

Former Fort Ord Operable Unit Carbon Tetrachloride Plume Data and Status

HTW BCT, July 13, 2018

June 2018 Key Events for OUCTP

- June 5: EW-OU2-09-180 restarted after temporary shutdown of the OU2 GWTP during Sea Haven extraction well adjustments/decommission.
- June 11 to 14: Second Quarter 2018 Groundwater Monitoring Program (GWMP) conducted.
- June 14: OUCTP EISB Deployment Area 3A sampled for Second Quarter 2018 GWMP. Sample shipment delayed by FedEx, arrived at laboratory on June 18 above QAPP-specified temperature criteria and out of the hold time for nitrate analysis. Sample analyses were cancelled.
- June 20: OUCTP EISB Deployment Area 3A resampled for Second Quarter 2018 GWMP and shipped overnight to laboratory. Laboratory received samples the next day within QAPP temperature limits and analyses are in progress.

July 2018 Key Events for OUCTP

- Prepare for 2018 decommissioning of five OUCTP A-Aquifer monitoring wells and three OUCTP Upper 180-Foot Aquifer monitoring wells.
- Prepare for 2018 installation of three OUCTP A-Aquifer monitoring wells, two OUCTP Upper 180-Foot Aquifer monitoring wells, and one OUCTP Lower 180-Foot Aquifer monitoring well.

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Table 1. OUCTP EISB 3A VOC Results

| Analyte: | Carbon Tetrachloride | | | | | | | | | | |
|---------------------|----------------------|-------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------------|
| ACL: | 0.5 µg/L | | | | | | | | | | |
| Well Identification | Baseline | Month 1 | Month 2 | Month 3 | Month 5 | Month 6 | Month 7 | 3Q 2017 | 4Q 2017 | 1Q 2018 | 2Q 2018* |
| EW-BW-160-A | 1.1 J+ | 0.86 | 0.66 | 0.60 | 1.3 | 1.0 | 1.0 | 0.64 | 0.83 | 0.91 | 1.2 |
| EW-BW-161-A | 0.84 J+ | 0.67 | 0.51 | 0.48 J | 0.69 | 0.47 J | 0.47 J | 0.38 J | 0.19 J | 0.15 J | 0.15 J |
| EW-BW-162-A | 1.0 J+ | 0.72 | 0.59 | 0.56 | 0.41 J | 0.28 J | 0.18 J | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| EW-BW-163-A | 1.2 J+ | 1.2 | 0.94 | 0.89 | 0.31 J | 0.25 J | 0.25 J | 0.16 J | 0.13 J | ND (0.25) | ND (0.25) |
| EW-BW-164-A | 0.92 J+ | 0.73 | 0.61 J- | 0.59 | 0.78 | 0.71 | 0.89 | 0.64 | 0.47 J | 0.32 J | 0.47 J |
| EW-BW-165-A | 1.2 J+ | 1.1 | 0.83 | 0.82 | 0.13 J | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| EW-BW-166-A | 1.7 J+ | 1.4 | 1.2 | 1.2 | 1.4 | 1.1 | 1.3 | 1.5 | 0.35 J | 1.4 | 1.3 |
| EW-BW-167-A | 1.7 J+ | 1.4 | 1.1 | 1.4 | 1.1 | 0.71 | 0.66 | 0.43 J | 0.22 J | 0.16 J | 0.16 J |
| EW-BW-168-A | 1.3 J+ | 1.1 | 0.82 | 0.77 | 0.84 | 0.72 | 0.80 | 0.55 | 0.53 | 0.48 J | 0.46 J |
| EW-BW-169-A | 1.0 J+ | 0.68 | 0.63 | 0.67 | 0.73 | 0.42 J | 0.80 | 0.51 | 0.38 J | 0.23 J | 0.25 J |
| MW-BW-16-A | 0.60 J+ | 0.75 | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| MW-BW-57-A | 0.45 J+ | ND (0.25) | 0.26 J | 0.32 J | 0.26 J | 0.24 J | 0.31 J | 0.17 J | ND (0.25) | ND (0.25) | ND (0.25) |
| MW-BW-87-A | 0.17 J+ | ND (0.25) | 0.29 J | 0.65 | 0.61 | 0.34 J | 1.6 | 0.16 J | 0.42 J | 0.13 J | 0.21 J [^] |
| MW-BW-91-A | ND (0.25) | 1.3 | 0.84 | 2.3 | 0.50 | 0.28 J | 0.55 | 0.59 | 4.3 | 3.4 | 3.3 |

Notes:

There were no detections for either methylene chloride or trichloroethene

ACL: Aquifer Cleanup Level

ND: The analyte was not detected at or above the detection limit

µg/L: micrograms per liter

J: Estimated result with a possible low (-) or high bias (+)

Results in **bold** and shaded are concentrations above the ACL

Results in gray are ND

* Preliminary results

[^] From GWMP sample (not EISB)

Table 2. OUCTP A-Aquifer Select Monitoring Well Data

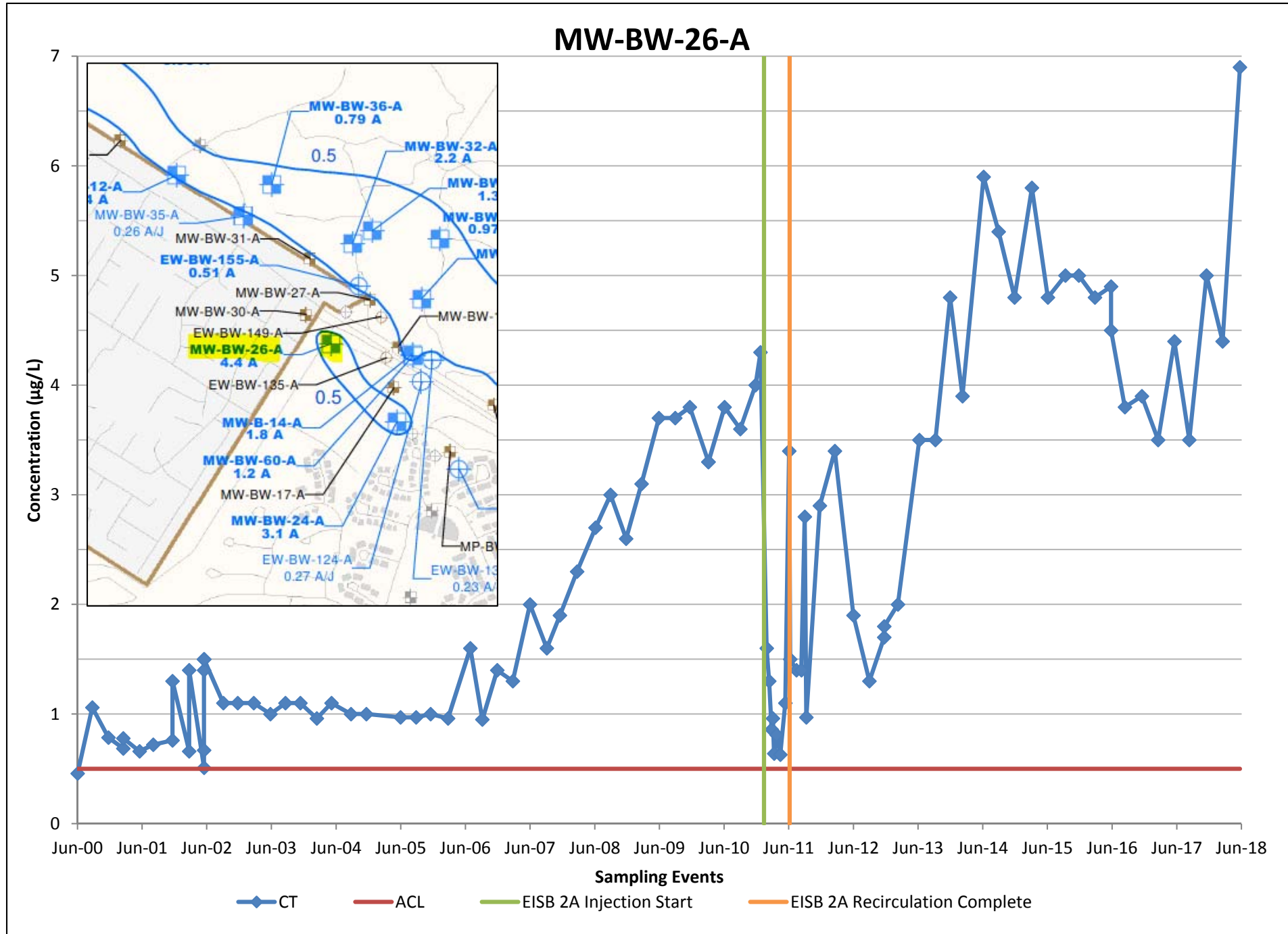
| OUCTP Hydraulic Zone ¹ | EISB Deployment Area | Well Identification | Select COC Concentrations (µg/L) | | | | | |
|-----------------------------------|----------------------|---------------------|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | | 1Q 2018 | 2Q 2018* | 1Q 2018 | 2Q 2018* | 1Q 2018 | 2Q 2018* |
| | | | CT | | Chloroform | | TCE | |
| ACL: | | | 0.5 | | 2.0 | | 5.0 | |
| 1 | 1C | EW-BW-109-A | 1.4 | 1.7 | 0.37 J | 0.44 J | 0.62 | 0.77 |
| 1 | N/A | MW-BW-24-A | 3.1 | 4.5 | 0.58 | 0.74 | 1.6 | 2.3 |
| 2 | 3A | MW-BW-58-A | 0.68 | 0.46 J | 0.12 J | ND (0.25) | ND (0.25) | ND (0.25) |
| 2 | 3A | MW-BW-87-A | 0.14 J | 0.21 J | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| 2 | 3A | MW-BW-91-A | 3.5 | 3.3 | 0.50 | 0.45 J | ND (0.25) | ND (0.25) |
| N/A | 3A | MW-BW-90-A | 0.86 | 1.3 | 0.13 J | 0.18 J | ND (0.25) | ND (0.25) |
| 3 | 3A | MW-BW-16-A | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| 3 | 3A | MW-BW-57-A | ND (0.25) | ND (0.25) | 0.81 | 1.0 | ND (0.25) | ND (0.25) |
| 3 | N/A | MW-BW-88-A | 1.1 | 1.4 | 0.40 J | 0.48 J | ND (0.25) | ND (0.25) |
| 4 | 2A | EW-BW-124-A | 0.27 J | 1.1 | 1.2 | 1.5 | 0.93 | 1.4 |
| 4 | N/A | MW-B-12-A | 0.64 | 0.48 J | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| 4 | 2B | MW-B-14-A | 1.8 | 2.4 | 0.41 J | 0.48 J | 0.25 J | 0.35 J |
| 4 | 2B | EW-BW-155-A | 0.51 | 1.4 | 0.48 J | 0.19 J | 0.54 | 0.72 |
| 4 | 2A | MW-BW-26-A^ | 4.4 | 6.9 | 0.74 | 0.78 | 0.77 | 0.95 |
| 4 | N/A | MW-BW-31-A | ND (0.25) | ND (0.25) | 0.99 | 0.96 | ND (0.25) | ND (0.25) |
| 4 | N/A | MW-BW-32-A | 2.2 | 2.3 | 0.28 J | 0.28 J | 0.14 J | 0.16 J |
| 4 | N/A | MW-BW-36-A | 0.79 | ND (0.25) | 1.7 | 0.95 | ND (0.25) | ND (0.25) |
| 4 | N/A | MW-BW-42-A | ND (0.25) | 0.18 J | 0.16 J | ND (0.25) | ND (0.25) | ND (0.25) |
| 4 | N/A | MW-BW-89-A | 0.97 | 1.4 | 0.37 J | 0.41 J | ND (0.25) | ND (0.25) |
| 4 | N/A | MW-BW-92-A | 1.3 | 1.6 | 0.20 J | 0.21 J | ND (0.25) | ND (0.25) |
| 5 | Pilot | EISB-EW-01 | 0.64 | 0.69 | ND (0.36) | 0.31 J | ND (0.25) | ND (0.25) |
| 5 | Pilot | EISB-EW-09 | 3.0 | 2.7 | 0.31 J | 0.27 J | ND (0.25) | ND (0.25) |
| 5 | N/A | MW-BW-65-A | 0.12 J | 0.12 J | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) |
| 5 | Pilot | MW-BW-66-A | 0.95 | 1.6 | 0.54 | 0.33 J | ND (0.25) | ND (0.25) |
| 5 | N/A | MW-BW-74-A | ND (0.25) [0.29 J] | ND (0.25) [ND (0.25)] | ND (0.25) [ND (0.25)] | ND (0.25) [ND (0.25)] | ND (0.25) [ND (0.25)] | ND (0.25) [ND (0.25)] |
| 5 | N/A | MW-BW-49-A | 0.94 | 0.85 | 0.26 J | 0.29 J | ND (0.25) | ND (0.25) |
| 5 | N/A | MW-BW-78-A | 0.25 J [0.41 J] | 0.35 J [0.38 J] | ND (0.25) [ND (0.25)] | 0.13 J [0.13 J] | ND (0.25) [ND (0.25)] | ND (0.25) [ND (0.25)] |
| 5 | N/A | MW-BW-80-A | 0.45 J | 0.56 | ND (0.25) | 0.11 J | ND (0.25) | ND (0.25) |

Notes:

TCE: trichloroethene
 CT: carbon tetrachloride
 µg/L: micrograms per liter
 ND: The analyte was not detected above the detection limit

NS: not sampled
 J: Estimated result with a low (-) or high (+) bias
¹ Hydraulic zones are identified in the Groundwater QAPP.
 Results in **bold** and shaded are concentrations above the ACL

Results in gray are ND
 COC: chemical of concern
 [Results in brackets are from a second deeper passive diffusion bag]
 ^ downgradient monitoring well MW-BW-30-A sampled annually.
 * Preliminary results



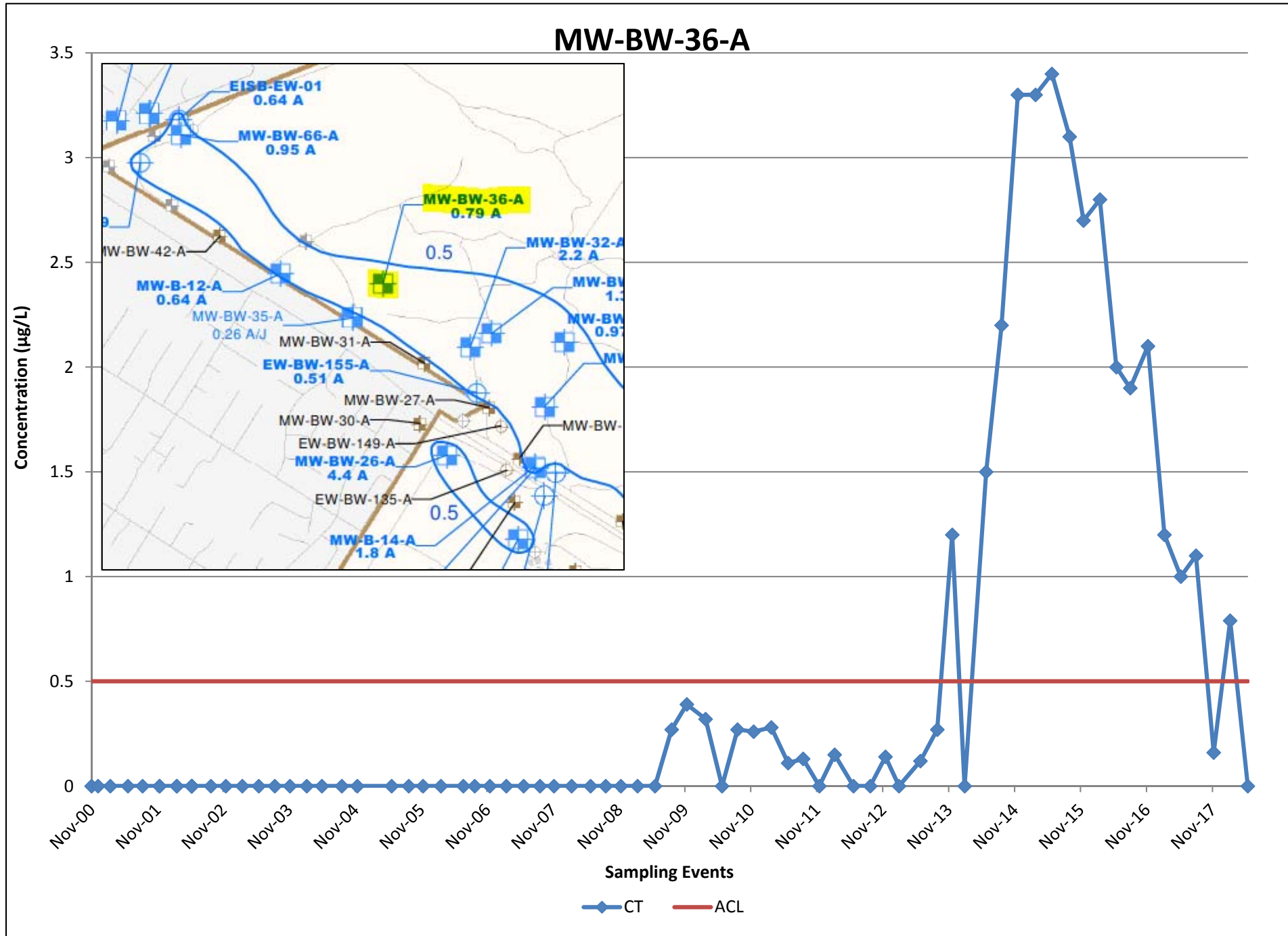


Table 3. OUCTP Upper 180-Foot Aquifer Select Monitoring Well Data

| OUCTP Hydraulic Zone ¹ | Well Identification | CT Concentration (µg/L) ² | |
|-----------------------------------|----------------------------|--------------------------------------|-------------|
| | | 1Q 2018 | 2Q 2018* |
| ACL: | | 0.5 | |
| 6 | EW-OU2-09-180 ³ | ND (0.25) | ND (0.25) |
| 6 | MP-BW-41-231 | 0.15 J | 0.10 J |
| 6 | MP-BW-46-170 | 5.7 | 4.5 |
| 6 | MW-BW-52-180 | 0.98 | 0.97 |
| 6 | MW-OU2-64-180 | 6.9 | 5.2 |
| 6 | MW-OU2-67-180 ⁵ | 0.46 J | 0.56 |

Notes:

ACL: aquifer cleanup level

COC: chemical of concern

CT: carbon tetrachloride

MCL: maximum contaminant level

ND: The analyte was not detected at or above the detection limit

NS: not sampled

TCE: trichloroethene

µg/L: micrograms per liter

* Preliminary results

J: Estimated result with a low (-) or high (+) bias

¹ Hydraulic zones are identified in the Groundwater QAPP.

² Concentration in **bold** and shaded cell exceeds the Aquifer Cleanup Level (ACL) for CT and the Maximum Contaminant Level (MCL) for TCE. Results in gray are ND.

³ EW-OU2-09-180 is operated as part of the remedy for the OUCTP Upper 180-Foot Aquifer and is connected to the OU2 GWTP. cis-1,2-DCE was detected in this well at 8.4 µg/L in 2Q17 and 5.3 µg/L in 2Q18.

⁴ TCE is not a COC in the OUCTP Lower 180-Foot Aquifer (reported for Lower 180-Foot Aquifer with respect to protection of supply wells)

⁵ Downgradient well MW-OU2-70-180 sampled annually

Table 4. OUCTP Lower 180-Foot Aquifer Select Monitoring Well Data

| OUCTP Hydraulic Zone ¹ | Well Identification | Select COC Concentrations (µg/L) ² | | | |
|-----------------------------------|---------------------|---|-------------|------------------|------------|
| | | 1Q 2018 | 2Q 2018* | 1Q 2018 | 2Q 2018* |
| | | CT | | TCE ⁴ | |
| Limit: | | ACL 0.5 | | MCL 5.0 | |
| 7 | MP-BW-49-316 | 2.8 | 2.0 | ND (0.25) | ND (0.25) |
| 7 | MP-BW-49-400 | ND (0.25) | ND (0.25) | 4.3 | 4.0 |
| 7 | MP-BW-50-339 | 0.36 J | 0.85 | 0.21 J | ND (0.25) |
| 7 | MP-BW-50-384 | 0.14 J | 0.13 J | 2.5 | 1.8 |
| 7 | MP-BW-51-405 | 0.17 J | 0.22 J | 1.6 | 2.1 |
| 7 | MW-OU2-69-180 | 0.71 | 0.92 | 0.13 J | 0.13 J |
| 8 | AIRFIELD | 0.62 | 0.63 | ND (0.25) | ND (0.25) |
| N/A | EW-OU2-07-180 | ND (0.25) | ND (0.25) | 2.0 | 2.4 |
| N/A | FO-29 | 0.19 J | 0.15 J | 1.4 | 1.8 |
| N/A | FO-30 | 0.16 J | 0.18 J | 0.54 | 0.58 |
| N/A | FO-31 | ND (0.25) | 0.11 J | 0.85 | 0.94 |
| N/A | MP-BW-41-353 | ND (0.25) | ND (0.25) | 1.6 | 1.6 |
| N/A | MW-OU2-72-180 | ND (0.25) | ND (0.25) | 1.3 | 1.4 |
| N/A | MW-OU2-78-180 | ND (0.25) | ND (0.25) | 2.1 | 2.5 |
| N/A | MW-OU2-82-180 | ND (0.25) | ND (0.25) | 5.3 | 6.2 |

