

**Former Fort Ord Operable Unit (OU)-1 – Base Closure Team (BCT) Meeting
Status Update
Groundwater Remediation, Well Destruction, and Treatment Plant Decommissioning
Marina, California
22 October 2015**

OU-1 On-Post Activities for 5 September through 15 October 2015

Prepared by HydroGeoLogic, Inc., Roy Evans, Project Manager

Attendees: (to be revised after meeting)

Individual	Attended?	Individual	Attended?
James Specht, USACE		Grant Himebaugh, RWQCB	
Teresa Rodgers, USACE		Edward Ticken, AMEC	
Alex Kan, USACE		Jeff Fenton, AMEC	
Bonnie McNeil, USACE		Derek Lieberman, Ahtna	
Cory Koger, USACE		Brad Clark, Ahtna	
William Collins, BRAC		Holly Dillon, Ahtna	
Tom Ghigliotto, Chenega ¹		Megan Gehrke, Ahtna	
Melissa Broadston, Chenega ¹		Kevin Ghalambor, Burleson	
Bart Kowalski, Chenega ¹		Peter Kelsall, CB&I	
Cary Stiebel, Chenega ¹		Steve Crane, Gilbane	
Lewis Mitani, EPA		Erin Caruso, Gilbane	
Martin Hausladen, EPA		Larry Friend, Gilbane	
Kimberly Gettman, DTSC		Kevin Siemann, Gilbane	
Min Wu, Ph.D., DTSC		Monique Perry, Gilbane	
Steve Sterling, DTSC		Roy Evans, HGL	
Edward Walker, DTSC		Kevin Wierengo, HGL	
		Gage Dayton, Ph.D., UCSC	
X = attended in person or by telephone; blank indicates absent from the meeting			

¹Chenega staff supporting the BRAC
Ahtna = Ahtna Engineering Services
BRAC = Base Realignment and Closure Fort Ord Office
CB&I = Chicago Bridge & Iron, Inc.
DTSC = California Department of Toxic Substances Control

EPA = U.S. Environmental Protection Agency
HGL = HydroGeoLogic, Inc.
RWQCB = Regional Water Quality Control Board
UCSC = University of California, Santa Cruz
USACE = U.S. Army Corps of Engineers

OU-1 Treatment Plant Operations

In accordance with the Exit Strategy decision logic based on sampling results, the northwest treatment system (NWTs) remains offline. Since system startup in 2006, the NWTs has pumped approximately 212 million gallons of groundwater and removed approximately 6.0 pounds of total volatile organic compounds, primarily trichloroethene (TCE).

HGL determined that the Variable Frequency Drive (VFD) at extraction well IW-OU1-10-A is damaged beyond repair, possibly from the lightning strike on 04 August 2015. This well is the

most upgradient extraction well and the capture zone has met the cleanup targets since September 2012. The Army recommends that the VFD at well IW-OU1-10-A not be repaired and that well IW-OU1-10-A remain off-line in accordance with the Exit Strategy decision logic and review of subsequent Attainment Monitoring analytical results.

Power to the transfer pump at the NWTs was automatically cut off during a voltage spike on Sunday 04 October. HGL restored operability on Monday 05 October. There was no apparent damage to the transfer pump or overall NWTs.

OU-1 Groundwater Sampling and Analytical Results

The third Attainment Monitoring event samples were collected between 01 and 06 October. Samples were collected from all wells as planned. Preliminary analytical results are expected during the last week of October. Table 1 presents the results from the first two Attainment Monitoring events. Figure 1 shows the PFOA and PFOS results for each well. The next sampling event will occur 10 December (Thursday) to 15 December (Tuesday).

Reporting/Federal Facility Agreement Schedule

Table 2 shows the status of recently submitted and anticipated reports for OU-1. The draft Uniform Federal Policy Quality Assurance Project Plan Revision 2 (UFP-QAPP) was submitted on 14 October for regulatory and public review. This revision includes the modification to the attainment monitoring well network for PFOA/PFOS sampling and revisions to the data validation and analytical processes related to updates of the Department of Defense Quality Systems Manual. The Army proposes that any agency comments (due on 16 November) on the draft version of the UFP-QAAPP be resolved quickly and incorporated into the December sampling effort (10 to 15 December). This timetable could result in performing the 4th Attainment Monitoring sample collection before the draft final UFP-QAPP is submitted.

The draft 2015 OU-1 Annual Groundwater Monitoring Report is nearing completion; this report is scheduled for submittal on or before 21 October.

Responses to EPA comments on the Draft Technical Memorandum presenting the PFOA / PFOS Sample Results for Attainment Monitoring Event #1 were submitted on 15 October via email for agency review. Because the revisions to the draft version were minimal, only the affected portions of the Memorandum were submitted rather than a full draft final document. If the agencies concur with this approach and accept the responses, the Army will then submit the Final Technical Memorandum. The revisions made in response to the comments were as follows:

- Minor edits were made to 2 sentences and 1 new paragraph was added to the main text,
- Three new paragraphs were added to Attachment C, and
- Two plots showing peak asymmetry data from the laboratory for PFOA/PFOS analysis were added to Attachment C.

The draft 2015 Fort Ord Natural Reserve Impact Assessment and Habitat and Rare Plant Species Survey Results Report is being prepared.

OU-1 Weed Control and Rare Plant Monitoring

UCSC completed field observations of weed populations in selected areas to evaluate the overall effectiveness of past weed control activities. UCSC submitted a data summary report. The Army and HGL are developing recommendations regarding future weed control efforts.

Action Items:

- None.

Ongoing:

- Submit draft minutes for previous BCT meeting(s)—Draft minutes have been approved through September by all regulatory agencies.
- Submit final minutes for previous BCT meeting(s)—complete through September 2015.

Table 1
OU-1 Attainment Monitoring Sample Results, Former Fort Ord, CA

Analyte	TCE				PFOA				PFOS			
Aquifer Cleanup Level or Screening Value	5 ug/L				400 ng/L				200 ng/L			
Sample Event #	1	2	3	4	1	2	3	4	1	2	3	4
Sample Date(s)	5/8/2015	7/17/2015	10/2/2015		5/11/2015	7/20/2015	10/5/2015		5/11/2015	7/20/2015 & 7/24/15	10/5/2015	
Well Identification	Groundwater Concentration: TCE in ug/L; PFOA and PFOS in ng/L											
EW-OU1-53-A	1.6	1.8	<i>awaiting laboratory results</i>		14 J-	13.0	<i>awaiting laboratory results</i>		UJ-	ND	<i>awaiting laboratory results</i>	
EW-OU1-52-A	3.8	3.7			3 J-	4.0			UJ-	ND		
PZ-OU1-10-A1**	3.3	2.5			120 J-	Not sampled			UJ-	Not sampled		
IW-OU1-02-A	1.8	1.8			9 J-	10.0			UJ-	ND		
MW-OU1-26-A	2.5	2.5			34 J-	44.0			7 J-	12.0		
MW-OU1-88-A	4.0	3.2			270 J-	230.0			64 J-	62.0		
						260.0*				72.0*		
PZ-OU1-49-A1	1.8	2.0			7 J-	8.0			UJ-	ND		
MW-OU1-61-A	3.9	4.4		3 J-	3.0		UJ-	ND				
	4.4*	4.3*		4* J-			UJ-					

Notes:

$\mu\text{g/L}$ = micrograms per liter
 ng/L = nanograms per liter
 * = Duplicate

Italic font indicates preliminary, unvalidated data
 OU1 = Operable Unit 1
 RL = reporting limit
 TCE = trichloroethene

U = Not detected
 J- = Potential low bias in reported result
 ND = Not detected

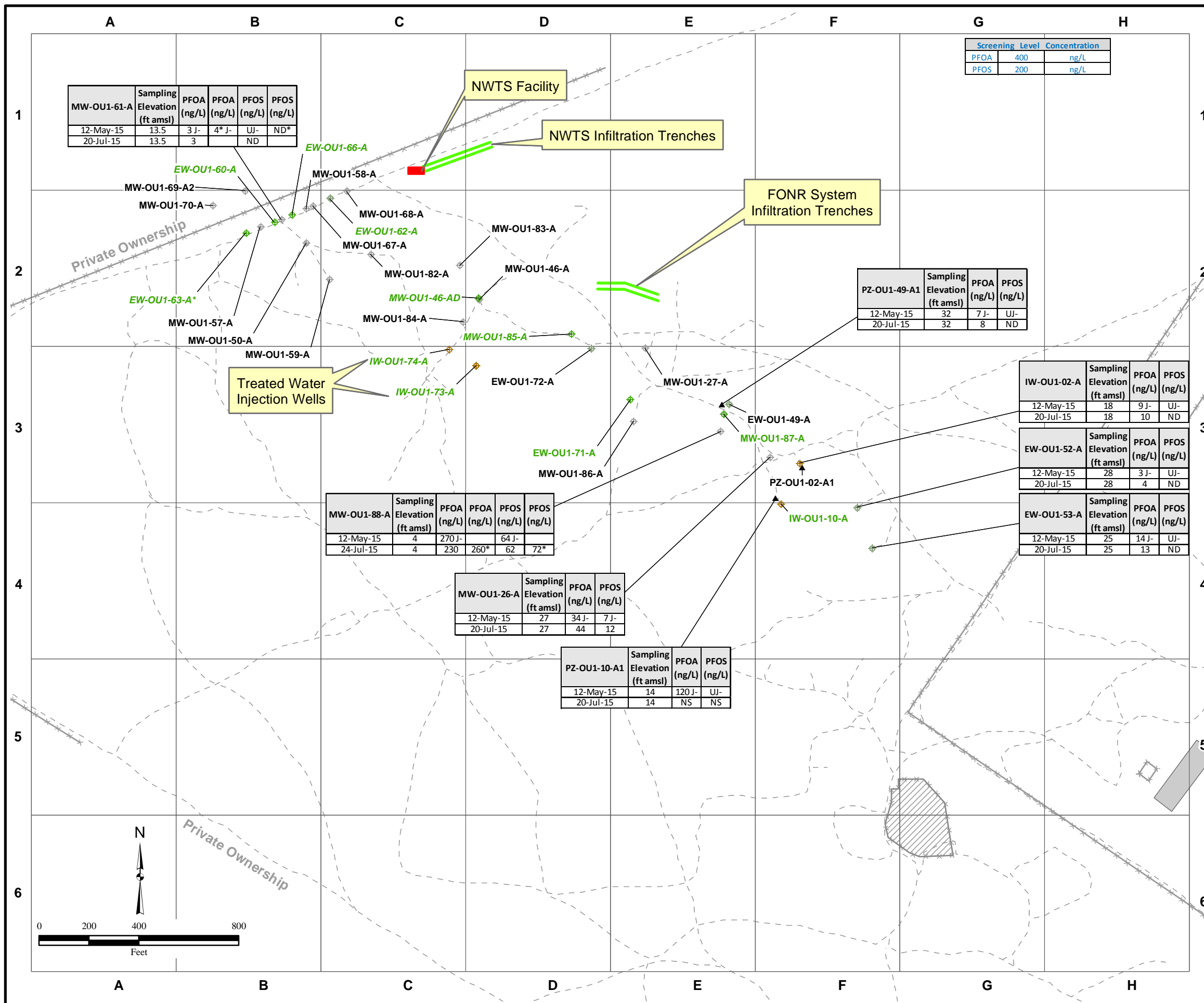
** PZ-OU1-10-A1 was deleted from the sampling network for PFOA and PFOS after Event #1

Table 2
Current Deliverable Schedule
Former Fort Ord, Marina, CA – 10 September 2015

Deliverable Title	Submittal	Review Comments Due	Status/Remarks
<i>Primary Deliverables</i>			
None Pending			
<i>Secondary Deliverables</i>			
Final PFOA/PFOS Sampling Results Technical Memorandum	To be determined	16 November 2015	Responses to comments on Draft submitted on 15 October 2015
2015 Semiannual Groundwater Monitoring Report ¹	07 August 2015	10 September 2015	Accepted without comment
Draft 2015 Annual Groundwater Monitoring Report ¹	October 2015	November 2015	To be submitted by 21 October 2015
Final UFP-QAPP Revision 2	15 October 2015	16 November 2015	In Agency review
<i>Completed Recent Submittals</i>			
Final UFP-QAPP	May 2014	Received	Submitted 29 May 2014
Final 2013 Annual and 3rd Quarter Groundwater Monitoring Report	April 2014	NA	Submitted 04 April 2014
Final Work Plan for Well Destruction and Treatment Plant Demolition	April 2014	NA	Submitted 04 April 2014
Draft Health & Safety Plan – OU-1 O&M/LTM	May 2014	Received	Draft accepted as Final
Draft Well Destruction and Treatment Plant Demolition Completion Report	August 2014	September 2014	Draft accepted as Final Submitted 03 October 2014
Draft Exit Strategy Technical Memorandum	December 2014	February 2015	Comments received 20 February 2015
Draft 2014 Annual Groundwater Monitoring Report	December 2014	January 2015	Accepted as Final without Comment
Final Exit Strategy Technical Memorandum	March 2015	April 2015	Draft Final approved without comment. Change pages distributed 12 May 2015
Site Safety and Health Plan Update	March 2015	Not Applicable	Army approved revisions
Final UFP-QAPP Revision 1	March 2015	April 2015	Draft Final approved without comment. Change pages distributed 14 May 2015

¹ The Semiannual Groundwater Monitoring Report is submitted as a final document but review comments are accepted. Any comments are addressed in the Annual Groundwater Monitoring Report.

Figure 1
Attainment Monitoring Summary
PFOA and PFOS Concentrations
in OU-1 A-Aquifer,
Former Fort Ord, CA



Legend

- Monitoring Well
- Extraction Well
- Injection Well
- Piezometer or 2-Inch Well
- MW-OU1-70-A Well Identification Name
- Trail/Unimproved Road
- Fence
- Treated Water Infiltration Trench
- Former Fire Drill Area
- NWTS Facility

Notes:
 Well labels in green font indicate extraction or injection well.
 Italicized font shows pumping suspended.
 Wells not sampled are not part of Attainment Monitoring Network.
 * =Duplicate
 ft amsl=feet above mean sea level
 J=Sample result biased low
 ND=Nondetect
 NS=Not Sampled
 ng/L=nanograms per liter
 NWTS=Northwest Treatment System
 PFOA=Perfluorooctanoic Acid
 PFOS=Perfluorooctane Sulfonate
 UJ=Not detected; Sample result biased low

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 PFOA_PFOS_Concens_Mon_Summary_Prelim.mxd
 8/12/2015 SS
 Source: HGL

