Former Fort Ord Sites 2 and 12 Data and Status

HTW BCT Meeting, April 10, 2019

Table 1: Sites 2/12 GWTP and SVTU Statistics as of March 28, 2019

Monthly Statistics	Volume Treated	Average Flow	Percent of Time Online	COC Mass Removed (pounds)
March 2019 GWTP	4,135,050 gal	93 gpm	69	0.33
Total since April 1999	2.065 billion gal			486
March 2019 SVTU	0 scf	0 scfm	0	0
Total since September 2015	1.330 billion scf			9.7

Table 2: March 2019 – Sites 2/12 Treated Water Analytical Results at TS-212-INJ

COC	Discharge Limit (µg/L)[2]	Sample Date / Analytical Results
		3/20/2019
1,1-Dichloroethene (1,1-DCE)	6.0	ND (0.25)
1,2-Dichloroethane (1,2-DCA)	0.50	ND (0.25)
1,3-dichloropropene (1,3-DCP)[1]	0.50	ND (0.25)
Chloroform	2.0	ND (0.25)
cis-1,2-dichloroethene (cis-1,2-DCE)	6.0	ND (0.25)
Tetrachloroethene (PCE)	5.0	ND (0.25)
Trichloroethene (TCE)	5.0	ND (0.25)
Vinyl Chloride (VC)	0.10	ND (0.05)

Notes:
[1] The reported value is the sum of both cis- and trans-isomers.
[2] Discharge limits are the ACLs for injection over the plume.
J: Estimated results below the limit of quantitation (LOQ).
ND: The analyte was not detected at or above the limit of detection (LOD).
gpm: gallon(s) per minute
gal: gallon(s)
COC: chemical of concern
NS: Not sampled
scf: standard cubic foot or feet
scfm: standard cubic feet per minute
µg/L: micrograms per liter
Results in gray are ND

March 2019 Key Events for Sites 2/12

- March 1-8: First Quarter 2019 GWM sampling.
- March 5-12: Sites 2/12 GWTP offline intermittently for 128 hours due to PLC/communications issues. Currently troubleshooting.
- March 15: Sites 2/12 GWTP offline 88.5 hours due to a leak in the effluent pipe. Pipe repaired and GWTP restarted on March 19.
- March 22: Sites 2/12 GWTP offline 12 hours due to OU2 GWTP communications error.
- March 26: Sites 2/12 GWTP offline 5 hours due to PG&E power issue at the OU2 GWTP.

April 2019 Key Events for Sites 2/12

- Troubleshoot GWTP SCADA/antenna communications issues as needed.

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Table 3. Sites 2/12 Northern SVE Well Field Monitoring Results

	North SVE Field									
	VE-12-06		VE-12-07		VE-12-08		VE-12-09		VE-12-10	
Sample Date	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE
9/16/2015	*1,700*	ND	*1,200*	ND	**2,100**	ND	*1,500*	48	460	ND
9/22/2015	*1,100*	ND	*750*	ND	*1,200*	ND	*1,100*	86	230	ND
9/29/2015	*940*	ND	*860*	ND	*970*	ND	*1,100*	90	220	ND
10/6/2015	*680*	ND	560	ND	*670*	ND	*870*	53	180	ND
11/12/2015	260	ND	180	84	310	ND	410	ND	97	ND
12/8/2015	230	ND	130	180	260	ND	350	ND	ND	ND
3/1/2016	66	ND	ND	ND	130	ND	190	ND	44	ND
6/6/2016	130	ND	55	ND	120	ND	190	ND	48	ND
9/30/2016^	54	ND	130	ND	190	ND	310	ND	92	ND
11/16/2016	77 J	ND	NS	NS	NS	NS	220	ND	92	ND
3/1/2017	ND	ND	NS	NS	NS	NS	160	ND	46 J	ND
5/23/2017	ND	ND	NS	NS	NS	NS	110	ND	ND	ND
8/8/2017	ND	ND	NS	NS	120	ND	170	ND	ND	ND
11/15/2017	ND	ND	NS	NS	NS	NS	66 J	ND	ND	ND
2/20/2018	ND	ND	NS	NS	NS	NS	74 J	ND	ND	ND
5/22/2018	ND	ND	NS	NS	NS	NS	64 J	ND	ND	ND
8/22/2018	NS	NS	NS	NS	NS	NS	ND	ND	NS	NS
11/13/2018	NS	NS	NS	NS	NS	NS	ND	ND	NS	NS
2/27/2019	ND	ND	NS	NS	NS	NS	ND	ND	NS	NS

Notes:

ND = not detected above the limit of detection (LOD)

NS = not sampled

Concentrations in **bold** exceed the SGCL

Concentrations in *italics* exceed the SG-SL

Results reported in micrograms per cubic meter ($\mu g/m^3$)

^SVE Northern well field offline mid-July to Sept 23, 2016 (approx. 10 weeks), and online for one week prior to sampling for rebound study.

Table 4. Sites 2/12 Soil Gas Monitoring Results - North

Soil Gas Probe ID	PCE			TCE			Schedule
	3Q 2018	4Q 2018	1Q 2019	3Q 2018	4Q 2018	1Q 2019	
SG-12-01-58	NS	NS	120	NS	NS	ND	R
SG-12-01-65	ND	ND	140	ND	ND	ND	Q[2]
SG-12-02-10	*1,000*	*1,300*	*810*	ND	ND	ND	Q[1]
SG-12-04-10	ND	ND	100	ND	ND	ND	Q[1]
SG-12-04-58	NS	NS	87	NS	NS	ND	R
SG-12-04-65	ND	ND	ND	ND	ND	ND	Q[2]
SG-12-06-10	ND	ND	ND	ND	ND	ND	Q[1]
SG-12-06-60	ND	NS	ND	ND	NS	ND	R
SG-12-06-70	NS	ND	ND	NS	ND	ND	A

	SGCL (µg/m³)	*SG-SL (µg/m³)*
PCE	**1,800**	*603*
TCE	**1,000**	*888*

Notes:
A = Annual
B = sampled for 4Q17 and 1Q18 for rebound study
J = estimated result below the limit of quantitation (LOQ)
ND = not detected above the limit of detection (LOD)
NS = not sampled
Q = Quarterly
R = Removed
Concentrations in **bold** exceed the SGCL
Concentrations in *italics* exceed the SG-SL
Results reported in micrograms per cubic meter (µg/m³)
[1] Quarterly probe due to proximity of store front in an area of historic soil gas concentrations above the SGCL.
[2] Will continue to sample probe quarterly if it is within the vicinity of the current groundwater plume above the ACL (probe adjacent to deepest probe will be sampled in lieu if deepest probe is in saturated zone).

Legend

- Soil Gas Probe Cluster
- Soil Vapor Extraction Well

Soil Gas Results Description

- Not sampled
- PCE & TCE at or below SG-SLs
- PCE above SG-SL and at or below SGCL
- PCE above SGCL
- TCE above SGCL

Label Description:

SG-12-11-10	Sample location identification
PCE: 250	PCE and/or TCE concentration (µg/m^3)
TCE: <43 U	with qualifier

Notes:

(1) Samples were collected between Nov 13 and 14, 2018.

(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Contours based on highest value obtained from duplicate and primary samples.

(4) <## results are not detected at or above the limit of detection.

0 62.5 125 250 Feet

N

Soil Gas PCE/TCE Concentrations and SGCL Exceedances, Fourth Quarter 2018

Sites 2 and 12 Fourth Quarter 2018
Groundwater and Soil Gas
Monitoring and Treatment System Report
Former Fort Ord, California

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Figure

13

Table 5. Sites 2/12 Select Groundwater Extraction/Monitoring Well Data

Well Identification[3]	Select COC Concentrations (µg/L)[4]			
	4Q 2018	1Q 2019*	4Q 2018	1Q 2019*
	TCE		PCE	
ACL:	5.0		5.0	
EW-12-03-180M	1.8	0.86	0.42 J	0.11 J
EW-12-05-180M	2.1	2.1	0.81	0.84
EW-12-07-180M	2.0	2.2	0.47 J	0.59
EW-12-08-180U	0.58	0.59	**18.2**	**15.7**
MW-12-09R-180	0.87	2.6	0.32 J	0.44 J
MW-12-14-180M	1.7	1.5	0.32 J	0.30 J
MW-12-16-180M	0.83	2.0	ND (0.25)	0.15 J
MW-12-20-180U	0.17 J	0.11 J	**20.0 J-**	**5.3**
MW-12-21-180U	ND (0.25)	ND (0.25)	0.55	0.14 J
MW-12-24-180U	0.12 J	ND (0.25)	2.0	1.8
MW-12-28-180U	ND (0.25)	ND (0.25)	0.39 J	0.40 J
MW-12-32-180U	0.58	0.11 J	0.54	0.32 J

Notes:
[1] The reported value is the sum of both cis- and trans-isomers.
[2] Discharge limits are the ACLs for injection over the plume.
[3] Extraction wells not listed have met the QAPP decision rules to no longer operate.
[4] Concentration in **bold** and shaded exceeds the Aquifer Cleanup Level (ACL). Concentrations in gray text are ND.
J: Estimated results below the limit of quantitation (LOQ)
ND: The analyte was not detected at or above the limit of detection (LOD)
COC: chemical of concern
µg/L: micrograms per liter
* Preliminary data

N
W E
S

0 500 1,000
Feet

Monterey Bay

EW-12-08-180U
PCE 18.2
TCE 0.58

MW-12-09R-180
PCE 0.32 /J
TCE 0.87

MW-12-14-180M
PCE 0.32 /J
TCE 1.7

MW-12-20-180U
PCE 20 J-
TCE 0.17 /J

EW-12-05-180M
PCE 0.81
TCE 2.1

MW-12-24-180U
PCE 2.0
TCE 0.12 /J

MW-12-15-180M
PCE 0.27 /J
TCE 1.4

MW-12-21-180U
PCE 0.55

MW-12-22-180U
PCE 0.45 /J

EW-12-07-180M
PCE 0.47 /J
TCE 2.0

MW-12-28-180U
PCE 0.39 /J

MW-12-26-180U
PCE 0.46 /J

MW-12-01-180
PCE 0.46 /J
TCE 0.15 /J

EW-12-03-180M
PCE 0.42 /J
TCE 1.8

MW-12-29-180U
PCE 0.43 /J

MW-02-13-180M
TCE 1.7

MW-12-16-180M
TCE 0.83

MW-12-30-180U
PCE 0.65
TCE 0.20 /J

MW-12-32-180U
PCE 0.54
TCE 0.58

5

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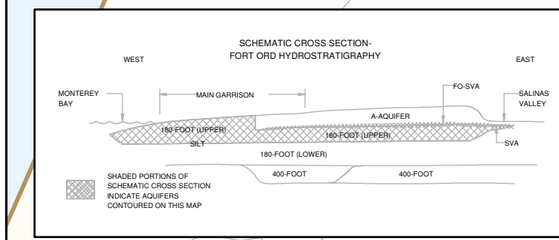
SCHEMATIC CROSS SECTION-
FORT ORD HYDROSTRATIGRAPHY



EXPLANATION

- Monitoring Well with TCE Detection, and No ACL Exceedances by Other COCs
- Monitoring Well with PCE Detection and No Exceedances by other COCs
- Monitoring Well with TCE and PCE Detection
- Extraction Well with TCE and PCE Detection
- Monitoring Well with COC ACL exceedance (not TCE or PCE)
- MW-12-01-180 / PCE 0.46 A/J / TCE 0.15 A/J — Well ID - Bold When ACL Exceeded (* Indicates: Sample result not used for contouring); TCE and/or PCE concentration (µg/L) with validation/lab qualifier. Bold when exceeds the ACL.
- Monitoring Well - TCE or PCE not detected and no other COC ACL exceedances
- Monitoring Well not sampled this quarter
- Extraction Well not sampled this quarter

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L

- 5 — Tetrachloroethene (PCE)
- General Groundwater Flow Direction
- Roads
- Facilities
- Former Fort Ord Boundary

NOTES:

(1) Samples were collected between December 11 and 19, 2018.

(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Contours based on highest value obtained from multiple bags where applicable.

(4) Other COC ACL exceedances detected beyond the extent of the PCE plume are illustrated when present.

GROUNDWATER PCE/TCE CONCENTRATIONS AND OTHER COC ACL EXCEEDANCES - UPPER 180-FOOT AQUIFER FOURTH QUARTER 2018

Sites 2 and 12, Fourth Quarter 2018
Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

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By: TJH	Project No. 8418191360
Date: 02/06/2019	Figure 12

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