

Former Fort Ord Operable Unit 2 Data and Status

HTW BCT Meeting, July 17, 2020

Table 1: June 2020 – OU2 GWTP Statistics

Monthly Statistics	Volume Treated (gallons)	Average Flow (gallons per minute)	Percent of Time Online	COC Mass Removed (pounds)
April 2020	35,252,496	816	100	2.34
May 2020	35,974,215	806	97.6	2.47
June 2020	34,090,848	789	100	2.34
Total since October 1995	8.145 billion			890

Table 2: June 2020 – OU2 Analytical Results at TS-OU2-INJ-01

COC	Discharge Limit (µg/L)	Analytical Results (µg/L)		
		4/28/2020	5/27/2020	6/23/2020
1,1-dichloroethane (1,1-DCA)	5.0*	0.61	0.64	0.48
1,2-dichloroethane (1,2-DCA)	0.5	0.22 J	0.23 J	0.17 J
1,2-dichloropropane (1,2-DCP)	0.5	ND (0.25)	ND (0.25)	ND (0.25)
Benzene	0.5	ND (0.25)	ND (0.25)	ND (0.25)
Carbon tetrachloride (CT)	0.5	ND (0.25)	ND (0.25)	ND (0.25)
Chloroform	2.0*	0.38 J	0.42 J	0.35 J
Cis-1,2-dichloroethene (cis-1,2-DCE)	6.0*	1.0	1.1	1.2
Methylene Chloride	0.5	ND (0.50)	ND (0.50)	ND (0.50)
Tetrachloroethene (PCE)	0.5	ND (0.25)	ND (0.25)	ND (0.25)
Trichloroethene (TCE)	0.5	ND (0.25)	ND (0.25)	ND (0.25)
Vinyl chloride (VC)	0.1	ND (0.05)	ND (0.05)	ND (0.05)

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 italics are above the discharge limit, and results in **bold** and shaded are concentrations above the ACL

Results in gray are ND

April 2020 Key Events

- April 15: Removed inoperable pump in EW-OU2-12-180 (offline since Jan 15) and found 12.5 feet sediment in bottom of well.
- April 16: EW-OU2-10-A offline on VFD fault.
- April 27: Repaired VFD fault in EW-OU2-10-A by increasing back pressure on pump, operating continuously at 15 gpm.

May 2020 Key Events

- May 4: OU2 GWTP offline for 5.5 hours due to communication errors.
- May 18: EW-OU2-20-A offline due to crack in y-strainer.
- May 24: OU2 GWTP offline for 12 hours due to communication errors.
- Troubleshoot and improve communications at OU2 GWTP.

June 2020 Key Events

- June 1-5: Second Quarter 2020 Groundwater Monitoring Event.
- June 7: EW-OU2-09-180 offline due to PLC issues.
- June 15-18: radio survey.
- June 26: EW-OU2-09-180 online after analog input card replaced.

July 2020 Key Events

- July 2: removed y-strainer and restarted EW-OU2-20-A.
- JV to troubleshoot flow meters in EW-OU2-02-180R and -12-180.

August 2020 Key Events

- Aug 31-Sep 4: Third Quarter 2020 Groundwater Monitoring Event.
- Coordinate with Sea Haven adjustment/replacement of 5 MWs: MW-OU2-05-A, -05-180, -07-A, -07-180, and -07-400.
- Coordinate with Kimley-Horn adjustment of infrastructure during Imjin Parkway widening/roundabout construction.
- JV setup leak detection system in Western Network.
- Prepare for Western Network and EW-OU2-09-A connection and operation.
- Turnover of new OU2 GWTP to Government.

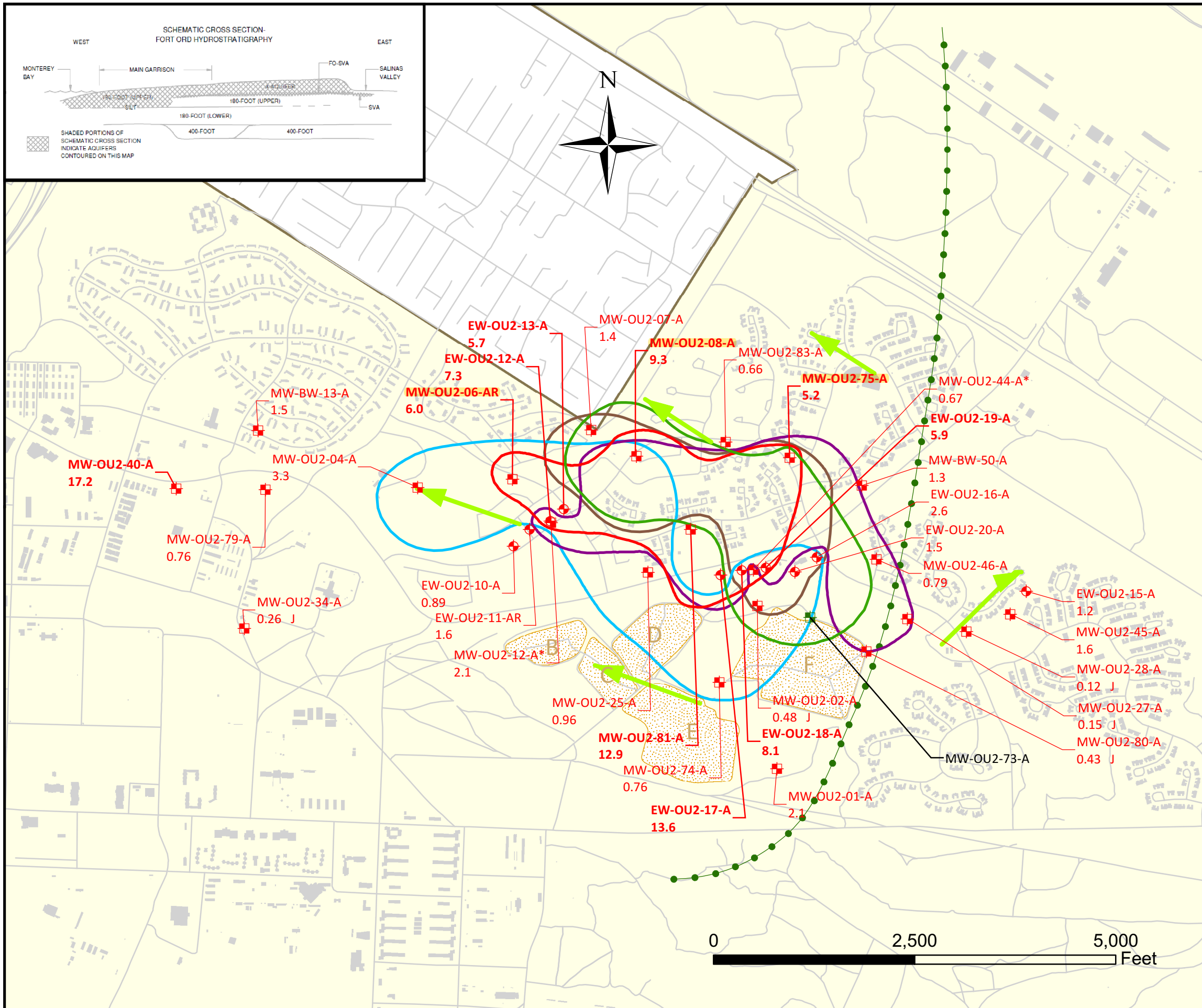


Table 3. OU2 A-Aquifer Select Extraction/Monitoring Well Data

OU2 Hydraulic Zone ¹	Well Identification ²	Select COC Concentrations (µg/L)									
		1Q 2020					2Q 2020*				
		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	2.5	2.5	6.0	1.9	0.63	2.8	2.4	5.8	1.9	0.53
1	EW-OU2-17-A	9.4	7.5	2.1	ND (0.25)	0.071 J	11.6	7.1	1.8	0.11 J	ND (0.05)
1	EW-OU2-18-A	9.3	6.4	8.3	1.1	0.47	11.5	6.2	7.7	1.2	0.52
1	EW-OU2-19-A	6.1	6.3	16.2	2.1	1.3	6.3	6.1	14.0	2.2	1.2
1	EW-OU2-20-A	1.2	1.5	5.5	0.69	0.53	NS	NS	NS	NS	NS
1	MW-OU2-02-A	0.57	2.0	4.9	1.0	9.5	0.71	2.5	4.6	0.78	9.3
1	MW-OU2-44-A	3.3	4.0	15.5	3.3	0.91	3.5	4.8	11.5	2.6	0.60
1	MW-OU2-73-A	ND (0.25)	2.2	2.4	0.31 J	5.5	0.27 J	1.3	5.1	0.65	6.3
2	EW-OU2-15-A	0.78	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.05)	1.6	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.05)
2	MW-OU2-27-A	0.10 J	4.4	0.36 J	ND (0.25)	ND (0.05)	0.13 J	5.0	0.45 J	ND (0.25)	ND (0.05)
3	EW-OU2-09-A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3	EW-OU2-10-A	0.75	0.67	0.26 J	0.50	0.056 J	0.87	0.68	0.27 J	0.56	0.052 J
3	EW-OU2-11-AR	1.8	0.87	1.2	0.32 J	ND (0.05)	1.9	0.79	1.2	0.32 J	ND (0.05)
3	EW-OU2-12-A	5.2	7.7	6.2	2.2	0.12	8.5	4.9	5.9	2.3	0.11
3	EW-OU2-13-A	6.0	2.3	1.5	3.8	ND (0.05)	6.5	2.1	1.4	3.9	ND (0.05)
3	MW-OU2-25-A	1.1	0.39 J	0.61	0.50	0.14	1.2	0.36 J	0.62	0.61	0.16
4	EW-OU2-04-A	1.5	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.05)	1.5	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.05)
4	EW-OU2-05-A	3.0	0.31 J	0.25 J	ND (0.25)	ND (0.05)	3.5	0.31 J	0.31 J	ND (0.25)	ND (0.05)
4	EW-OU2-06-A	3.7	0.35 J	0.27 J	ND (0.25)	ND (0.05)	3.2	0.33 J	0.25 J	ND (0.25)	ND (0.05)
4	MW-OU2-40-A	11.0	0.49 J	0.16 J	ND (0.25)	ND (0.05)	11.3	0.47 J	0.19 J	ND (0.25)	ND (0.05)
5	MW-OU2-04-A	2.8	1.2	0.80	0.71	ND (0.05)	2.3	1.0	0.61	0.51	ND (0.05)
5	MW-OU2-06AR	6.7	3.5	2.0	0.98	ND (0.05)	3.6	0.69	0.60	1.1	ND (0.05)
5	MW-OU2-07-A	0.96	1.6	3.0	ND (0.25)	ND (0.05)	0.35 J	0.29 J	1.7	ND (0.25)	ND (0.05)
5	MW-OU2-08-A	7.6	5.8	24.2	1.3	0.37	8.1	4.5	16.3	1.5	0.36
5	MW-OU2-75-A	2.8	3.9	5.6	ND (0.25)	0.055 J	8.1	10.3	12.6	0.17 J	0.14
5	MW-OU2-81-A	7.6	11.4	2.1	0.55	ND (0.05)	8.2	10.8	1.9	0.46 J	ND (0.05)
5	MW-OU2-83-A	1.2	1.5	5.5	0.17 J	0.11	1.5	1.4	5.9	0.20 J	0.12
5	MW-BW-50-A	1.5	3.2	2.4	ND (0.25)	ND (0.05)	0.88	5.4	1.1	ND (0.25)	ND (0.05)

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
 * Preliminary data



EXPLANATION

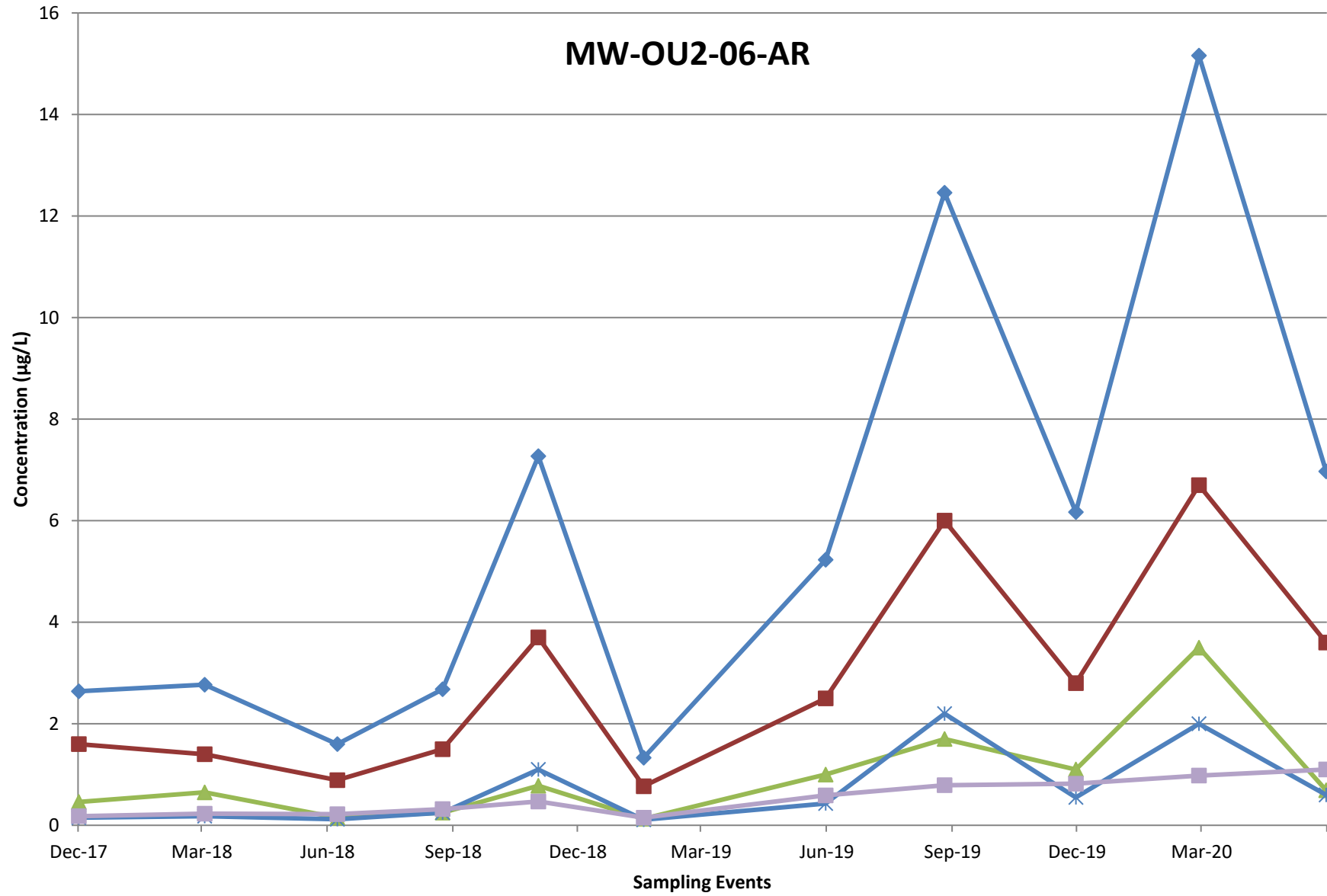
- Monitoring Well with TCE Detection
 - ◆ Extraction Well with TCE Detection
 - Well ID - Bold When ACL Exceeded
 - MW-OU2-08-A * Well not used for contouring
 - 9.3
 - TCE Concentration ($\mu\text{g/L}$) and validation/lab qualifier.
 - Monitoring Well with COC ACL Exceedance and TCE Non-Detect
- Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in $\mu\text{g/L}$.
- 5 — Trichloroethene (TCE)
 - 3 — Tetrachloroethene (PCE)
 - 5 — 1,1-Dichloroethane (1,1-DCA)
 - 0.5 — 1,2-Dichloroethane (1,2-DCA)
 - 0.1 — Vinyl Chloride (VC)
 - ➔ General Groundwater Flow Direction
 - Approximate Location of a Groundwater Divide
 - OU2 Landfill Areas B through F
 - Facilities
 - Former Fort Ord Boundary
 - Roads

NOTES:

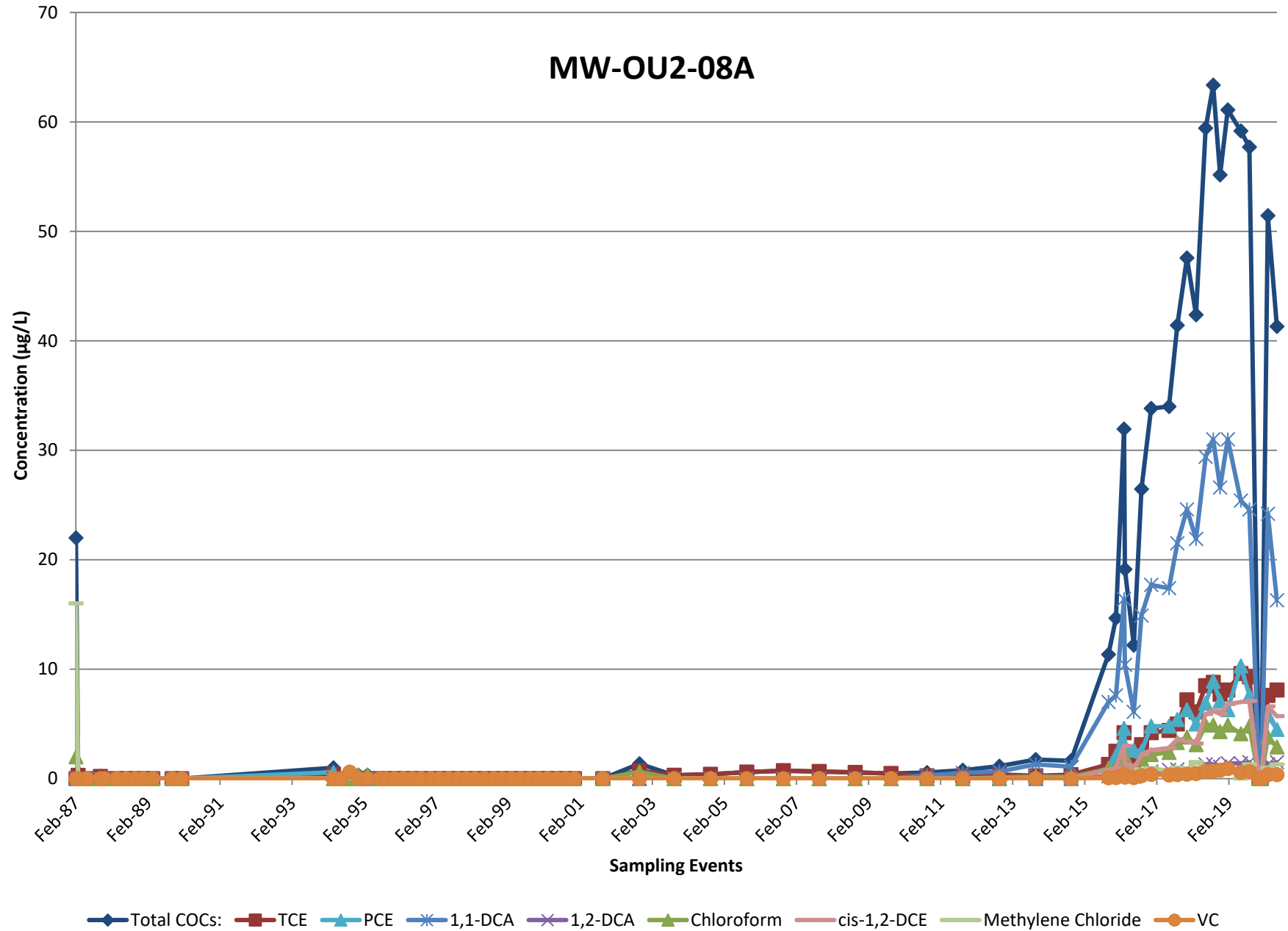
- (1) Samples were collected between August 26, 2019 and September 17, 2019.
- (2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
- (3) Contours based on highest value obtained from multiple bags where applicable.
- (4) Contours near wells not sampled this quarter are inferred from previous analytical data.

TCE CONCENTRATIONS AND OTHER COC ACL EXCEEDANCES
 A-AQUIFER
 THIRD QUARTER 2019
 Operable Unit 2 Fourth Quarter 2018 - Third Quarter 2019
 Groundwater Monitoring and Treatment System Report
 Former Fort Ord, California

<i>Ahtna</i>	Date: 11/18/2019	Figure: 14
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◆ Total COCs: ■ TCE ▲ PCE * 1,1-DCA ■ 1,2-DCA



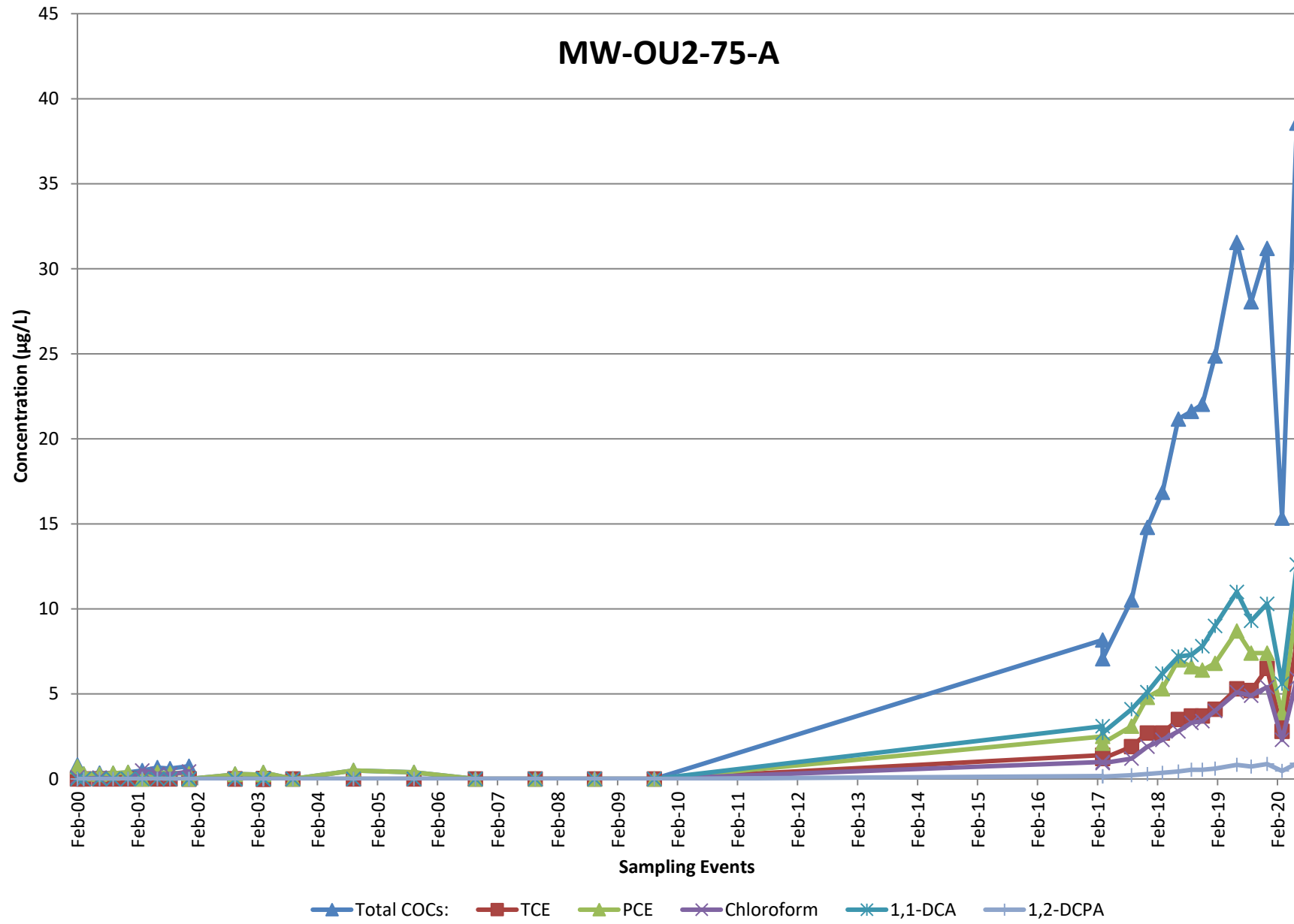
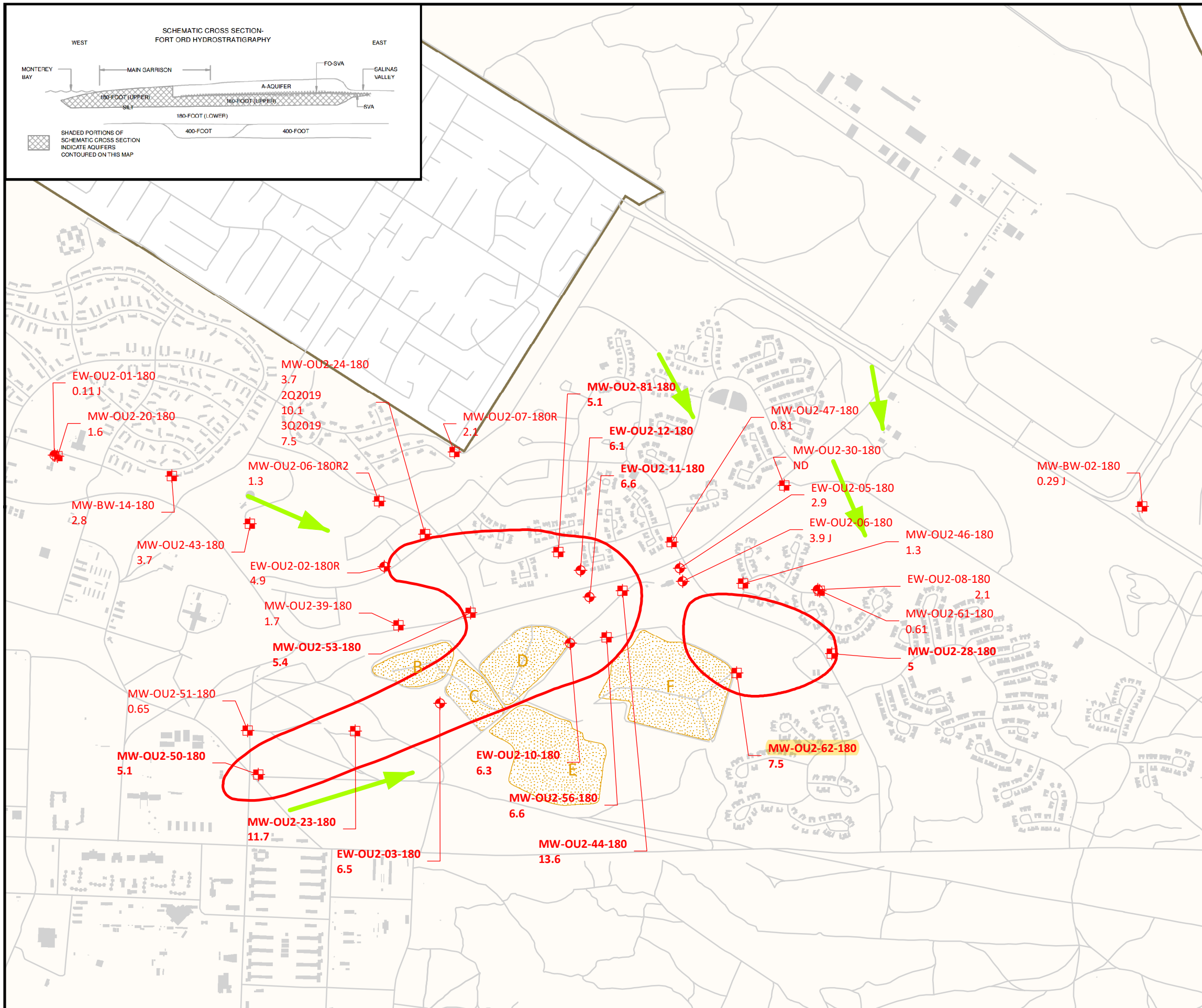


Table 4. OU2 Upper 180-Foot Select Extraction/Monitoring Well Data

OU2 Hydraulic Zone ¹	Well Identification ²	TCE Concentration (µg/L)			
		3Q 2019	4Q 2019	1Q 2020	2Q 2020*
ACL:		5.0			
6	EW-OU2-03-180	7.8	6.5	8.0	7.3
6	MW-OU2-23-180	13.3	11.7	13.3	17.7
6	MW-OU2-50-180	9.3	5.1	11.8	11.8
6	MW-OU2-51-180	0.25 J	0.65	ND (0.25)	0.94
7	EW-OU2-05-180	2.9	2.9	2.6	2.7
7	EW-OU2-06-180	4.0	3.9 J	3.8	4.1
7	EW-OU2-10-180	8.1	6.3	7.4	8.5
7	EW-OU2-11-180	3.9	6.6	5.1	4.3
7	EW-OU2-12-180	7.0	6.1	NS	NS
7	MW-OU2-81-180	5.7	5.1	4.7	5.4
7	MW-OU2-44-180	12.1	13.6	11.4	11.6
7	MW-OU2-56-180	5.0	6.6	ND (0.25)	6.3
8	EW-OU2-08-180	2.2	2.1	1.7	1.4
8	MW-OU2-28-180	4.7	5.0	4.0	4.3
8	MW-OU2-62-180	4.7	7.5	8.6	4.0
9	EW-OU2-01-180	3.7	0.11 J	3.8	4.4
9	EW-OU2-02-180R	5.5	4.9	5.2	5.7
9	MW-OU2-06-180R2	1.4	1.3	1.1	1.0
9	MW-OU2-24-180	7.5	3.7	8.5	10.5
9	MW-OU2-43-180	1.8	3.7	2.3	1.0
N/A	MW-OU2-07-180R	1.2	2.1	1.6	0.50

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
- * Preliminary data



EXPLANATION

- Monitoring Well with TCE Detection
- Extraction Well with TCE Detection
- Well ID - Bold When ACL Exceeded**
- MW-OU2-44-180** * Well not used for contouring
- 13.6**
- TCE Concentration (µg/L) and validation/lab qualifier.

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

- 5 Trichloroethene (TCE)
- General Groundwater Flow Direction
- OU2 Landfill Areas B through F
- Facilities
- Former Fort Ord Boundary
- Roads

NOTES:

- (1) Samples were collected between December 2, 2019 and December 6, 2019.
- (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.

0 1,500 3,000

Feet

N

TCE CONCENTRATIONS AND OTHER COC ACL EXCEEDANCES
UPPER 180-FOOT AQUIFER
FOURTH QUARTER 2019
Operable Unit 2 Fourth Quarter 2019
Groundwater Monitoring and Treatment System Report
Former Fort Ord, California

Ahtna Date: 4/29/2019 Figure: **9**

