 2. The Army is currently reviewing the preliminary draft UFP-QAPP, the preliminary draft Work Plan for the demolition efforts, and the Health and Safety Plan for both the Well Destruction and OU-1 Groundwater remediation projects. The preliminary draft OU-1 2013 Annual and Third Quarter Groundwater Monitoring Report is also being reviewed by the Army.

Weed Control and Rare Plant Monitoring

University of California Santa Cruz staff submitted their draft annual report to describe 2013 weed control activities. The 2013 Rare Plant Survey and Habitat Impact Report will be submitted for Army review this month.

Uniform Federal Policy (UFP)-Quality Assurance Project Plan (QAPP)

The existing QAPP for OU-1 was updated to reflect the UFP format.

Action Items:

No new action items were identified at the previous meeting.

Ongoing:

- Submit draft minutes for previous BCT meeting(s) — complete.
- Submit final minutes for previous BCT meeting(s) — Final minutes for meetings after August 2013 were submitted on 3 December 2013
- Prepare update for the next BCT meeting.

**Fort Ord HTW BCT Meeting
6 December 2013**

**Fort Ord Operable Unit 1
Groundwater Remediation, Well Destruction, and Treatment Plant Decommissioning**

ATTACHMENT 1

Reference Table(s) and Figure(s)

Table 1A
TCE in OU-1 FONR Groundwater Remediation System – Performance Monitoring
BCT Meeting for Former Fort Ord – 6 December 2013

Began: Date	FONR Extraction Well (listed from south to north)					Boundary Extraction Well (from west to east)				NWTS		
	Nov-10		Oct-07			Jul-06				INFLUENT	MIDPOINT	EFFLUENT
	IW-10	MW-87	EW-71	MW-85	MW-46AD	EW-63	EW-60	EW-66	EW-62			
TCE (µg/L)												
11/9/07		16	13	19	14	ND	ND	1.7	ND	11	ND	ND
1/18/08		11	11	8.9	8.2	ND	ND	1.2	ND	6.0	ND	ND
3/18/08		11	14	6.7	5.8	ND	0.29	1.5	ND	5.6	ND	ND
5/27/08		9.7	18	2.5	6.1	ND	ND	1.8	ND	3.9	ND	ND
7/21/08		9.1	14	4.4	3.4	ND	0.78	1.4	ND	3.6	ND	ND
9/29/08		9.3	J	15	J	4.3	J	ND	0.90	J	1.7	J
12/1/08		5.8	11	2.6	1.6	ND	0.82	0.91	ND	2.7	0.35	J
1/26/09		5.9	10	2.2	1.2	ND	0.48	J	0.78	ND	2.4	ND
3/9/09		5.8	9.9	2.1	1.2	ND	0.95	0.86	ND	2.7	ND	ND
6/11/09		6.9	11	2.4	1.5	ND	0.88	1.7	ND	2.6	0.14	J
9/15/09		6.8	9.4	1.7	0.78	ND	inactive	1.1	0.036	J	2.3	0.35
12/14/09		6.9	7.5	0.84	not sampled	not sampled	inactive	0.94	not sampled	2.3	0.65	J
3/22/10		7.2	8.5	0.62	0.55	inactive	ND	0.90	inactive	2.3	ND	ND
6/21/10	Used as monitoring well until pump installed in October 2010. Pumping began 03 November 2010.	7.4	6.5	0.90	0.40	J	inactive	0.86	0.58	inactive	2.1	ND
9/20/10		7.7	6.6	0.83	0.35	J	discontinued	0.63	0.49	J	inactive	2.3
12/16/10	5.2	6.9	5.2	0.58	0.28	J	discontinued	0.72	0.42	J	inactive	2.6
3/7/11	5.1	6.0	4.6	0.55	0.60	discontinued	0.87	0.42	J	inactive	2.5	0.59
6/7/11	4.2	6.1	4.0	0.78	0.63	discontinued	0.76	0.36	J	inactive	2.6	1.0
9/20/11	4.5	6.2	4.2	1.10	0.38	J	discontinued	0.57	0.36	J	inactive	2.5
12/7/11	3.8	5.1	3.7	not sampled		discontinued	inactive	0.27	J	inactive	1.8	2.1
3/15/12	3.7	5.5	3.8	0.70	0.23	J	discontinued	inactive	0.38	J	inactive	0.81
9/25/12	--	5.3	4.4	--	--	discontinued	inactive	0.19	J	inactive	1.8	0.72
1/8/13	--	5.4	--	--	--	discontinued	ND	0.19	J	inactive	1.54	--
3/27/13	--	4.8	--	--	--	discontinued	ND	0.23	J	inactive	1.48	--
6/26/13	--	4.4	--	--	--	discontinued	--	--	J	inactive	1.90	--
9/18/13	--	4.7	1.9	--	--	discontinued	0.17	J	0.31	J	inactive	2.00
	Italics (if used) indicate data not yet validated									Bold font indicates concentration > ACL		

Notes:

ACL - aquifer cleanup level

--- Not sampled

µg/L - micrograms per liter

J - Data qualified as estimated

Blue font indicates the concentration is calculated using the weighted average of the active pumping wells.

ND - nondetect

TCE - trichloroethene

FONR - Fort Ord Natural Reserve

NWTS - Northwest Treatment System

Table 1B

cis-1,2-DCE in OU-1 FONR Groundwater Remediation System – Performance Monitoring

BCT Meeting for Former Fort Ord – 6 December 2013

Italics (if used) indicate data not yet validated

Bold font indicates concentration > ACL

Notes:

ACL - aquifer cleanup level

-- - Not sampled

$\mu\text{g/L}$ - micrograms per liter

J - Data qualified as estimated

Blue font indicates the concentration is calculated using the weighted average of the active pumping wells.

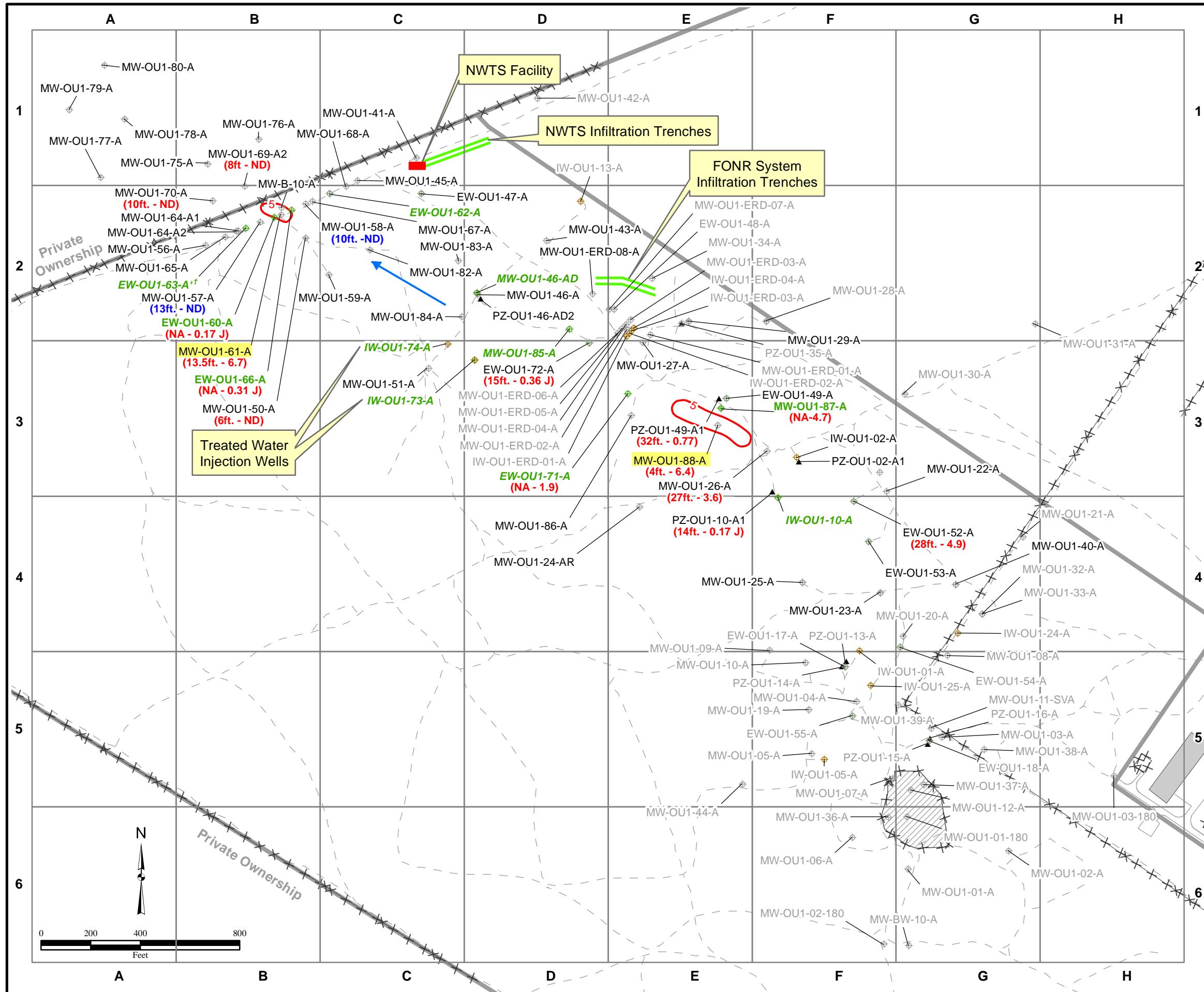
| ND - nondetect

DCE - dichloroethene

FONR - Fort Ord Natural Reserve

Table 2
Current Deliverable Schedule
Former Fort Ord, Marina, CA – 6 December 2013

Deliverable Title	Submittal	Review Comments Due	Status/Remarks
<i>Primary Deliverables</i>			
None scheduled			
<i>Secondary Deliverables</i>			
Draft 2013 Annual and 3 rd Quarter Groundwater Monitoring Report	December 2013	January 2014	Awaiting Army comments on preliminary draft.
Draft UFP-QAPP	December 2013	January 2014	Awaiting Army comments on preliminary draft.
Draft Work Plan for Well Destruction and Treatment Plant Demolition	December 2013	January 2014	Awaiting Army comments on preliminary draft.
Draft 2014 Semiannual Groundwater Monitoring Report	June 2014	August 2014	Sampling to be completed in March 2014.
Draft Well Destruction and Treatment Plant Demolition Completion Report	August 2014	September 2014	Field work to be completed in June 2014.
<i>Completed Recent Submittals</i>			
Final Memorandum for Record for Optimizing Remediation Pumping	March 2012	February 2012	Accepted as final during July 2012 BCT meeting.
Draft 2012 Annual and 3 rd Quarter Groundwater Monitoring Report	December 2012	NA	Submitted 31 December 2012. Waiting for agency comments.
Final 2012 Annual and 3 rd Quarter Groundwater Monitoring Report	March 2013	NA	Submitted 21 March 2013.
2013 First Quarter Groundwater Monitoring Report	June 2013	August 2013	Submitted 1 July 2013.
Preliminary Draft Work Plan for Well Destruction and Treatment Plant Demolition	5 November 2013	19 November 2013	In review.
Preliminary Draft Health & Safety Plan	5 November 2013	19 November 2013	In review.
Preliminary Draft 2013 Annual and 3 rd Quarter Groundwater Monitoring Report	19 November 2013	19 December 2013	In review.
Preliminary Draft UFP-QAPP	26 November 2013	10 December 2013	In review.



**Figure 1
OU-1 FONR A-Aquifer
TCE Concentration in Groundwater
September 2013
Former Fort Ord, CA**

Legend

- ⊕ Well
 - ⊕ Extraction Well
 - ⊕ Injection Well
 - ▲ Piezometer or 2-Inch Well
 - Groundwater Flow Direction

MW-OU1-21-A Well Destroyed

MW-OU1-88-A Location with March 2013 TCE Concentrations at or above ACL (5 µg/L)

MW-OU1-57-A Well ID

(13.5ft. - 6.7) — September 2013 TCE Result (µg/L)
—— Sample Elevation
(feet above mean sea level)

(13ft. - ND) — Jan/Feb/March 2013 Latest TCE Result (µg/L)
—— Sample Elevation
(feet above mean sea level)

— 5 — TCE contour based on
September 2013 Data

- - - Trail/Unimproved Road

✗ Fence

— Treated Water Infiltration Trench

— Property Boundary

Building

Former Fire Drill Area

Notes:
Units of TCE concentration are in micrograms per liter.
FONR = Fort Ord Natural Reserve
NWTS = Northwest Treatment System
ACL = Aquifer Cleanup Level
ND = nondetect
NA = Depth is not applicable - sample is from pumping well
µg/L = micrograms per liter
Wells shown with an asterisk were not used to develop contour boundaries.
Wells for which no data are posted were not sampled.
J = Estimated value
Green font indicates extraction or injection well.
Italicized font shows pumping suspended.
[†] = Disconnected extraction well. No longer operable.

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(1)TCE_2013-09.mxd
11/12/2013 CNL
Source: HGI

