

HTW BCT Meeting

April 10, 2008

Item	Action	Comment
OU1 Groundwater Remediation	Status Update	HGL
OU1 Off-Site	Status Update	
OU2 and 2/12 Treatment Systems	Status Update	
Other Groundwater Issues	Status Update	Quarterly sampling, Groundwater Summit Mtg, Marina Heights, University Village
OUCTP Pilot Study	Status Update	
Groundwater Treatment System Optimization	Status Update	
OU2 Landfill Gas	Status Update	
Basewide Range Assessment	Status Update	Seaside Risk Assessment
Site 39 Feasibility Study Addendum, Proposed Plan and ROD	Status Update	
Site 3 Post Remediation Monitoring	Status Update	
Five Year Review	Status Update	Responses to Comments
FFA Schedule	Status Update	
FOST/FOSET Issues	Status Update	
Calendar Update	Update	

SUBJECT: HTW – BCT Meeting
March 12, 2008
1:00 p.m.

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SUBJECT: HTW – BCT Meeting

March 12, 2008

1:00 p.m.

Check (✓)	Name	Organization	Phone	E-mail address
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**OPERABLE UNIT 1
OFF-SITE GROUNDWATER EXTRACTION PILOT STUDY**

STATUS – March 12, 2008

FIELD WORK

- Well construction complete – December 21
 - 2 extraction wells
 - 3 monitoring wells
- Well development complete – January 3
- Wells surveyed – January 15
- Marina Coast Water District (MCWD) Meeting – February 13
- Received OU1 Pilot Study Work Plan Agency comments – February 8

SCHEDULE

- Equipment/material procurement – March 10
- System construction – April 11
- Baseline sampling and analysis – February 27
- System Startup – April 14

DATA (Preliminary)

- Baseline sample results

PROBLEMS/CHANGES

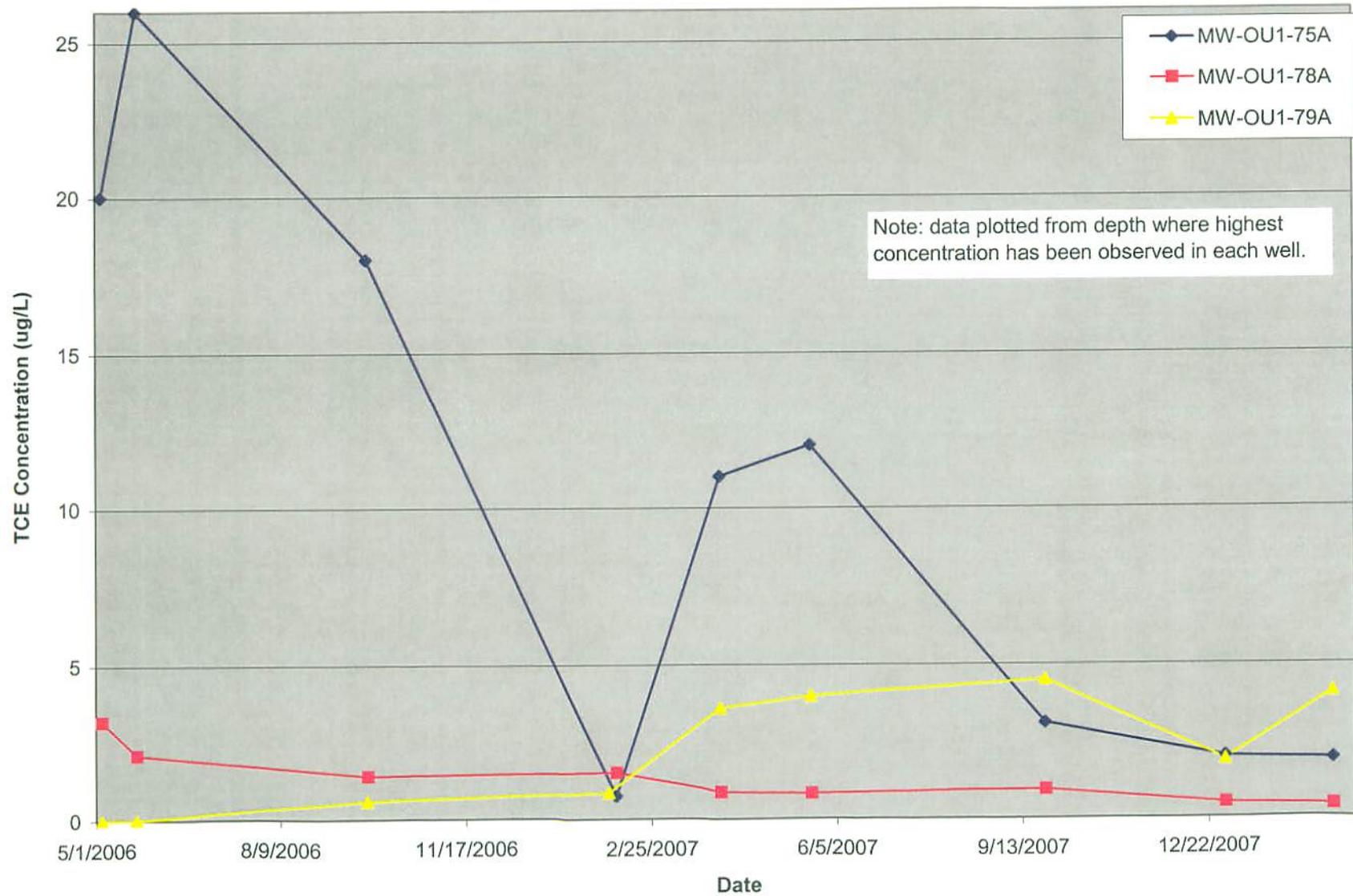
- Treated groundwater will be discharged to a discharge basin within the MCWD property. An injection well was not installed.
- Project schedule delayed to acquire MCWD approval for placement of treatment system and for treated groundwater discharge.
- Building permit required for canopy installation but not for concrete pad installation.

Summary of TCE Analytical Results

WELL IDENTIFICATION	ELEVATION (MSL)	TCE ^a March 28-30, 2006 (ug/L)	TCE May 4, 2006 (ug/L)	TCE May 23, 2006 (ug/L)	TCE September 25, 2006 (ug/L)	TCE Feb 2 & 6, 2007 (ug/L)	TCE April 3, 2007 (ug/L)	TCE May 22, 2007 (ug/L)	TCE September 25, 2007 (ug/L)	TCE December 26, 2007 (ug/L)	TCE February 27, 2008 (ug/L)
MW-OU1-75A	35.87	18.6	2.1	1.7	0.28J	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-75A	30.87	--	14	9.8	2.4	0.64	1.6	0.82	0.69	0.45J	NS
MW-OU1-75A	25.87	--	15	9.5	2.5	0.58	1.7	0.9	0.75	0.46J	NS
MW-OU1-75A	20.87	--	17	9.5	2.6	15	1.6	0.69	0.76	0.47J	NS
MW-OU1-75A	15.87	--	20	26	18	0.75	11	12	3.1	2.0	1.9
MW-OU1-76A	32.33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-76A	27.33	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-76A	22.33	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-76A	17.33	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-76A	12.33	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-OU1-77A	29.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 ^d	<0.5	<0.5	<0.5
MW-OU1-77A	24.1	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-77A	19.1	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-OU1-78A	29.91	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.54	0.36J	NS
MW-OU1-78A	24.91	--	3.2	2.1J ^b	1.4	1.5	0.85	0.6	0.56	0.46J	NS
MW-OU1-78A	19.91	--	2.7	2.3	1.2	1.7	0.94	0.81	0.91	0.47J	0.37J
MW-OU1-79A	29.72	<0.5	<0.5	<0.5UJ ^c	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-OU1-79A	24.72	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-79A	19.72	--	<0.5	<0.5	0.59	0.67/0.85	3.5/3.6	3.8/4.0	2.9/4.5	1.3/1.9	3.0/4.1 (CIS-1,2-DCE=0.26J)
MW-OU1-80A	25.32	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-80A	20.32	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-80A	15.32	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-80A	10.32	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-OU1-81A	21.39	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-OU1-81A	16.39	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-81A	11.39	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-81A	6.39	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS
MW-OU1-81A	1.39	--	<0.5	<0.5	<0.5	<0.5	<0.5/<0.5	<0.5	<0.5	<0.5	<0.5
MW-OU1-89A	31.18										<0.5 (PCE = 0.27J)
MW-OU1-89A	24.68										<0.5
MW-OU1-89A	18.18										<0.5
MW-OU1-90A	27.31										<0.5
MW-OU1-90A	22.31										<0.5
MW-OU1-90A	17.31										<0.5
MW-OU1-90A	12.31										<0.5
MW-OU1-90A	7.27										<0.5
MW-OU1-91A	26.72										<0.5
MW-OU1-91A	21.8										<0.5
MW-OU1-91A	16.89										<0.5
MW-OU1-91A	11.97										<0.5
MW-OU1-91A	7.01										<0.5

Notes:
^a There is no associated discrete depth with the well development samples. These are composites.
^b Data qualified as "J-" is estimated with low bias
^c Data qualified as "UJ" is estimated non-detect due to quality control outliers
^d an estimated concentration of carbon disulfide detected in this sample (0.75J)
 NS = Not sampled

TCE Concentration vs. Time
OU1 Armstrong Wells

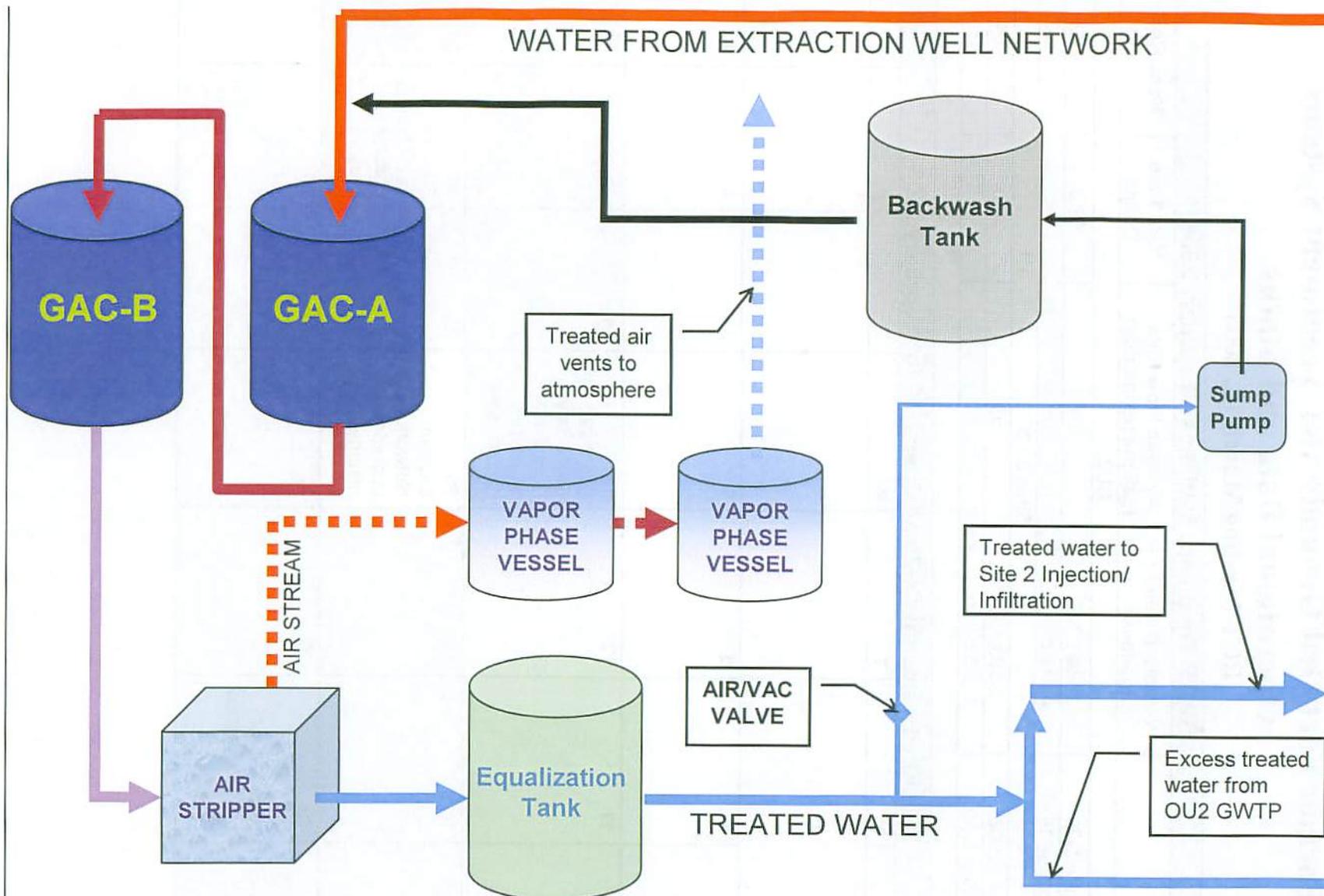


**Former Fort Ord Groundwater Treatment Systems
Operational Data and Status
BCT Meeting March 12, 2008**

GWTP Treatment Statistics – February 2008				
	Volume Treated (gallons)	Average Flow Rate (gallons per minute)	% of Time Online	Mass Removed (lbs)
OU2				
February 2008	28,981,780	693	99.0	2.00
Since October 1995	4.049 billion			557
Sites 2/12				
February 2008	2,793,100	67	44.0	.64
Since May 1999	1.095 billion			389

Key Events for OU2 and Sites 2/12 for February 2008						
S	M	T	W	T	F	S
29 USA Notices in February, none of which required onsite attention					1	2
3	4	5	6	7	8	9
10	11	12	13 Site 2/12 Secondary Containment flooded. GWTP offline.	14	15	16
17	18	19	20 Eastern Network PLC upgrades resumed. ¹	21	22 Site 2/12 Level Switch installation/ programming complete.	23
24	25 2/12 GWTP restart failed due to electrical issues.	26	27	28	29	

¹ OU2 Eastern Network offline during February for this work.



Sites 2/12 GWTP Schematic

OU2 Analytical Results at TS-OU2-INJ					
COC	Discharge Limit (µg/L) ‡	Sample Date / Analytical Results			
		02/06/2008	02/13/2008**	02/21/2008**	02/25/2008**
1,1-DCA	5.0*	1.1	0.89	0.92	0.95
1,2-DCA	0.5	0.23 J	0.21 J	0.19 J	0.21 J
1,2-DCP †	0.5	ND	ND	ND	ND
Benzene	0.5	ND	ND	ND	ND
Carbon Tetrachloride	0.5	ND	ND	ND	ND
Chloroform	2.0*	0.63	0.57	0.55	0.55
Cis-1,2-DCE	6.0*	2.4	2.0	2.0	2.1
Methylene Chloride	0.5	0.20 J	ND	ND	ND
PCE	0.5	ND	ND	ND	ND
TCE	0.5	ND	ND	ND	ND
Vinyl Chloride	0.5	ND	ND	ND	ND

Sites 2/12 Analytical Results at TS-212-INJ					
COC	Discharge Limit (µg/L) ‡	Sample Date / Analytical Results			
		02/06/2008	GWTP not operating		
1,1-DCE	6.0	ND			
1,2-DCA	0.5	0.19 J			
1,3-DCP †	0.5	ND			
Chloroform	2.0	0.44 J			
Cis-1,2 DCE	6.0	3.2			
PCE	3.0	ND			
TCE	5.0	ND			
Vinyl Chloride	0.1	ND			

- J The analyte was positively identified, but the associated numerical value is an approximate concentration greater than the Method Detection Limit (MDL) but less than the Practical Quantitation Limit (PQL).
- ND The analyte was not detected above MDL.
- * Discharge limits for low carbon affinity compounds were increased to the Aquifer Cleanup Level (ACL).
- ‡ Discharge limits are the ACLs for injection over the plume.
- † The reported value is the sum of both cis- and trans-isomers.
- ** Preliminary data; validation has not been completed.
- J± Data are qualified as estimated, with a high (+) or low (-) bias likely to have occurred. False positives or false negatives are unlikely to have been reported.

February 2008 OU2 and Sites 2/12 Extraction Well Status					
Well Identification	% On	Avg. gpm	Total Gallons	% of Total	Comments
Site 12 Extraction Wells					
EW-12-05-180M	21.5	82.0	732,100	26.2	
EW-12-06-180M	44.3	87.0	1,614,000	57.8	
EW-12-07-180M	0.5	64.0	12,800	0.4	Cycling due to air stripper flow limits.
EW-12-03-180U	0	0	0	0	Offline due to low concentrations.
EW-12-03-180M	17.1	61.0	434,200	15.5	Offline due to low concentrations.
EW-12-04-180U	0.1	0	0	0	Offline due to low concentrations.
EW-12-04-180M	0	0	0	0	Ceased operating on 11/21/2005. No power.
OU2 Extraction Wells					
Western Network					
EW-OU2-01-A	0	0	0	0	Offline due to low concentrations.
EW-OU2-02-A	99.3	56.0	2,340,940	8.0	
EW-OU2-03-A	0	0	0	0	Offline due to low concentrations.
EW-OU2-04-A	98.9	52.0	2,137,310	7.3	
EW-OU2-05-A	99.3	51.0	2,133,780	7.3	
EW-OU2-06-A	99.3	37.0	1,545,150	5.3	
EW-OU2-01-180	0	0	0	0	Offline due to low concentrations.
<i>Total gallons extracted:</i>			8,157,180	27.9	
Eastern Network					
EW-OU2-07-A	0	0	0	0	Offline due to low concentrations.
EW-OU2-08-A	0	0	0	0	Offline due to area upgrade/ PLC consolidation.
EW-OU2-09-A	0	0	0	0	
EW-OU2-10-A	0	0	0	0	
EW-OU2-11-A	0	0	0	0	
EW-OU2-12-A	0	0	0	0	
EW-OU2-13-A	0	0	0	0	
EW-OU2-02-180	0	0	0	0	
<i>Total gallons extracted:</i>			0	0	
Shoppette					
EW-OU2-05-180	98.3	135.0	5,531,100	19.0	
EW-OU2-06-180	98.5	154.0	6,347,500	21.9	
EW-OU2-16-A	83.9	23.0	802,300	2.7	
<i>Total gallons extracted:</i>			12,680,900	43.6	
CSUMB					
EW-OU2-14-A	87.2	26.0	929,700	3.2	
EW-OU2-15-A	0	0	0	0.0	
<i>Total gallons extracted:</i>			929,700	3.2	
Landfill					
EW-OU2-03-180	82.5	142.0	4,909,000	16.9	
EW-OU2-04-180	0	0	0	0.0	Offline due to low concentrations.
<i>Total gallons extracted:</i>			4,909,000	16.9	
Bunker Hill					
EW-OU2-08-180	91.7	60.0	2,305,000	7.9	
<i>Total gallons extracted:</i>			2,305,000	7.9	

AHTNA

Government Services Corporation

The following table provides the latest² organic data for key COCs of interest in each of the extraction wells for OU2 and Sites 2/12, respectively. Results exceeding the ACL are in bold.

OU2 Extraction Wells Organic Data			
Well Identification	Analytical Results (µg/L)		
	Chloroform (2.0)	Cis-1,2-DCE (6.0)	TCE (5.0)
<i>Western Network</i>			
EW-OU2-01-A	0.20 J	ND	1.1
EW-OU2-02-A	0.22 J	ND	1.2
EW-OU2-03-A	Not sampled		
EW-OU2-04-A	Not sampled		
EW-OU2-05-A	0.47 J	1.5	5.2
EW-OU2-06-A	0.47 J	1.8	5.0
EW-OU2-01-180	Not sampled		
<i>Eastern Network</i>			
EW-OU2-07-A	ND	ND	ND
EW-OU2-08-A	ND	1.1	2.0
EW-OU2-09-A	0.32 J	5.3	5.6
EW-OU2-10-A	0.48 J	4.3	5.6
EW-OU2-11-A	0.30 J	0.71	2.4
EW-OU2-12-A	Not sampled		
EW-OU2-13-A	1.8	1.6	18
EW-OU2-02-180	ND	4.8	3.4
<i>Shoppette</i>			
EW-OU2-05-180	0.35 J	0.82	9.7
EW-OU2-06-180	0.43 J	1.6	6.6
EW-OU2-16-A	3.5	17	15
<i>CSUMB</i>			
EW-OU2-14-A	0.58	ND	2.2
EW-OU2-15-A	0.26 J	ND	0.46 J
<i>Landfill</i>			
EW-OU2-03-180	0.26 J	3.8	38
EW-OU2-04-180	ND	ND	ND
<i>Bunker Hill</i>			
EW-OU2-08-180	0.16 J	0.43 J	1.7

- J The analyte was positively identified, but the associated numerical value is an approximate concentration greater than the Method Detection Limit (MDL) but less than the Practical Quantitation Limit (PQL).
- J± Data are qualified as estimated, with a high (+) or low (-) bias likely to have occurred. False positives or false negatives are unlikely to have been reported.
- ND The analyte was not detected above the reported limit of quantitation.
- UJ The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit value is approximate, and may or may not represent the actual limit necessary

² Samples were collected in December 2007.

AHTNA

Government Services Corporation

Site 12 Extraction Wells Organic Data				
Well Identification	Analytical Results (µg/L)			
	Cis-1,2-DCE (6.0)	PCE (3.0)	TCE (5.0)	Vinyl Chloride (0.1)
EW-12-03-180M	3.9	0.98	7.8	ND
EW-12-03-180U	ND	0.23 J	0.28 J	ND
EW-12-04-180M	Not Sampled			
EW-12-04-180U	ND	0.19 J	1.3	ND
EW-12-05-180M	8.0	9.5	17	0.14
EW-12-06-180M	8.1	2.1	17	0.08 J
EW-12-07-180M	3.0	2.2	4.9	ND

- J** The analyte was positively identified, but the associated numerical value is an approximate concentration greater than the Method Detection Limit (MDL) but less than the Practical Quantitation Limit (PQL).
- J±** Data are qualified as estimated, with a high (+) or low (-) bias likely to have occurred. False positives or false negatives are unlikely to have been reported.
- ND** The analyte was not detected above the reported limit of quantitation.
- UJ** The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit value is approximate, and may or may not represent the actual limit necessary to accurately & precisely measure the analyte in the sample matrix

OPERABLE UNIT CARBON TETRACHLORIDE PLUME ENHANCED IN SITU BIOREMEDIATION PILOT STUDY

STATUS – March 12, 2008

FIELD WORK

- Well construction complete – July 27
 - 15 extraction wells
 - 7 injection wells
 - 5 monitoring wells
- Well development complete – August 8
- Wells surveyed – August 14
- Slug testing complete – August 17
- System construction complete – October 25
 - system checkout/testing/troubleshooting in progress
- Tracer testing completed – December 5
 - Tracer injected at 3:30 pm on November 14
 - Tracer detected in all monitoring wells and EISB-EW-10
- Baseline sampling and analysis completed – January 3
- Substrate injection initiated - January 29
- Approximately 5200 gallons substrate injected as of March 10.

SCHEDULE

- Weekly monitoring for one month through March 7

DATA (Preliminary)

- Preliminary screening results from system operation.

PROBLEMS/CHANGES

- Increased backpressure noted in all injection wells after 13 days of operation. Backpressure likely due to biofouling in the injection wells. Backpressure has resulted in even lower extraction/injection rates, lower substrate metering rates, and system shutdowns. Cleaning wells with hydrogen peroxide to increase substrate metering rates to optimize system operation. Wells EISB-IW-01, EISB-IW-02, and EISB-EW-03 clean to date.
- EISB-IW-04 well failed (injected groundwater percolating to ground surface). Stopped injection at that well and reviewing results.



LEGEND

- ⊕ Existing Off-Site Monitoring Well
- ⊕ Existing Extraction Well
- ⊕ Proposed Monitoring Well
- ⊕ Proposed Extraction Well
- Proposed Injection Well
- A-Aquifer Carbon Tetrachloride Plume (March 2006)



REVISION	DATE	DESCRIPTION	CHKD	APPR
DESIGNED: D. KELLY		Department of the Army Sacramento District, Corps of Engineers Sacramento, California		
DRAWN: K. BLACK		FIGURE 10 PROPOSED ENHANCED IN SITU BIOREMEDIATION PILOT STUDY EXTRACTION, INJECTION, AND MONITORING WELL LOCATIONS FORMER FOR ORD, CALIFORNIA		
CHECKED:				
SUBMITTED:		DATE	SCALE: SHEET	SPEC. No. FILE No. EISB_wells_11x17.mxd

Sample ID Well Type	Method	EISB-MW-01 monitoring																	
		baseline 12/20/2007	week 0 1/30/2008	week 1 2/4/2008	week 1 2/6/2008	week 1 2/11/2008	week 2 2/12/2008	week 3 2/21/2008	week 4 2/27/2008	week 5 3/5/2008									
Date																			
alkalinity (CaCO ₃ total)	HACH	39 mg/L	48 mg/L	46 mg/L	73 mg/L	102 mg/L	96 mg/L	112 mg/L	150 mg/L	200.1 mg/L									
pH	meter	6.9			6.7		6.9	6.6	6.6	6.23									
dissolved oxygen	meter	8.05 ppm			2.31 ppm		0.73 ppm	0.78 ppm	0.68 ppm	1.62 ppm									
oxidation reduction potential	meter	108 mV			121 mV		103 mV	85 mV	-125 mV	-63 mV									
conductivity	meter	48 uS/cm			48.1 uS/cm		52 uS/cm	59.1 uS/cm	63.3 uS/cm	74.2 uS/cm									
turbidity	meter	2.9 NTU			15.6 NTU		0 NTU	15.5 NTU	0 NTU	5.1 NTU									
temperature	meter	17.3 °C			16.9 °C		17.1 °C	16.8 °C	17.5 °C	17.63 °C									
nitrate	300.0	6760(6780) µg/l						1590 µg/l											
nitrite	300.0	<100(<100) µg/l						<100 µg/l											
sulfate	300.0	28900(29000) µg/l						28000 µg/l											
ortho-phosphate	300.0	<500(<500) µg/l						<500 µg/l											
dissolved iron	6010B	<200(<200) µg/l						<200 µg/l											
manganese	6010B	<10(<10) µg/l						176 µg/l											
arsenic	6010B	<10(<10) µg/l						<10 µg/l											
methane	RSK 175	<2.0(<2.0) µg/l																	
ethane	RSK 175	<2.0(<2.0) µg/l																	
lactate	300.0M	<100(<100) µg/l						18300 µg/l											
propionate	300.0M	<100(<100) µg/l						3870 µg/l											
acetate	300.0M	<100(<100) µg/l						4010 µg/l											
carbon tetrachloride	8250B	0.99(0.96) µg/l						1.1 µg/l											
chloroform	8250B	<0.50(<0.50) µg/l						<0.50 µg/l											
dichloromethane	8250B	<5.0(<5.0) µg/l						<5.0 µg/l											
chloromethane	8250B	<1.0(0.24J) µg/l						<1.0 µg/l											
Acetone	8250B							11 µg/l											
total organic carbon	415.1	740J(720J) µg/l																	
anaerobic heterotrophs	SM9215B	9x10 ³ (5x10 ³) cfu/ml																	

Detections are bolded
 J qualifier indicates that the associated numeric value is an estimate.

Sample ID Well Type	Method	EISB-MW-02 monitoring								
		baseline 12/20/2007	week 0 1/30/2008	week 0 2/4/2008	week 1 2/6/2008	week 1 2/11/2008	week 2 2/12/2008	week 3 2/19/2008	week 4 2/26/2008	week 5
alkalinity (CaCO ₃ total)	HACH	58 mg/L	39 mg/L	47 mg/L	46 mg/L	75 mg/L	97 mg/L	110 mg/L	135 mg/L	148 mg/L
pH	meter	6.91			6.9		6.61	6.6	6.5	
dissolved oxygen	meter	8.01 ppm			8.98 ppm		6.24 ppm	1.07 ppm	1.5 ppm	ppm
oxidation reduction potential	meter	96 mV			190 mV		156 mV	36 mV	-70 mV	mV
conductivity	meter	47 uS/cm			45.6 uS/cm		53.5 uS/cm	59.8 uS/cm	56 uS/cm	uS/cm
turbidity	meter	66 NTU			0 NTU		48.8 NTU	13.9 NTU	184 NTU	NTU
temperature	meter	18.3 °C			17.5 °C		18.1 °C	15.9 °C	18.5 °C	°C
nitrate	300.0	6410 µg/l					3380 µg/l	2260(2050) µg/l		µg/l
nitrite	300.0	<100 µg/l					<100 µg/l	<100(<100) µg/l		µg/l
sulfate	300.0	27000 µg/l					28900 µg/l	31400(30600) µg/l		µg/l
ortho-phosphate	300.0	<500 µg/l					<500 µg/l	<500(<500) µg/l		µg/l
dissolved iron	6010B	<200 µg/l					<200 µg/l	<200(<200) µg/l		µg/l
manganese	6010B	<10 µg/l					145 µg/l	339(334) µg/l		µg/l
arsenic	6010B	8.79J µg/l					<10 µg/l	9.81J(8.86J) µg/l		µg/l
methane	RSK 175									
ethane	RSK 175									
lactate	300.0M	<100 µg/l								µg/l
propionate	300.0M	<100 µg/l								µg/l
acetate	300.0M	<100 µg/l								µg/l
carbon tetrachloride	8260B	1.2 µg/l								µg/l
chloroform	8260B	0.20J µg/l								µg/l
dichloromethane	8260B	<5.0 µg/l								µg/l
chloromethane	8260B	<1.0 µg/l								µg/l
acetone	8260B									µg/l
total organic carbon	415.1	690J µg/l								µg/l
anaerobic heterotrophs	SM9215B	1x10 ⁴ cfu/ml								µg/l

Detections are bolded

J qualifier indicates that the associated numeric value is an estimate.

¹ Field parameters collected by meter on January 29, 2008 when stable flow could be achieved.

² Samples and field parameters collected on January 30, 2008. Working pump installed on January 22 and pump tested and well purged on January 24.

Sample ID Well Type	Method	EISB-MW-03 monitoring								
		baseline 12/19/2007	week 0 1/30/2008	week 1 2/4/2008	week 1 2/5/2008	week 1 2/11/2008	week 2 2/12/2008	week 3 2/19/2008	week 4 2/26/2008	week 5 3/4/2008
alkalinity (CaCO ₃ total)	HACH	41 mg/L	77 mg/L	115 mg/L	131 mg/L	152 mg/L	145 mg/L	193 mg/L	270 mg/L	555 mg/L
pH	meter	6.7			7		7.2	6.7	6.5	5.81
dissolved oxygen	meter	10.07 ppm			0.34 ppm		0.18 ppm	0.41 ppm	0.19 ppm	1.82 ppm
oxidation reduction potential	meter	116 mV			54 mV		-38 mV	-210 mV	-191 mV	-42 mV
conductivity	meter	47.9 uS/cm			87.3 uS/cm		83.1 uS/cm	77.6 uS/cm	14.4 uS/cm	23.3 uS/cm
turbidity	meter	7.2 NTU			5.2 NTU		0.3 NTU	4.5 NTU	0 NTU	1.7 NTU
temperturo	meter	17 °C			17.5 °C		17.2 °C	15.9 °C	17.6 °C	17.68 °C
nitrate	300.0	7930(7960) µg/l			391(388) µg/l		<100(<100) µg/l	<100 µg/l	µg/l	µg/l
nitrite	300.0	<100(<100) µg/l			293(292) µg/l		<100(<100) µg/l	<100 µg/l	µg/l	µg/l
sulfate	300.0	28300(28400) µg/l			28700(28800) µg/l		28000(28100) µg/l	27800 µg/l	µg/l	µg/l
ortho-phosphate	300.0	<500(<500) µg/l			<500(<500) µg/l		<500(<500) µg/l	<500 µg/l	µg/l	µg/l
dissolved iron	6010B	<200 µg/l			<200(<200) µg/l		<200(<200) µg/l	<200 µg/l	µg/l	µg/l
manganese	6010B	<10 µg/l			140(140) µg/l		163(162) µg/l	198 µg/l	µg/l	µg/l
arsenic	6010B	<10 µg/l			<10(<10) µg/l		<10(<10) µg/l	<10 µg/l	µg/l	µg/l
methane	RSK 175	<2.0 µg/l							µg/l	µg/l
ethane	RSK 175	<2.0 µg/l							µg/l	µg/l
lactate	300.0M	>100(>100) µg/l			370000(335000) µg/l		329000(327000) µg/l	<2500 µg/l	µg/l	µg/l
propionate	300.0M	>100(>100) µg/l			<500(<500) µg/l		2940(3050) µg/l	91400 µg/l	µg/l	µg/l
acetate	300.0M	>100(>100) µg/l			<5000(<5000) µg/l		20700(21200) µg/l	49100 µg/l	µg/l	µg/l
carbon tetrachloride	8260B	1.4 µg/l			1.3(1.3) µg/l		0.79 µg/l	0.37J µg/l	µg/l	µg/l
chloroform	8260B	<0.5 µg/l			<0.5(<0.5) µg/l		<0.5 µg/l	0.33J µg/l	µg/l	µg/l
dichloromethane	8260B	<5.0 µg/l			<5.0(<5.0) µg/l		<5.0 µg/l	<5.0 µg/l	µg/l	µg/l
chloromethane	8260B	0.22J µg/l			<1.0(<1.0) µg/l		<1.0 µg/l	<1.0 µg/l	µg/l	µg/l
acetone	8260B						21 µg/l	5.7J µg/l	µg/l	µg/l
carbon disulfide	8260B							1.9 µg/l	µg/l	µg/l
toluene	8260B							0.21J µg/l	µg/l	µg/l
total organic carbon	415.1									
anaerobic heterotrophs	SM9215B									

Detections are bolded

J qualifier indicates that the associated numeric value is an estimate.

Method		EISB-MW-04 monitoring								
Sample ID		baseline	week 0	week 1	week 1	week 1	week 2	week 3	week 4	week 5
Well Type		12/18/2007	1/30/2008	2/4/2008	2/6/2008	2/1/2008	2/12/2008	2/19/2008	2/26/2008	3/5/2008
Date										
alkalinity (CaCO ₃ total)	HACH	41 mg/L	64 mg/L	57 mg/L	48 mg/L	76 mg/L	80 mg/L	91 mg/L	158 mg/L	73 mg/L
pH	meter	7.11			7.4		7	6.9	7.1	6.47
dissolved oxygen	meter	9.69 ppm			8.09 ppm		4.48 ppm	1.96 ppm	0.69 ppm	2.39 ppm
oxidation reduction potential	meter	150 mV			167 mV		142 mV	30 mV	-54 mV	-48 mV
conductivity	meter	49.1 uS/cm			47.6 uS/cm		52.4 uS/cm	52.1 uS/cm	55.1 uS/cm	79.1 uS/cm
turbidity	meter	0 NTU			0 NTU		7.9 NTU	7 NTU	0 NTU	15.4 NTU
temperature	meter	17.3 °C			17.9 °C		17.7 °C	16.9 °C	18.2 °C	17.68 °C
nitrate	300.0	7360 µg/l						3790 µg/l	µg/l	µg/l
nitrite	300.0	<100 µg/l						150 µg/l	µg/l	µg/l
sulfate	300.0	26000 µg/l						29500 µg/l	µg/l	µg/l
ortho-phosphate	300.0	<500 µg/l						<500 µg/l	µg/l	µg/l
dissolved iron	6010B	<200 µg/l						<200 µg/l	µg/l	µg/l
manganese	6010B	<10 µg/l						303 µg/l	µg/l	µg/l
arsenic	6010B	<10 µg/l						<10 µg/l	µg/l	µg/l
methane	RSK 175	<2.0 µg/l								
ethane	RSK 175	<2.0 µg/l								
lactate	300.0M	<100 µg/l			<100 µg/l		<100 µg/l	<100 µg/l	µg/l	µg/l
propionate	300.0M	<100 µg/l			<100 µg/l		<100 µg/l	<100 µg/l	µg/l	µg/l
acetate	300.0M	<100 µg/l			<100 µg/l		<100 µg/l	<100 µg/l	µg/l	µg/l
carbon tetrachloride	8260B	1.2 µg/l						2.2 µg/l	µg/l	µg/l
chloroform	8260B	<0.5 µg/l						0.31J µg/l	µg/l	µg/l
dichloromethane	8260B	<5.0 µg/l						<5.0 µg/l	µg/l	µg/l
chloromethane	8260B	0.22J µg/l						<1.0 µg/l	µg/l	µg/l
total organic carbon	415.1									
anaerobic heterotrophs	SM9215B									

Detections are bolded

J qualifier indicates that the associated numeric value is an estimate.

¹ Field parameters collected by meter on January 29, 2008 when stable flow could be achieved.

² Samples and field parameters collected on January 30, 2008. Working pump installed on January 22 and pump tested and well purged on January 24.

Sample ID Well Type	Method	EISB-MW-05 monitoring								
		baseline 12/18/2007	week 0 1/30/2008	week 1 2/4/2008	week 1 2/6/2008	week 1 2/11/08	week 2 2/12/2008	week 3 2/19/2008	week 4 2/26/2008	week 5 3/4/2008
alkalinity (CaCO ₃ total)	HACH	47 mg/L	48 mg/L	59 mg/L	51 mg/L	136 mg/L	150 mg/L	210 mg/L	185 mg/L	290 mg/L
pH	meter	7.01			7.3		6.9	6.9	7	6.31
dissolved oxygen	meter	10.75 ppm			9.51 ppm		0.41 ppm	0.38 ppm	1.25 ppm	3.76 ppm
oxidation reduction potential	meter	159 mV			18.5 mV		-102 mV	-199 mV	-109 mV	-122 mV
conductivity	meter	49.1 uS/cm			49.9 uS/cm		72.2 uS/cm	78.1 uS/cm	62.6 uS/cm	13.8 uS/cm
turbidity	meter	2.9 NTU			5.4 NTU		34.2 NTU	2.2 NTU	0 NTU	1 NTU
temperture	meter	17.8 °C			17.2 °C		17.7 °C	16.8 °C	17.8 °C	17.05 °C
nitrate	300.0	7230 µg/l					252 µg/l	<100(<100) µg/l	µg/l	µg/l
nitrite	300.0	<100 µg/l					<100 µg/l	<100(<100) µg/l	µg/l	µg/l
sulfate	300.0	26200 µg/l					29700 µg/l	24900(25000) µg/l	µg/l	µg/l
ortho-phosphate	300.0	270J µg/l					<500 µg/l	<500(<500) µg/l	µg/l	µg/l
dissolved iron	6010B	<200 µg/l					<200 µg/l	557(581J) µg/l	µg/l	µg/l
manganese	6010B	<10 µg/l					267 µg/l	706(706) µg/l	µg/l	µg/l
arsenic	6010B	<10 µg/l					<10 µg/l	10.3(<50) µg/l	µg/l	µg/l
methane	RSK 175									
othane	RSK 175									
lactate	300.0M	<100 µg/l			<100 µg/l		143000 µg/l	<2000(<2000) µg/l	µg/l	µg/l
propionate	300.0M	<100 µg/l			<100 µg/l		<100 µg/l	60800(60900) µg/l	µg/l	µg/l
acetate	300.0M	<100 µg/l			<100 µg/l		<100 µg/l	38600(37900) µg/l	µg/l	µg/l
carbon tetrachloride	8260B	1.4 µg/l					1 µg/l	0.29J µg/l	µg/l	µg/l
chloroform	8260B	<0.5 µg/l					<0.5 µg/l	0.33J µg/l	µg/l	µg/l
dichloromethane	8260B	<5.0 µg/l					<5.0 µg/l	<5.0 µg/l	µg/l	µg/l
chloromethane	8260B	<1.0 µg/l					<1.0 µg/l	<1.0 µg/l	µg/l	µg/l
acetone	8260B						5.4J µg/l	6.0J µg/l	µg/l	µg/l
carbon disulfide	8260B							2.6 µg/l		
total organic carbon	415.1									
anaerobic heterotrophs	SM9215B									

Detections are bolded

J qualifier indicates that the associated numeric value is an estimate.

¹ Field parameters collected by meter on January 29, 2008 when stable flow could be achieved.

² Samples and field parameters collected on January 30, 2008. Working pump installed on January 22 and pump tested and well purged on January 24.

**Thermal Treatment Unit
Operation Summary
2007/2008**

Start Date/Time:	1/1/2007
Last Reading Date/Time:	2/20/2008 15:00
Total Hours (2007):	8760
Total Hours Operated (2007):	4035.4
% Operation (2007):	48.7%
Total Hours (2008):	1215
Total Hours Operated (2008):	452.2
% Operation (2008):	37.2%
Cumulative % Operation (since 1/1/2007):	45.0%

Pounds of Methane Removed (2007)	372682
Pounds of Methane Removed (2008)	37549

Date TTU Started	Date TTU Shutdown	Hours Operated
1/1/07 0:00	3/8/07 12:00	1561.0
3/29/07 8:30	3/29/07 12:30	4.0
4/7/07 7:30	5/4/07 16:00	656.5
5/21/07 8:00	6/18/07 8:00	672.0
7/9/07 14:00	7/13/07 15:00	97.0
8/9/07 7:30	8/10/07 11:00	27.5
8/20/07 7:30	8/31/07 16:00	272.5
9/17/07 8:00	9/21/07 15:00	103.0
9/24/07 12:00	9/24/07 15:00	3.0
10/9/07 8:00	10/11/07 16:30	56.5
10/15/07 7:15	10/17/07 16:45	57.4
10/22/07 7:40	10/24/07 16:45	57.0
10/29/07 7:15	10/31/07 16:45	57.4
11/5/07 7:20	11/7/07 15:30	56.2
11/13/07 7:15	11/15/07 16:00	56.7
11/19/07 7:30	11/21/07 15:30	56.0
11/26/07 7:00	11/28/07 15:15	56.2
12/3/07 7:00	12/5/07 16:00	57.0
12/10/07 7:00	12/12/07 15:30	56.5
12/17/07 7:30	12/19/07 16:30	57.0
12/31/07 9:00	1/3/08 15:00	78.0
1/7/08 7:30	1/9/08 16:30	57.0
1/14/08 8:00	1/16/08 16:00	56.0
1/21/08 7:45	1/23/08 16:00	56.3
1/28/08 12:00	1/30/08 16:00	51.0
2/4/08 8:00	2/6/08 16:00	56
2/11/08 7:20	2/13/08 16:10	56.9
2/18/08 7:00	2/20/08 15:00	56

YEAR Month	SumOfPOUNDS METHANE
2007/1	76359
2007/2	62445
2007/3	14078
2007/4	52738
2007/5	29140
2007/6	37394
2007/7	8491
2007/8	26379
2007/9	9733
2007/10	20576
2007/11	19753
2007/12	15595
2008/1	23914
2008/2	13635

FORT ORD BRAC FIELD OFFICE COMMUNITY OUTREACH ACTIVITIES AS OF March 1

March 4 Site tour and interview with former Range Control Manager
March 4 Information request from CSUMB student regarding groundwater cleanup
March 7 Responded to community comments regarding prescribed burns
March 10 Responded to individual regarding a Fort Ord history project
March 12 Two referrals to BLM for wildflower tours

Upcoming Activities:

March 14 Meeting with CCSUMB Library Staff to review archived MR papers and documents
April Information Booth – California State University Monterey Bay Earth Day
April Information Booth – Monterey Institute of International Studies Earth Day
April 9 Community Involvement Workshop
April 10 Technical Review Committee
April 10 Site 39 Proposed Plan Public Meeting
April Annual Report 2007
July 9 Community Involvement Workshop
July 10 Technical Review Committee
September CSUMB Student Orientation
September BLM Public Lands Day
October 8 Community Involvement Workshop
October 9 Technical Review Committee

More Construction Activities March-May 2008

Groundwater Cleanup at Operable Unit 1

An Update for the Monterey Bay Estates 2 Neighborhood

In early 2005 the Army identified offsite groundwater contamination from a Fort Ord cleanup area called Operable Unit 1 (OU1). Since that time, the Army has been investigating this offsite area on the Armstrong Ranch in Marina to identify the extent and shape of the groundwater contamination. This investigation includes installing and sampling groundwater monitoring wells. Since installation, the wells have been sampled three times and they will continue to be sampled every three months.

More work is planned. Beginning later this month and continuing through May, you may see the Army installing additional wells, a treatment system and a pipeline to expand the groundwater cleanup. The cleaned water will be returned into the

ground in the location shown on the map below. Construction activities, which include drilling and trench digging, will take place Monday through Thursday from 8am until 4:30 pm. See the map below for details.

THE NEXT

STEPS: The Army is installing additional extraction wells, a treatment system and a pipeline to capture the contaminated water to prevent further groundwater contamination. The Army will continue to fully evaluate the extent of groundwater



contamination offsite and establish a final remedial process. The groundwater sampling at all wells will continue as the Army evaluates what needs to be done to address any remaining contamination.

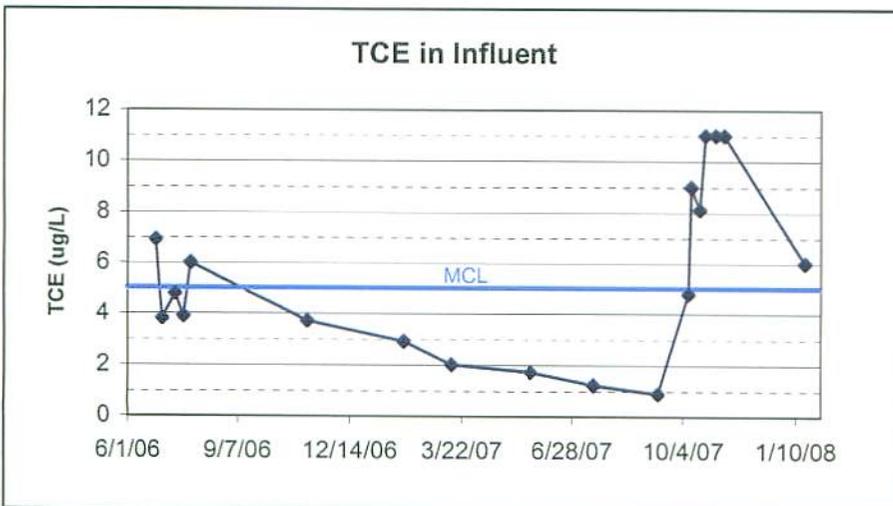
YOUR WATER IS SAFE: The groundwater being investigated in this area is not used for drinking water. Drinking water quality is very important and it is regularly tested by the Marina Coast Water District (MCWD) and meets all federal and state standards.

WANT TO KNOW MORE? If you are interested in reviewing the reports and studies on this site, visit our web site at www.FortOrdCleanup.com and use the key word "Operable Unit 1" to search for all reports related to this site. Call Melissa Broadston at (831) 393-1284 for more information. You can also send email to Melissa.Broadston@us.army.mil.

**Fort Ord OU-1
Northwest Treatment System Operational Summary
March 12, 2008 BCT Meeting**

Date	Influent TCE Concentration (µg/L)	Volume Treated (gal)	Mass Removed (lb)
6/27/06-7/1/06	6.90	190,000	0.011
7/2/06-7/12/06	3.80	781,680	0.025
7/13/06-7/19/06	4.80	425,980	0.017
7/20/06-7/26/06	3.90	371,170	0.012
7/27/06-9/29/06	6.00	3,497,030	0.175
9/30/06-1/29/07	3.70	5,514,470	0.170
1/30/07-3/13/07	2.90	2,351,090	0.057
3/13/07-5/22/07	2.00	3,698,570	0.062
5/23/07-7/16/07	1.70	2,571,340	0.037
7/17/07-9/11/07	1.20	2,833,230	0.028
9/12/07-10/07/07	0.88	1,035,270	0.008
10/8/07-10/11/07	4.80	345,910	0.014
10/12/07-10/17/07	9.00	897,440	0.067
10/18/07-10/22/07	8.10	468,080	0.032
10/23/07-1/17/08	11.00	10,520,280	0.966
1/18/08-3/7/08	6.00	6,337,920	0.318
Total Volume Pumped (gal)			41,839,460
Total Mass Removed (lb)			2.00
Average Pumping Rate (gpm)			47.98

Date	Influent Totalizer FI-131 Reading	Gallons since previous reading	Average Rate (gpm)	%Uptime
2/22/2008	40019670	753,050	64.9	64
2/23/2008	40129590	109,920	70.8	68
2/28/2008	40857450	727,860	100.6	100
3/7/2008	41839460	982,010	87.9	89
Period Total Gallons Treated				2,572,840
Period Average Pumping Rate (gallons per minute)				81.5
Period % Uptime				81.3



Total Gallons of Groundwater and Pounds of TCE Extracted OU-1 Northwest Treatment System

