Former Fort Ord Operable Unit 2 Data and Status

HTW BCT, August 15, 2018

Table 1: OU2 GWTP Statistics as of July 31, 2018

Monthly Statistics	Volume Treated (gallons)	Average Flow (gallons per minute)	Percent of Time Online	COC Mass Removed (pounds)
July 2018	23,286,172	522	99.9	1.4
Total since October 1995	7.383 billion			838

Table 2: July 2018 – OU2 Analytical Results at TS-OU2-INJ

COC	Discharge Limit (µg/L)	Analytical Results (µg/L)
		Not Sampled
1,1-dichloroethane (1,1-DCA)	5.0*	NS
1,2-dichloroethane (1,2-DCA)	0.5	NS
1,2-dichloropropane (1,2-DCP)	0.5	NS
Benzene	0.5	NS
Carbon tetrachloride (CT)	0.5	NS
Chloroform	2.0*	NS
Cis-1,2-dichloroethene (cis-1,2-DCE)	6.0*	NS
Methylene Chloride	0.5	NS
Tetrachloroethene (PCE)	0.5	NS
Trichloroethene (TCE)	0.5	NS
Vinyl chloride (VC)	0.1	NS

Notes:
COC: chemical of concern
µg/L: micrograms per liter
ND: The analyte was not detected above the limit of detection (LOD).
NS: not sampled.
J: Estimated results below the limit of quantitation (LOQ).
TS-OU2-INJ: Injection point of compliance, the OU2 effluent pipeline.
*Discharge limits for low carbon affinity compounds were increased to the Aquifer Cleanup Level (ACL).
Results in **bold** and shaded are concentrations above the ACL
Results in gray are ND

July 2018 Key Events for OU2

- July 3: OU2 GWTP shut down for one hour due to power outage.
- July 17: eastern network shut down for 8 hours for JV work at new extraction wells. EW-OU2-09-A would not start, evaluation in progress.
- July 27: EW-OU2-13-A shut down for 96 hours due to high pressure.
- Confirmed Las Animas discontinued concrete washout near MW-OU2-21-A which was discovered in June 2018. Will continue to monitor during quarterly events.
- KEMRON finished with treated water, Burleson continues to use treated water.

August 2018 Key Events for OU2

- Observe MCWD excavation to locate MW-OU2-42-180, repair surface completion, and clear out any debris from casing. Well found damaged by construction in June 2018.
- Coordinate with Burleson for treated water use.
- Continue to prepare for GWTP decommissioning, transition period begins Aug 22.
- Decommission four OU2 A-Aquifer monitoring wells.
- Installation of one new OU2 A-Aquifer monitoring well.
- Prepare for 2018 PFOA/PFOS sampling at select wells and GWTP.
- Aug 27-31: Third Quarter 2018 Groundwater Monitoring Program. Online extraction wells sampled week of Aug 13.

Table 3. OU2 A-Aquifer Select Extraction/Monitoring Well Data

OU2 Hydraulic Zone[1]	Well Identification[2]	Select COC Concentrations (µg/L)									
		1Q 2018					2Q 2018				
		TCE	PCE	1,1-DCA	1,2-DCA	VC	TCE	PCE	1,1-DCA	1,2-DCA	VC
	ACL:	**5.0**	**3.0**	**5.0**	**0.5**	**0.1**	**5.0**	**3.0**	**5.0**	**0.5**	**0.1**
1	EW-OU2-16-A	3.0	2.9	**7.5**	**2.3**	**0.88**	2.7	2.6	**6.4**	**2.0**	**0.62**
1	MW-OU2-02-A	0.18 J	2.4	**7.0**	**1.4**	**10.5**	0.15 J	2.6	**6.6**	**1.3**	**8.4**
1	MW-OU2-44-A	**5.9**	**7.8**	**17.1**	**4.5**	**0.94**	**6.8**	**8.8**	**17.9**	**5.1**	**0.77**
1	MW-OU2-73-A	ND (0.25)	1.2	**5.8**	**1.0**	**11.4**	ND (0.25)	1.1	**7.8 J+**	**1.3**	**10.0**
2	EW-OU2-15-A	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.05)
2	MW-OU2-27-A	ND (0.25)	2.9	0.22 J	ND (0.25)	ND (0.05)	0.11 J	**3.8**	0.30 J	ND (0.25)	ND (0.05)
3	EW-OU2-09-A	0.25 J	0.27 J	0.10 J	0.24 J	ND (0.05)	0.22 J	0.26 J	0.12 J	0.29 J	0.099 J
3	EW-OU2-10-A	1.9	1.1	0.75	**0.87**	ND (0.05)	2.0	1.1	0.85	**1.0**	0.080 J
3	EW-OU2-12-A	**7.3**	**3.8**	**6.2**	**1.5**	**0.13**	**7.5**	**4.4**	**6.8**	**1.8**	**0.11**
3	EW-OU2-13-A	**7.4**	2.4	1.8	**3.6**	ND (0.05)	**7.0**	2.4	1.8	**3.6**	ND (0.05)
3	MW-OU2-25-A	1.0	0.37 J	0.44 J	0.44 J	ND (0.05)	0.54	0.23 J	0.23 J	0.15 J	ND (0.05)
4	EW-OU2-02-A	0.41 J	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.05)	NS	NS	NS	NS	NS
4	EW-OU2-04-A	1.6	ND (0.25)	0.10 J	ND (0.25)	ND (0.05)	1.3	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.05)
4	EW-OU2-05-A	4.3	0.24 J	0.24 J	ND (0.25)	ND (0.05)	4.8	0.28 J	0.30 J	ND (0.25)	ND (0.05)
4	EW-OU2-06-A	3.0	0.29 J	0.15 J	ND (0.25)	ND (0.05)	3.1	0.33 J	0.18 J	ND (0.25)	ND (0.05)
4	MW-OU2-40-A	4.6	0.46 J	0.32 J	ND (0.25)	ND (0.05)	4.6	0.44 J	0.35 J	0.11 J	ND (0.05)
5	MW-OU2-04-A	4.2	0.62	0.32 J	0.13 J	ND (0.05)	4.1	0.62	0.37 J+	0.18 J+	ND (0.05)
5	MW-OU2-06AR	1.4	0.65	0.18 J	0.23 J	ND (0.05)	0.89	0.15 J	0.12 J	0.22 J	ND (0.05)
5	MW-OU2-08-A	**6.1**	**5.0**	**21.9**	**0.69 J**	**0.46**	**8.5**	**6.9**	**29.4**	**1.3**	**0.65**
5	MW-OU2-75-A	2.7	**5.3**	**6.2**	ND (0.25)	ND (0.05)	3.5	**7.0**	**7.2**	ND (0.25)	0.082 J
5	MW-OU2-81-A	**10.1**	**12.2**	4.3	0.16 J	ND (0.05)	**10.7**	**12.1**	4.2	0.18 J	ND (0.05)

Table 4. OU2 Upper 180-Foot Select Extraction/Monitoring Well Data

OU2 Hydraulic Zone[1]	Well Identification[2]	TCE Concentration (µg/L)	
		1Q 2018	2Q 2018
	ACL:	**5.0**	
6	EW-OU2-03-180	**8.8**	**10.0**
6	MW-OU2-50-180	**10.0**	**11.1**
7	EW-OU2-06-180	**5.3**	**5.4**
7	MW-OU2-81-180	**7.1**	**6.3**
7	MW-OU2-44-180	**15.5**	**15.7**
9	EW-OU2-01-180	**11.8**	**6.1**
9	MW-OU2-06-180R2	2.8	2.4
9	MW-OU2-43-180	4.7	2.9

Notes:
ACL: Aquifer Cleanup Level
COC: chemical of concern
1,2-DCA: 1,2-dichloroethane
TCE: trichloroethene
PCE: tetrachloroethene
1,1-DCA: 1,1-dichloroethane
µg/L: micrograms per liter
NS: not sampled
ND: The analyte was not detected above the detection limit.
J: Estimated result with a high (+) or low (-) bias.
[1] Hydraulic zones are identified in the Groundwater QAPP.
[2] Extraction wells not listed have met the QAPP decision rules to no longer operate.
Results in **bold** and shaded are concentrations above the ACL
Results in gray are ND
Results in brackets from a second deeper passive diffusion bag

Ahtna

DRAFT

SALINAS RIVER

RESERVATION RD

MANN ST

MW-BW-13-A
0.79 A

EW-OU2-04-A
1.3 A

EW-OU2-05-A
4.8 A

MW-OU2-40-A
4.6 A

EW-OU2-06-A
3.1 A

MW-OU2-04-A
4.1 A

MW-OU2-79-A
1.1 A

EW-OU2-13-A
7.0 A

MW-OU2-06-AR
0.89 A

EW-OU2-12-A
7.5 A

MW-OU2-08-A
8.5 A

MW-OU2-75-A
3.5 A

MW-OU2-81-A
10.7 A

EW-OU2-16-A
2.7 A

MW-OU2-46-A
1.3 A

MW-OU2-27-A
0.11 A/J

EW-OU2-15-A

MW-OU2-45-A
1.5 A

MW-OU2-28-A
0.10 A/J

MW-OU2-80-A
0.67 A

MW-OU2-73-A

EW-OU2-09-A
0.22 A/J

MW-OU2-25-A
0.54 A

EW-OU2-10-A
2.0 A

MW-OU2-44-A
6.8 A

MW-OU2-12-A
3.3 A

MW-OU2-34-A
0.66 A

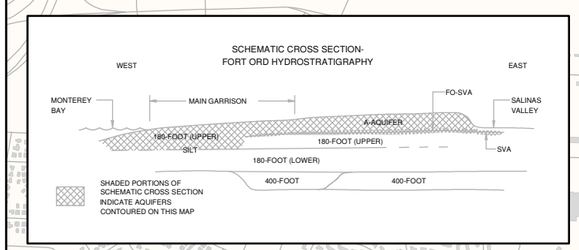
MW-OU2-02-A
0.15 A/J

MW-OU2-74-A
1.3 A

MW-OU2-01-A
3.6 A

B C D E F

5 3 0.1 0.5



N
W E
S

0 1,600 3,200
Feet

EXPLANATION

- Monitoring Well with TCE Detection
- Extraction Well with TCE Detection
- Well ID - Bold When ACL Exceeded (* Indicates: Sample result not used for contouring)
- MW-OU2-27-A 0.11 A/J — TCE Concentration (µg/L) and validation/lab qualifier. Bold when concentration exceeds the ACL.
- Monitoring Well with COC ACL Exceedance (not TCE)
- Extraction Well with COC ACL Exceedance (not TCE)
- Monitoring Well TCE Not Detected, and No Other COC ACL Exceedances
- Extraction Well TCE 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 — Tricholorethene (TCE)
- 3 — Tetrachloroethene (PCE)
- 5 — 1,1-Dichloroethane (1,1-DCA)
- 0.5 — 1,2-Dichloroethane (1,2-DCA)
- 0.1 — Vinyl chloride (VC)

Approximate Extent of Landfill Areas

- OU2 Landfill Areas B through F
- Area A (clean closed)
- Approximate Location of a Groundwater Divide
- Roads
- Facilities
- Former Fort Ord Boundary

NOTES:

(1) Samples were collected between June 12 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 multiple bags where applicable.

(4) Contours near wells not sampled this quarter are inferred from previous analytical data.

TCE CONCENTRATIONS AND OTHER COC ACL EXCEEDANCES, A-AQUIFER
Operable Unit 2
Second Quarter 2018
Groundwater Monitoring and Treatment System Report
Former Fort Ord, California

wood.

By: TJH
Date: 08/07/2018
Project No. 8417190510
Figure 7

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DRAFT

SALINAS RIVER

RESERVATION RD

IMJIN ST

EW-OU2-01-180
6.1 A

MW-OU2-20-180
2.8 A

MW-BW-14-180
3.5 A

MW-OU2-06-180R2
2.4 A

MW-OU2-07-180R
1.4 A

MW-OU2-43-180
2.9 A

MW-OU2-24-180
13 A

MW-OU2-81-180
6.3 A

MW-OU2-47-180
1.5 A

EW-OU2-09-180
0.23 A/J

MW-BW-02-180
0.44 A/J

MW-OU2-46-180
1.3 A

EW-OU2-08-180
2.5 A

MW-OU2-61-180
0.61 A

MW-OU2-53-180
5.7 A

MW-OU2-44-180
15.7 A

MW-OU2-39-180
2.9 A

EW-OU2-06-180
5.4 A

MW-OU2-56-180
5.8 A

MW-OU2-28-180
3.8 A

MW-OU2-62-180
9.4 A

MW-OU2-51-180
1.0 A

EW-OU2-03-180
10 A

MW-OU2-23-180
18.6 A

MW-OU2-50-180
11.1 A

5

A

B

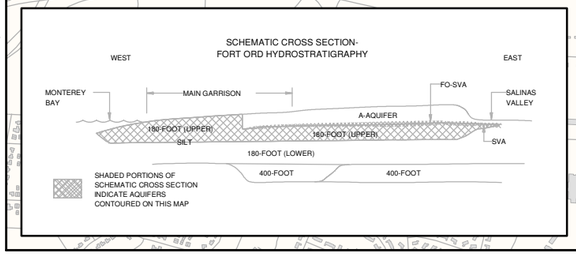
C

D

E

F

SCHEMATIC CROSS SECTION-
FORT ORD HYDROSTRATIGRAPHY



N
W
E
S

0 1,500 3,000
Feet

EXPLANATION

- Monitoring Well with TCE Detection
- Extraction Well with TCE Detection
- Well ID - Bold When ACL Exceeded (* Indicates: Sample result not used for contouring)
- MW-BW-02-180 0.44 A/J — TCE concentration (µg/L) and validation/lab qualifier. Bold when concentration exceeds the ACL.
- Monitoring Well TCE Not Detected, and No Other COC ACL Exceedances
- Extraction Well TCE 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 — Tricholorethene (TCE)

Approximate extent of Fort Ord Landfill Areas

- OU2 Landfill Areas B through F
- Area A (clean closed)
- Roads
- Facilities
- Former Fort Ord Boundary

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TCE CONCENTRATIONS AND OTHER COC ACL EXCEEDANCES
UPPER 180-FOOT AQUIFER
Operable Unit 2
Second Quarter 2018
Groundwater Monitoring and Treatment System Report
Former Fort Ord, California

wood.

By: TJH

Date: 07/23/2018

Project No. 8417190510

Figure 9

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