# Former Fort Ord Operable Unit 2 Data and Status

## HTW BCT Meeting, October 22, 2020

**Table 1:** July-Sept 2020 – OU2 GWTP Statistics

| Monthly Statistics | Volume Treated (gallons) | Average Flow (gallons per minute) | Percent of Time Online | COC Mass Removed (pounds) |
|---|---|---|---|---|
| July 2020 | 31,305,452 | 701 | 84.4 | 2.2 |
| Aug 2020 | 35,636,023 | 798 | 98.1 | 2.1 |
| Sept 2020 | 35,524,915 | 822 | 99.1 | 2.4 |
| Total since October 1995 | 8.247 billion | | | 896 |

**Table 2:** July-Sept 2020 – OU2 Analytical Results at TS-OU2-INJ-01

| COC | Discharge Limit (µg/L) | Analytical Results (µg/L) | | | |
|---|---|---|---|---|---|
| | | 7/7/2020 | 7/21/2020 | 8/4/2020 | 9/21/2020 |
| 1,1-dichloroethane (1,1-DCA) | 5.0* | 0.51 | 0.53 | 0.42 J | ND (0.25) |
| 1,2-dichloroethane (1,2-DCA) | 0.5 | 0.19 J | 0.19 J | 0.16 J | ND (0.25) |
| 1,2-dichloropropane (1,2-DCP) | 0.5 | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| Benzene | 0.5 | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| Carbon tetrachloride (CT) | 0.5 | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| Chloroform | 2.0* | 0.38 J | 0.39 J | 0.32 J | ND (0.25) |
| Cis-1,2-dichloroethene (cis-1,2-DCE) | 6.0* | 1.3 | 1.3 | 1.2 | ND (0.25) |
| Methylene Chloride | 0.5 | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) |
| Tetrachloroethene (PCE) | 0.5 | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| Trichloroethene (TCE) | 0.5 | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| Vinyl chloride (VC) | 0.1 | ND (0.05) | 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

*Ahtna*

**July 2020 Key Events**
- July 2: EW-OU2-19-A offline since May, restarted after cracked Y-Strainer repaired.
- July 23: The OU2 GWTP was shut down for 116 hours to install an isolation valve for the western network. The OU2 GWTP was restarted on July 28.

**August 2020 Key Events**
- Aug 15: OU2 GWTP offline for 14 hours due to electrical storm power outages. VFDs and PLCs inspected and rebooted. OU2 GWTP restarted on Aug 16.
- Aug 31: EW-OU2-09-A online for the first time since October 2018.
- Aug 31-Sep 4: Third Quarter 2020 Groundwater Monitoring Event.

**September 2020 Key Events**
- Sept 8: Lost communications to EW-OU2-17-A, EW-OU2-18-A, and EW-OU2-11-80. PLCs reset and wells restarted Sept 15.
- Sept 16: OU2 GWTP GAC Change out of primary vessels 1A and 2A.
- Sept 17: OU2 GWTP shut down for 4.5 hours due to communications loss. Inspected radio stations and rebooted PLCs and GWTP restarted.
- Sept 18: video logged EW-OU2-12-180, mud on screen but casing and screen intact .
- Sept 21: OU2 GWTP shut down for 2 hours to repair a leaking gasket at EW-OU2-09-A.

**October 2020 Key Events**
- Repair failed effluent pump P-2.
- Install transducer at EW-OU2-06-A.
- Install VFD at EW-OU2-09-A.
- Coordinate with Sea Haven adjustment/replacement of five MWs: MW-OU2-05-A, -05-180, -07-A, -07-180, and -07-400.
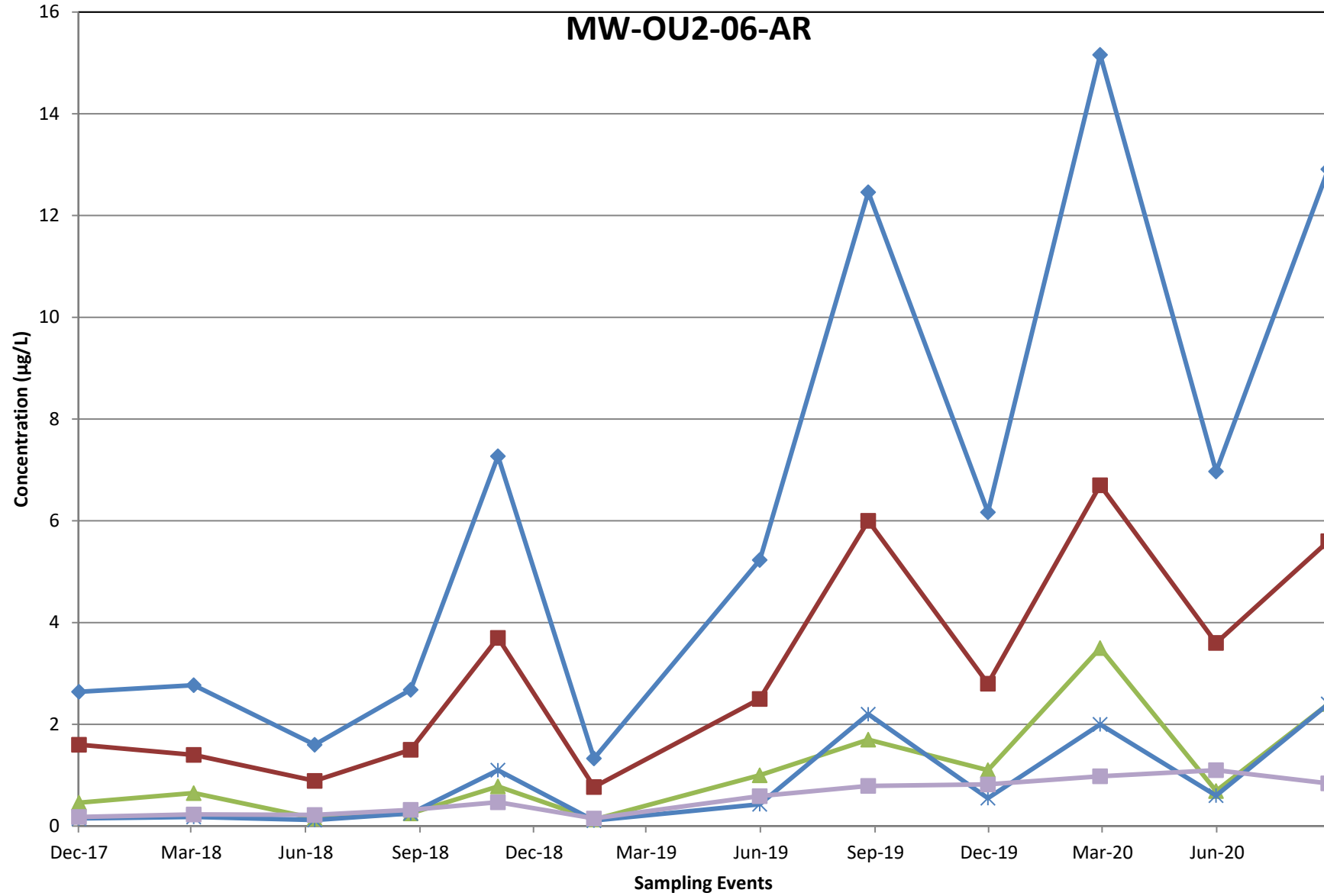
**November 2020 Key Events**
- None.

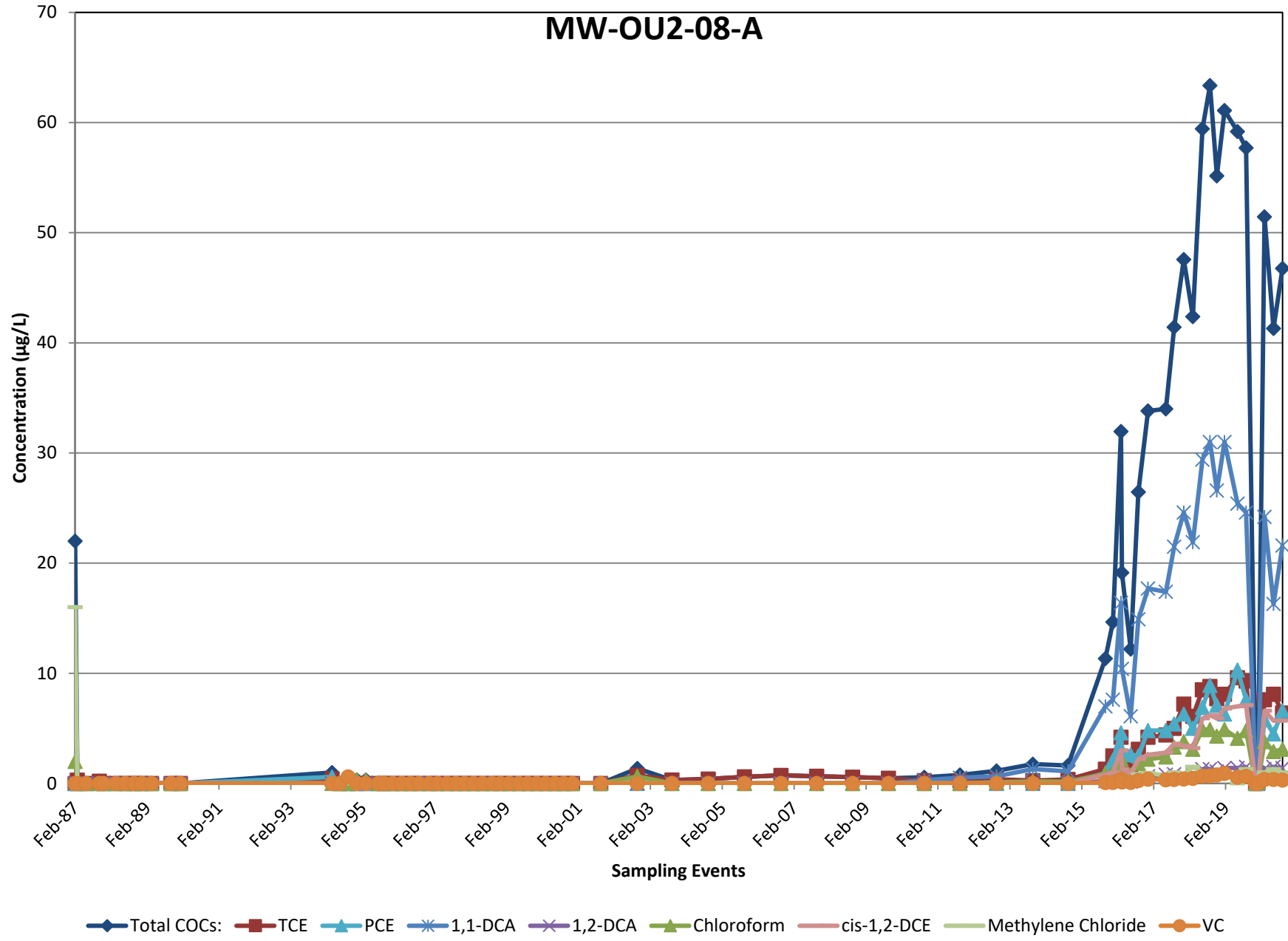**Table 3.** OU2 A-Aquifer Select Extraction/Monitoring Well Data

| OU2 Hydraulic Zone[1] | Well Identification[2] | Select COC Concentrations (µg/L) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2Q 2020 | | | | | 3Q 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 | 2.8 | 2.4 | 5.8 | 1.9 | 0.53 | 2.5 | 2.2 | 5.7 | 2.0 | 0.57 |
| 1 | EW-OU2-17-A | 11.6 | 7.1 | 1.8 | 0.11 J | ND (0.05) | 9.5 | 5.9 | 1.4 | 0.12 J | ND (0.05) |
| 1 | EW-OU2-18-A | 11.5 | 6.2 | 7.7 | 1.2 | 0.52 | 10.1 | 5.4 | 6.6 | 1.0 | 0.51 |
| 1 | EW-OU2-19-A | 6.3 | 6.1 | 14.0 | 2.2 | 1.2 | 5.3 | 5.4 | 12.6 | 1.9 | 1.3 |
| 1 | EW-OU2-20-A | NS | NS | NS | NS | NS | 1.3 | 1.3 | 5.1 | 0.72 | 0.86 |
| 1 | MW-OU2-02-A | 0.71 | 2.5 | 4.6 | 0.78 | 9.3 | 0.51 | 2.6 | 3.9 | 0.91 | 7.5 |
| 1 | MW-OU2-44-A | 3.5 | 4.8 | 11.5 | 2.6 | 0.60 | 1.2 | 1.5 | 5.5 | 1.5 | 0.22 |
| 1 | MW-OU2-73-A | 0.27 J | 1.3 | 5.1 | 0.65 | 6.3 | ND (0.25) | 1.9 | 2.7 | 0.51 | 5.2 |
| 2 | EW-OU2-15-A | 1.6 | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.05) | 1.4 | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.05) |
| 2 | MW-OU2-27-A | 0.13 J | 5.0 | 0.45 J | ND (0.25) | ND (0.05) | ND (0.25) | 4.1 | 0.34 J | ND (0.25) | ND (0.05) |
| 3 | EW-OU2-09-A | NS | NS | NS | NS | NS | 0.14 J | 0.17 J | ND (0.25) | ND (0.25) | 0.051 J |
| 3 | EW-OU2-10-A | 0.87 | 0.68 | 0.27 J | 0.56 | 0.052 J | 0.70 | 0.61 | 0.25 J | 0.51 | 0.053 J |
| 3 | EW-OU2-11-AR | 1.9 | 0.79 | 1.2 | 0.32 J | ND (0.05) | 1.8 | 0.77 | 1.4 | 0.30 J | ND (0.05) |
| 3 | EW-OU2-12-A | 8.5 | 4.9 | 5.9 | 2.3 | 0.11 | 6.5 | 4.2 | 5.4 | 2.1 | 0.11 |
| 3 | EW-OU2-13-A | 6.5 | 2.1 | 1.4 | 3.9 | ND (0.05) | 5.9 | 2.1 | 1.5 | 4.1 | ND (0.05) |
| 3 | MW-OU2-25-A | 1.2 | 0.36 J | 0.62 | 0.61 | 0.16 | 1.0 | 0.43 J | 0.54 | 0.57 | ND (0.05) |
| 4 | EW-OU2-04-A | 1.5 | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.05) | 1.9 | ND (0.25) | 0.37 J | ND (0.25) | ND (0.05) |
| 4 | EW-OU2-05-A | 3.5 | 0.31 J | 0.31 J | ND (0.25) | ND (0.05) | 3.9 | 0.50 | 0.46 J | 0.30 J | ND (0.05) |
| 4 | EW-OU2-06-A | 3.2 | 0.33 J | 0.25 J | ND (0.25) | ND (0.05) | 3.1 | 0.27 J | 0.19 J | ND (0.25) | ND (0.05) |
| 4 | MW-OU2-40-A | 11.3 | 0.47 J | 0.19 J | ND (0.25) | ND (0.05) | 10.0 | 0.42 J | 0.16 J | ND (0.25) | ND (0.05) |
| 5 | MW-OU2-04-A | 2.3 | 1.0 | 0.61 | 0.51 | ND (0.05) | 2.6 | 1.2 | 0.70 | 0.61 | ND (0.05) |
| 5 | MW-OU2-06AR | 3.6 | 0.69 | 0.60 | 1.1 | ND (0.05) | 5.6 | 2.4 | 2.4 | 0.84 | ND (0.05) |
| 5 | MW-OU2-07-A | 0.35 J | 0.29 J | 1.7 | ND (0.25) | ND (0.05) | 0.54 | 0.51 | 6.3 | ND (0.25) | ND (0.05) |
| 5 | MW-OU2-08-A | 8.1 | 4.5 | 16.3 | 1.5 | 0.36 | 6.4 | 6.6 | 21.6 | 1.4 | 0.31 |
| 5 | MW-OU2-75-A | 8.1 | 10.3 | 12.6 | 0.17 J | 0.14 | 5.5 | 7.4 | 10.0 | ND (0.25) | ND (0.05) |
| 5 | MW-OU2-81-A | 8.2 | 10.8 | 1.9 | 0.46 J | ND (0.05) | 12.1 | 9.7 | 2.1 | 0.47 J | ND (0.05) |
| 5 | MW-OU2-83-A | 1.5 | 1.4 | 5.9 | 0.20 J | 0.12 | 1.2 | 1.3 | 5.5 | 0.21 J | ND (0.05) |
| 5 | MW-BW-50-A | 0.88 | 5.4 | 1.1 | ND (0.25) | ND (0.05) | 1.1 | 2.9 | 1.9 | 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

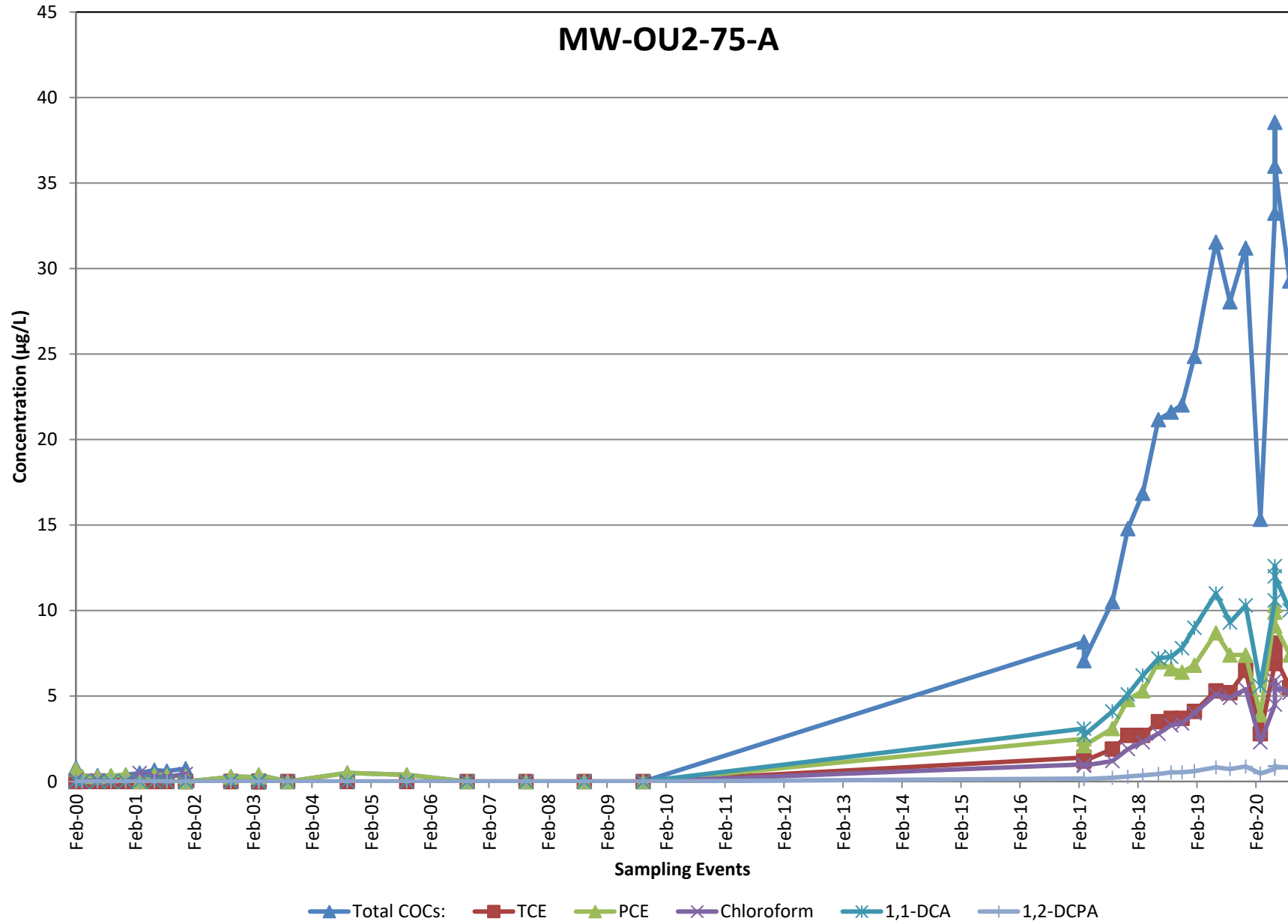**MW-OU2-06-AR**

MW-OU2-08-A

MW-OU2-75-A

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

| OU2 Hydraulic Zone[1] | Well Identification[2] | TCE Concentration (µg/L) | | | |
|---|---|---|---|---|---|
| | | 4Q 2019 | 1Q 2020 | 2Q 2020 | 3Q 2020* |
| ACL: | | 5.0 | | | |
| 6 | EW-OU2-03-180 | **6.5** | **8.0** | **7.3** | **7.3** |
| 6 | MW-OU2-23-180 | **11.7** | **13.3** | **17.7** | **12.2** |
| 6 | MW-OU2-50-180 | **5.1** | **11.8** | **11.8** | **8.7** |
| 6 | MW-OU2-51-180 | 0.65 | ND (0.25) | 0.94 | 0.56 |
| 7 | EW-OU2-05-180 | 2.9 | 2.6 | 2.7 | 2.7 |
| 7 | EW-OU2-06-180 | 3.9 J | 3.8 | 4.1 | 4.2 |
| 7 | EW-OU2-10-180 | **6.3** | **7.4** | **8.5** | **7.6** |
| 7 | EW-OU2-11-180 | **6.6** | **5.1** | 4.3 | 3.5 |
| 7 | EW-OU2-12-180 | **6.1** | NS | NS | NS |
| 7 | MW-OU2-81-180 | **5.1** | 4.7 | **5.4** | 3.7 |
| 7 | MW-OU2-44-180 | **13.6** | **11.4** | **11.6** | **13.3** |
| 7 | MW-OU2-56-180 | **6.6** | ND (0.25) | **6.3** | **7.0** |
| 8 | EW-OU2-08-180 | 2.1 | 1.7 | 1.4 | 1.7 |
| 8 | MW-OU2-28-180 | 5.0 | 4.0 | 4.3 | **5.1** |
| 8 | MW-OU2-62-180 | **7.5** | **8.6** | 4.0 | 3.1 |
| 9 | EW-OU2-01-180 | 0.11 J | 3.8 | 4.4 | 4.0 |
| 9 | EW-OU2-02-180R | 4.9 | **5.2** | **5.7** | **5.2** |
| 9 | MW-OU2-06-180R2 | 1.3 | 1.1 | 1.0 | 0.82 |
| 9 | MW-OU2-24-180 | 3.7 | **8.5** | **10.5** | **9.6** |
| 9 | MW-OU2-43-180 | 3.7 | 2.3 | 1.0 | 2.5 |
| N/A | MW-OU2-07-180R | 2.1 | 1.6 | 0.50 | 0.51 |

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.
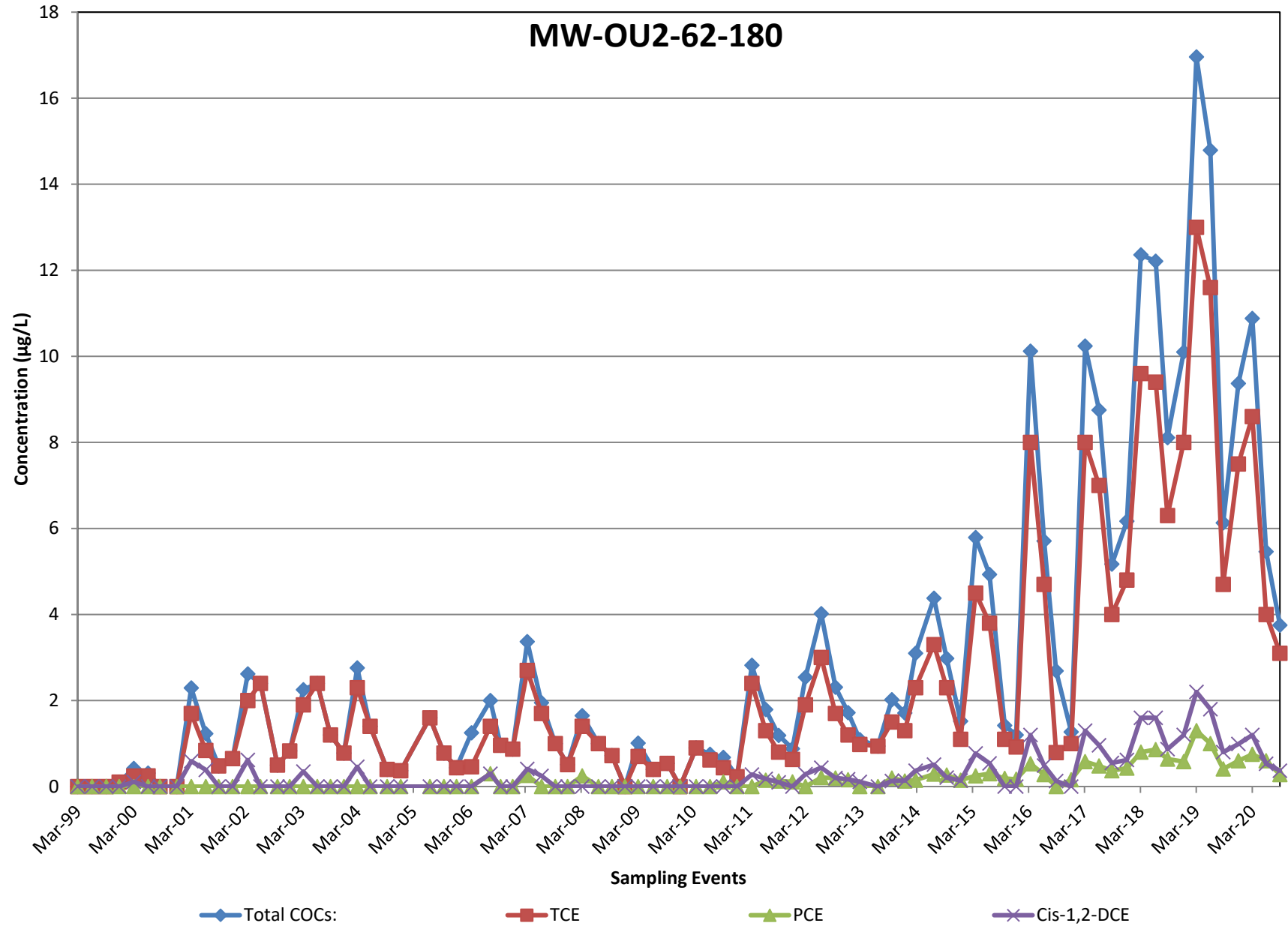[1] Hydraulic zones are identified in the Groundwater QAPP.
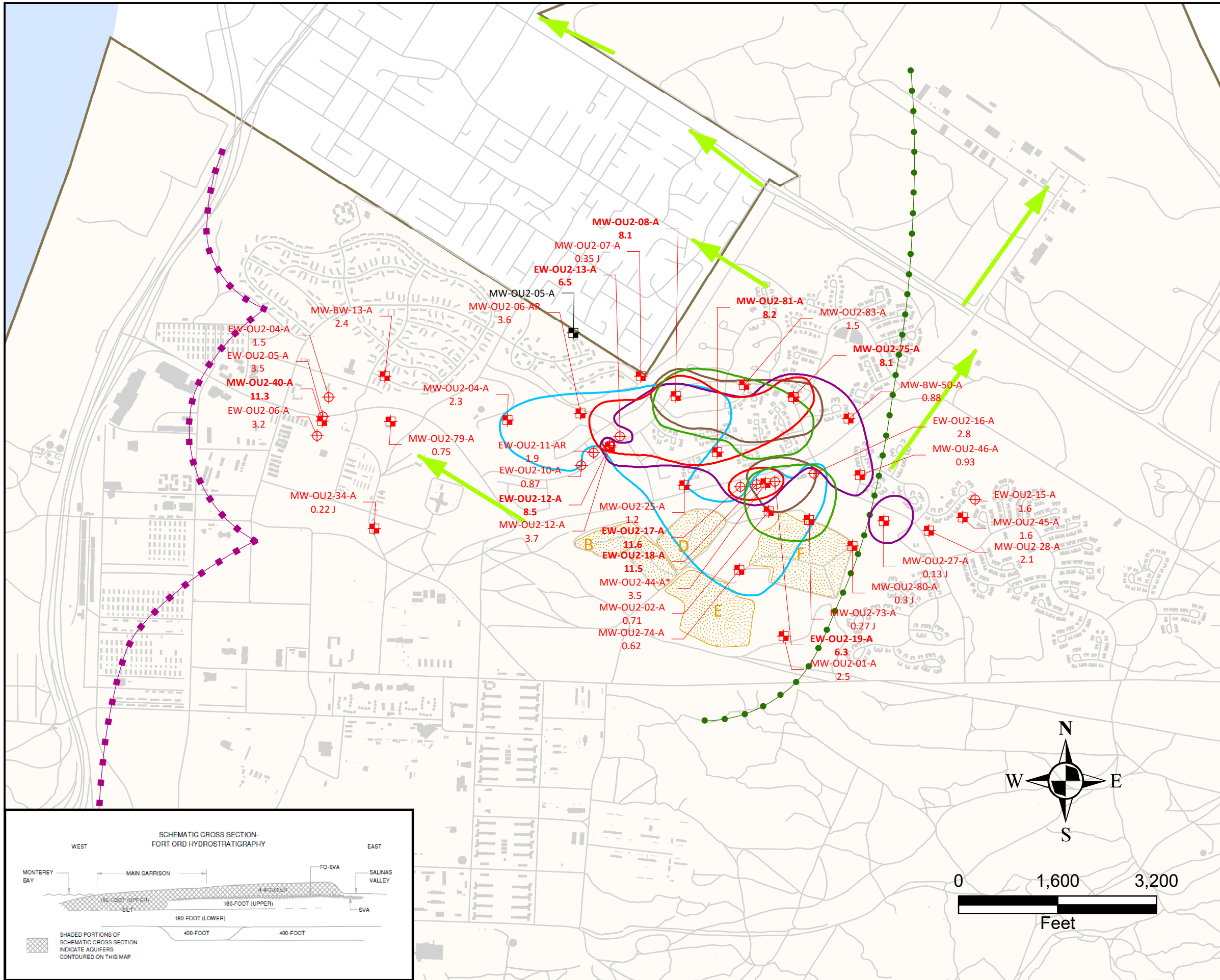[2] Extraction wells not listed have met the QAPP decision rules to no longer operate.
Results in **bold** and shaded are concentrations above the ACL
Results in gray are ND
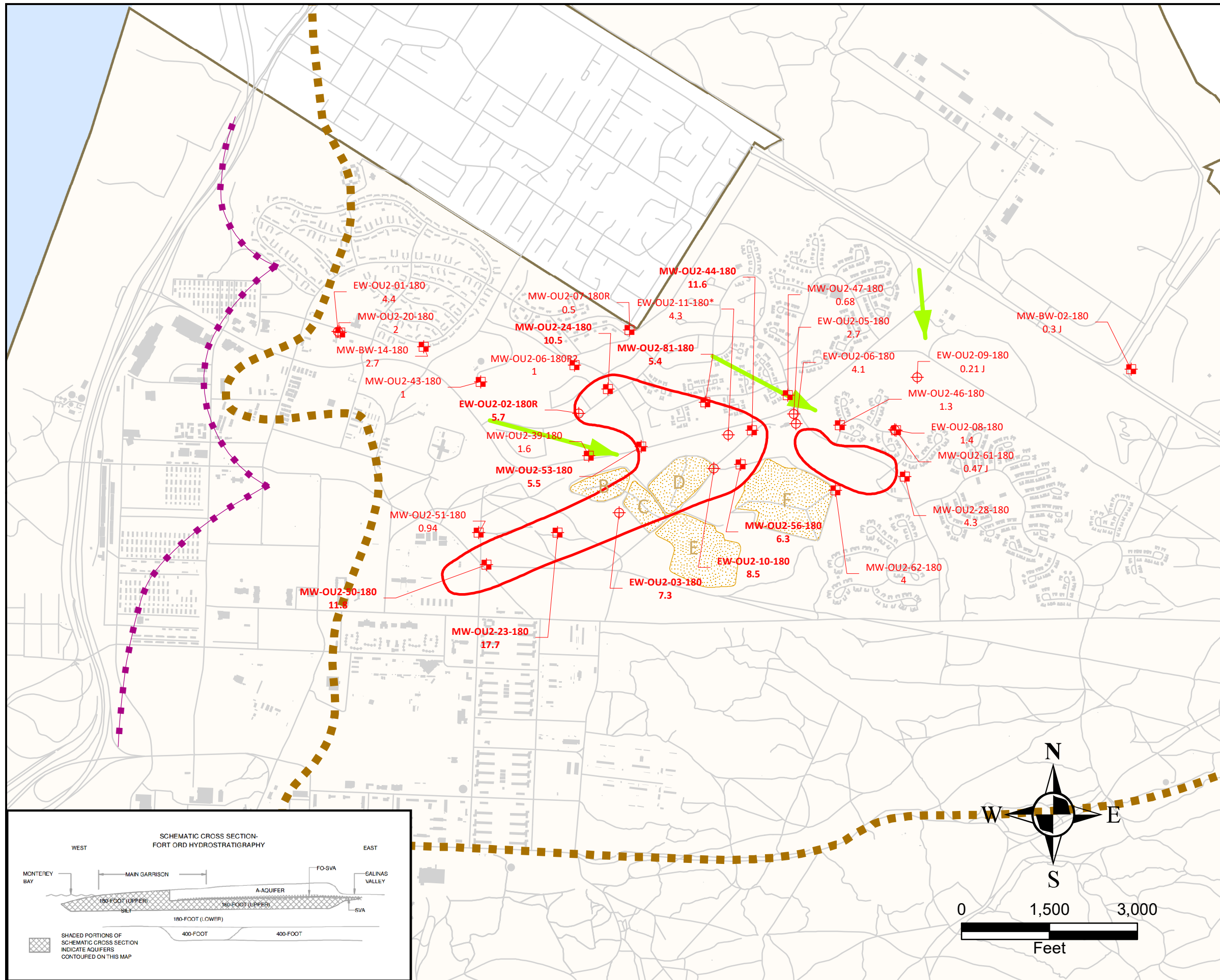Results in brackets from a second deeper passive diffusion bag
* Preliminary data

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MW-OU2-62-180

**EXPLANATION**

- ⊡ (red) Monitoring Well with TCE Detection
- ⊕ (red) Extraction Well with TCE Detection

MW-OU2-08-A
8.1
Well ID - Bold When ACL Exceeded
* Well not used for contouring
TCE Concentration (µg/L) and validation/lab qualifier.

- ⊡ (black) Monitoring Well with no COC ACL Exceedance and ND for TCE
- ⊡ (green) Monitoring Well with COC ACL Exceedance and TCE Non-Detect

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

- 5 (red) Trichloroethene (TCE)
- 3 (purple) Tetrachloroethene (PCE)
- 5 (brown) 1,1-Dichloroethane (1,1-DCA)
- 0.5 (cyan) 1,2-Dichloroethane (1,2-DCA)
- 0.1 (green) Vinyl Chloride (VC)
- ← (green arrow) General Groundwater Flow Direction
- ■■■ (magenta) Approximate location of the Upper 180-Foot Aquifer Groundwater Divide
- ●●● (green) Approximate location of the A-Aquifer Groundwater Divide
- OU2 Landfill Areas B through F
- Facilities
- Roads
- Former Fort Ord Boundary

**NOTES:**
(1) Groundwater samples were collected between June 1, 2020 and June 5, 2020.
(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 2020
Groundwater Monitoring and Treatment System Report
Former Fort Ord, California

Ahtna    Date: 10/13/2020    Figure: 9

## Explanation

⊕ Extraction Well with TCE Detection

▣ Monitoring Well with TCE Detection

**MW-OU2-44-180** Well ID - Bold When ACL Exceeded
**11.6** (*Indicates: Sample not used for contouring)

TCE concentration (µg/L) and lab qualifier.

▣ Monitoring Well with no COC ACL Exceedance and ND for TCE

* Well is not used for contouring

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

—5— Trichloroethene (TCE)

▪▪▪ Approximate location of the Upper 180-Foot Aquifer Groundwater Divide

➤ General Groundwater Flow Direction

Roads

Facilities

Approximate extent of landfill areas

Approximate Edge of Fort Ord - Salinas Valley Aquitard

Former Fort Ord Boundary

### Well Labels

EW-OU2-01-180 4.4
MW-OU2-20-180 2
MW-BW-14-180 2.7
MW-OU2-43-180 1
MW-OU2-07-180R 0.5
MW-OU2-24-180 10.5
MW-OU2-06-180R2 1
MW-OU2-44-180 11.6
EW-OU2-11-180* 4.3
MW-OU2-81-180 5.4
MW-OU2-47-180 0.68
EW-OU2-05-180 2.7
EW-OU2-06-180 4.1
EW-OU2-09-180 0.21 J
MW-BW-02-180 0.3 J
MW-OU2-46-180 1.3
EW-OU2-08-180 1.4
MW-OU2-61-180 0.47 J
MW-OU2-28-180 4.3
EW-OU2-02-180R 5.7
MW-OU2-39-180 1.6
MW-OU2-53-180 5.5
MW-OU2-51-180 0.94
MW-OU2-56-180 6.3
EW-OU2-10-180 8.5
MW-OU2-62-180 4
EW-OU2-03-180 7.3
MW-OU2-50-180 11.8
MW-OU2-23-180 17.7

## NOTES:

(1) Groundwater samples were collected between June 1, 2020 and June 5, 2020.

(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.

### Schematic Cross Section - Fort Ord Hydrostratigraphy

WEST — EAST
MONTEREY BAY
MAIN GARRISON
FO-SVA
SALINAS VALLEY
180-FOOT (UPPER) SILT
A-AQUIFER
180-FOOT (UPPER)
SVA
180-FOOT (LOWER)
400-FOOT
400-FOOT

SHADED PORTIONS OF SCHEMATIC CROSS SECTION INDICATE AQUIFERS CONTOURED ON THIS MAP

N / S / E / W compass

0   1,500   3,000
Feet

TCE CONCENTRATIONS AND OTHER COC ACL EXCEEDANCES
UPPER 180-FOOT AQUIFER
OPERABLE UNIT 2
Second Quarter 2020
Groundwater Monitoring and Treatment System Report
Former Fort Ord, California

Ahtna  Date:10/13/2020  Figure: 11