OU-1 Treatment Plant Operations

HydroGeoLogic, Inc. (HGL) reported the Northwest Treatment System (NWTS) operated nearly continuously from 6 November 2013 through 4 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. However, the transformer work was rescheduled for 14 November 2013, which caused the system to be shut down for approximately 7 hours. HGL also reported that an automatic shutdown occurred this morning at 5:48. HGL will respond as quickly as possible to identify and correct the problem and restore operations.

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 sampling 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; and
- Extraction wells MW-OU1-87-A and IW-OU1-10-A (restarted on 14 October 2013).

The sampling event was scheduled for 17 December 2013 with concurrence from all meeting attendees, including the USACE project chemist (Bonnie McNeill).

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 Uniform Federal Policy-Quality Assurance Project Plan (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.

UFP-QAPP

The existing QAPP for OU-1 was updated to reflect the UFP format and is currently in Army review. It will be submitted to the regulators for review after Army comments are received and addressed. HGL noted that the chemistry, reporting, and quality control elements of the UFP-QAPP are unchanged and the update is focused on integrating the updated document into the Fort Ord-wide UFP-QAPP used to support the other Fort Ord operable units.

Site Closure Monitoring

HGL discussed the possibility that the groundwater cleanup targets might be reached within the next year and that monitoring for site closure could then begin. The U.S. Environmental Protection Agency (EPA) informed the group that new draft guidance regarding groundwater monitoring requirements for site closure has recently been circulated for comment. A key feature of the draft guidance at present is a requirement that all wells be evaluated on a stand-alone basis to achieve closure; this mandate could potentially increase the sampling requirements needed to obtain closeout approvals.

Well Destruction and Treatment Plant Demolition

HGL informed the regulators that a draft work plan to destroy additional wells will be submitted after the Army's review of the preliminary draft is completed and their comments addressed. Some of the proposed wells to be destroyed are within the OU-1 boundary.

Action Items:

- During the meeting the regulatory agencies requested that HGL notify them as soon as possible when further details regarding the treatment plant shutdown are known. HGL restored operations at approximately 5:00 p.m. on the day of the meeting and provided the requested information to the regulatory agencies by email on the morning of 6 December.
- The regulatory agencies reminded the meeting participants that sufficient notice is required if the Army requests an accelerated review of a given report or resolution of an outstanding issue at a given BCT meeting.
- EPA will send a link to the new groundwater monitoring guidance for site closure to the meeting participants.

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													
	FONR Extraction Well (listed from south to north)					Boundar	y Extraction						
Began:	Nov-10	ov-10 Oct-07					J						
Date	IW-10	MW-87	EW-71	MW-85	MW-46AI	D EW-63	EW-60	EW-66	EW-62	INFLUENT	MIDPO	INT	EFFLUENT
	TCE (µg/L)									r			
11/9/07	ч п.	16	13	19	14	ND	ND	1.7	ND	11	ND		ND
1/18/08	led nbe	11	11	8.9	8.2	ND	ND	1.2	ND	6.0	ND		ND
3/18/08	ven	11	14	6.7	5.8	ND	0.29	1.5	ND	5.6	ND		ND
5/27/08	ins No	9.7	18	2.5	6.1	ND	ND	1.8	ND	3.9	ND		ND
7/21/08	03 03	9.1	14	4.4	3.4	ND	0.78	1.4	ND	3.6	ND		ND
9/29/08	l pı gan	9.3	J 15	J 4.3	J 2.9	J ND	0.90	J 1.7 J	J ND	3.8	J 0.19	J	ND
12/1/08	unti be).	5.8	11	2.6	1.6	ND	0.82	0.91	ND	2.7	0.35	J	ND
1/26/09	ell 1 ing 010	5.9	10	2.2	1.2	ND	0.48	J 0.78	ND	2.4	ND		ND
3/9/09	a mi	5.8	9.9	2.1	1.2	ND	0.95	0.86	ND	2.7	ND		ND
6/11/09	PL	6.9	11	2.4	1.5	ND	0.88	1.7	ND	2.6	0.14	J	ND
9/15/09	nito 010.	6.8	9.4	1.7	0.78	ND	inactive	1.1	0.036 J	2.3	0.35	J	ND
12/14/09	mo r 2(6.9	7.5	0.84	not sampled	not sampled	inactive	0.94	not sampled	2.3	0.65	J	ND
3/22/10	as obe	7.2	8.5	0.62	0.55	inactive	ND	0.90	inactive	2.3	ND		ND
6/21/10	Sed	7.4	6.5	0.90	0.40	J inactive	0.86	0.58	inactive	2.1	ND		ND
9/20/10		7.7	6.6	0.83	0.35	J discontinued	0.63	0.49	J inactive	2.3	not samp	ed	ND
12/16/10	5.2	6.9	5.2	0.58	0.28	J discontinued	0.72	0.42 J	J inactive	2.6	0.18	J	ND
3/7/11	5.1	6.0	4.6	0.55	0.60	discontinued	0.87	0.42 J	J inactive	2.5	0.59		ND
6/7/11	4.2	6.1	4.0	0.78	0.63	discontinued	0.76	0.36	J inactive	2.6	1.0		ND
9/20/11	4.5	6.2	4.2	1.10	0.38	J discontinued	0.57	0.36	J inactive	2.5	1.7		ND
12/7/11	3.8	5.1	3.7	not	sampled	discontinued	inactive	0.27 J	J inactive	1.8	2.1		0.13 J
3/15/12	3.7	5.5	3.8	0.70	0.23	J discontinued	inactive	0.38	J inactive	0.81	0.32	J	ND
9/25/12		5.3	4.4			discontinued	inactive	0.19	J inactive	1.8	0.72	J	ND
1/8/13		5.4				discontinued	ND	0.19	J inactive	1.54			ND
3/27/13		4.8				discontinued	ND	0.23	J inactive	1.48			ND
6/26/13		4.4				discontinued		J	J inactive	1.90			ND
9/18/13		4.7	1.9			discontinued	0.17	J 0.31 J	J inactive	2.00			ND
		Italics (if u	sed) indicat	te data not ye	et validated			Bold font in	ndicates concen	tration > AC	L		
Notes:													
ACL - aquifer cleanup level			Not sample	d									
μg/L - micrograms per liter													
J - Data qualified as estimated			Blue font ind	icates the conce	entration is calcu	lated using t	he weighted av	erage of the acti	ive pumping w	ells.			
ND - nondete	ND - nondetect												
TCE - trichlo	oroethene												
FONR - Fort	Ord Natural I	Reserve											
NWTS - Nor	thwest Treatn	nent System											

	Table 1B																			
	cis-1,2-DCE in OU-1 FONR Groundwater Remediation System – Performance Monitoring																			
	-					B	SCT	' Meeting for	r Former For	t Ord – 6 De	ecember 2	201	13	-						
	FONR Extraction Well (listed from south to north)						Boundary Extraction Well (from west to east)					NWTS								
Began:	Nov-10		Oct-07				Jul-06													
Date	IW-10	MW-8	7	EW-71		MW-8	5	MW-46AD	EW-63	EW-60	EW-66)	EW-62	INFLU	ENI	2	MIDPOIN	JT	EFFLU	ENT
11/00/07		1.0		1.6	1 1	2.2		1.70		18-1,2-DCE (µ	Ig/L)	T	ND	1.2		1 1	ND		ND	
11/09/07	l in er	1.9		1.0		2.3		1.70	ND	ND	ND 0.11		ND	1.5						
01/18/08	llec	1.20		1.40		1.00		1.20	ND	ND	0.11 ND		ND	0.00						
05/18/08	nsta ove	0.88		2.10		0.74		0.03	ND	ND	ND		ND	0.39			0.11	\rightarrow		
03/21/08	i dr 3 N	0.00		2.10		0.20		0.74	ND	ND	ND		ND	0.30			0.21	\rightarrow		
07/21/08	0 unc	0.80		1.50		0.52		0.37	ND	ND	0.13		ND	0.41			0.34		$\frac{ND}{0.12}$	
12/01/08	itil J bega	0.55		1.00		0.34		0.30		ND	ND		ND	0.42		T	0.42	T	0.12	T
01/26/00	l ur ng b 10.	0.07		1.30		0.33	T	0.21	I ND	ND	ND		ND	0.27		J	$\frac{0.37}{0.24}$	J	ND	J
01/20/09	wel npii 20	0.05		1.20		0.29	J	0.12	I ND	ND	ND		ND	0.20		J	0.24			
06/11/09	ing Pur	0.02		1.20		0.20	J	0.13	I ND	ND	0.14	T	ND	0.23		J	0.20	- J		
09/15/09	itori 0.	0.71		1.10		0.30	J	0.13	I ND	inactive	0.14	J	ND	0.24		J	0.20		0.03	I
12/14/09	201	0.67		0.65		0.22	J	not sampled	not sampled	inactive	ND	J	not sampled	0.22		J	0.30	-J	0.03	I
03/22/10	as n ber	0.67		0.05		ND	3	ND	inactive	ND	ND	-	inactive	0.20		J	0.11	I	0.11	I
06/21/10	ed . Octo	0.67		0.53		0.14	J	ND	inactive	ND	ND		inactive	0.20		J	0.23	J	ND	
9/20/10	Us C	0.66		0.46	J	ND		ND	discontinued	ND	ND		inactive	0.23		J	not sample	d	ND	-
12/16/10	0.55	0.66		0.35	J	ND	J	ND	discontinued	ND	ND		inactive	0.27		J	0.28	J	ND	
3/7/11	0.37	J 0.52		0.28	J	0.11	J	ND	discontinued	ND	ND		inactive	0.23		J	0.30	J	ND	
6/7/11	0.35	J 0.55		0.29	J	ND		ND	discontinued	ND	ND		inactive	0.18		J	0.31	J	0.15	J
9/20/11	0.25	J 0.46	J	0.21	J	ND		ND	discontinued	ND	ND		inactive	0.17		J	0.19	J	0.30	J
12/7/11	0.27	J 0.48	J	0.19	J	n	ot sa	mpled	discontinued	inactive	ND		inactive	0.16		J	0.17	J	0.23	J
3/15/12	0.15	J 0.40	J	0.22	J	0.15	J	ND	discontinued	inactive	ND		inactive	ND			0.24	J	ND	
9/25/12		0.39	J	0.23	J				discontinued	inactive	ND		inactive	ND			0.24	J	ND	
1/8/13		0.35	J						discontinued	ND	ND		inactive	0.12						
3/27/13		0.34	J						discontinued	ND	ND		inactive	0.12						
6/26/13		0.31	J						discontinued				inactive	0.27						
9/18/13		ND	J	ND					discontinued	ND	ND		inactive	ND					ND	
		Italics (i	f use	d) indica	te d	lata not j	yet	validated			Bold font	in	dicates conce	ntration >	· A(CL				
Notes:																				
ACL - aquife	er cleanup lev	el				- Not sam	pled													
μg/L - micrograms per liter																	-			
J - Data qualified as estimated Blu				ue font ii	ndic	ates the concer	ntration is calcul	lated using the	e weighted	ave	erage of the ac	tive pumpi	ing	well	s.		-			
ND - nondete	ect									_										
DCE - dichlo	proethene																			
FONR - Fort Ord Natural Reserve												_								
NWTS - Northwest Treatment System																				

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

Deliverable Title	Submittal	Review Comments Due	Status/Remarks						
Primary Deliverables									
None scheduled									
Secondary Deliverables									
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	Fieldwork to be completed in June 2014.						
Completed Recent Submittals									
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.						



HGL—2013 First Quarter Groundwater Monitoring Report Former Fort Ord, CA

1	TCE C	Figure 1 OU-1 FONR A-Aquifer oncentration in Groundwater September 2013 Former Fort Ord, CA
		Legend
	¢	Well
,	Ф	Extraction Well
2 [‡]		Injection Well
7	▲	Piezometer or 2-Inch Well
	\rightarrow	Groundwater Flow Direction
	MW-OU1-21-A	Well Destroyed
	MW-OU1-88-A	Location with March 2013 TCE
\checkmark		Concentrations at or above ACL (5 μ g/L)
4	MW-OU1-57-A	Well ID September 2013 TCE Result (ug/L)
3	(13.511 0.7)-	Sample Elevation
		(feet above mean sea level)
	(13ft ND) -	-Jan/Feb/March 2013 Latest TCE Result
		$(\mu g/L)$
		-Sample Elevation (feet above mean sea level)
		TCE contour based on
` \	— 5 —	September 2013 Data
4		Trail/Unimproved Road
	Х	Fence
		Treated Water Infiltration Trench
		Property Boundary
		Building
,		Former Fire Drill Area
/	Notes:	
^5 .	FONR = Fort O	ncentration are in micrograms per liter. d Natural Reserve
	NWTS = Northy ACL = Aquifer	vest Treatment System Cleanup Level
	ND = nondetect NA = Depth is n	ot applicable - sample is from pumping well
~ /	μg/L = microgra Wells shown wi	ms per liter th an asterisk were not used to develop contour boundaries.
(¥	Wells for which I = Estimated va	no data are posted were not sampled.
	Green font indic	cates extraction or injection well.
	† = Disconnected	d extraction well. No longer operable.
6	\\gst-srv-01\hglgis\1 (1)TCE_2013-09.m 11/12/2013 CNL	$Ft_Ord_MSIWO&M_H10203$
	Somee. HOL	
	IH	