

HTW BCT, February 1, 2019

January 2019 Key Events for OUCTP

- Decommissioning of:
 - MW-BW-94-A. Postponed.
 - EISB Deployment Area 3A (in FONR). Aboveground piping was removed January 8-10. Treatment CONEX moved to the OU2 Landfills on January 16. Pumps and drop pipes were removed from the 10 extraction and 10 injection wells January 14-16.
 - 24 soil gas probes in OUCTP source area near Lexington Court. Completed 23 probes January 15 through 23.
 - 1 soil gas probe, 4 extraction wells, 1 injection well, and 3 monitoring wells in EISB Deployment Area 1B. Wells in athletic fields decommissioned January 15-16. Well vaults in athletic fields removed and surface refinished January 16-23.
- Installation of MW-BW-94-AR (in FONR). Completed January 25, development scheduled for January 30.

February 2019 Key Events for OUCTP

- One sub-slab soil gas probe remains to be decommissioned on Lexington Court, will be scheduled with property owner.
- Prepare for First Quarter 2019 sampling of new MW-BW-94-AR and incorporating EISB Deployment Area 3A EWs into the GMWP.



Ahtna

Table 1. OUCTP EISB 3A VOC Results

Analyte:	Carbon Tetrachloride													Schedule
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	3Q 2018	4Q 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	1.2	1.0	Quarterly~
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	0.13 J	0.11 J	NS
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)	NS^	NS^	NS
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)	ND (0.25)	ND (0.25)	Annual
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	0.36 J	0.30 J	NS
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)	ND (0.25)	ND (0.25)	NS
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	1.0	0.67	Quarterly~
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	NS^	NS^	Annual
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	0.35 J	0.27 J	Annual
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	0.15 J	0.12 J	Annual
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)	ND (0.25)	ND (0.25)	NS
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)	ND (0.25)	ND (0.25)	NS
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	0.10 J	0.41 J	0.76	Quarterly~
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	2.9	2.2	Quarterly~

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

NS: not sampled

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

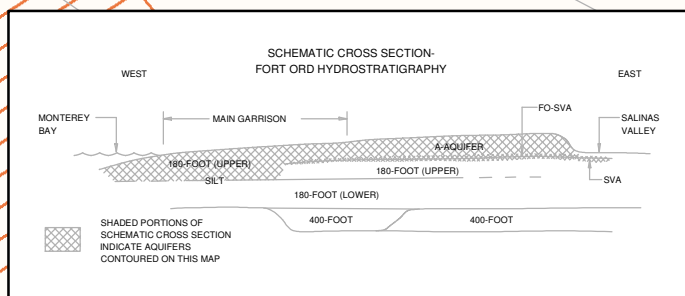
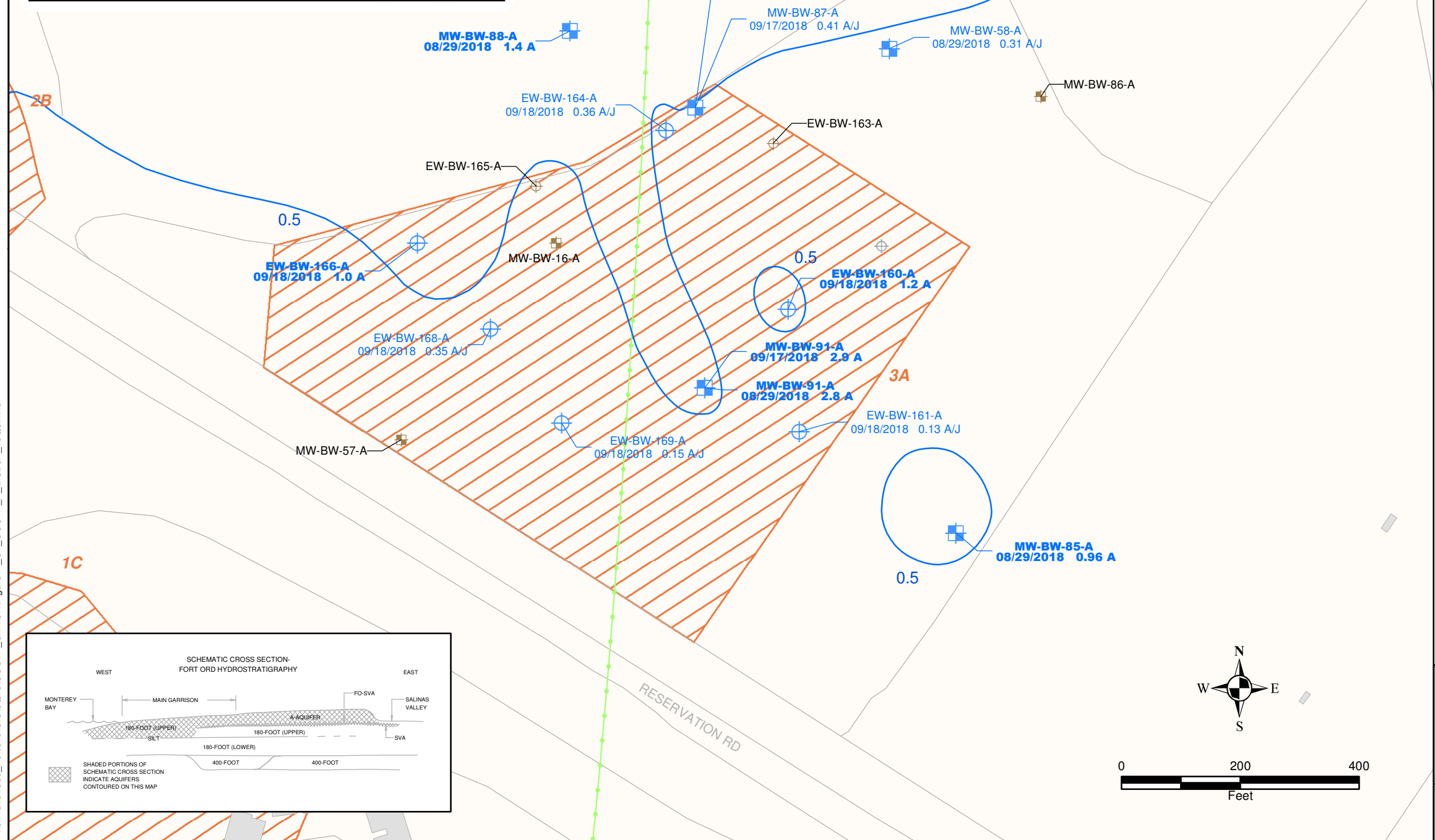
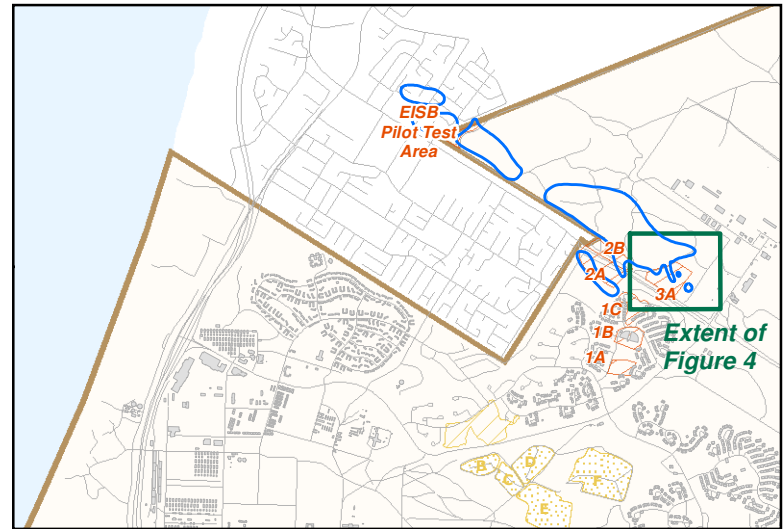
^ Pump failure, sample not collected

* Analytical results preliminary

~ Including quarterly DO/ORP monitoring



Wednesday, November 14, 2018 3:22:56 PM thomas.hunt
 P:\8418191360_FortOrd\GIS\9019\OUCTP_GMTSR\Figure14_CT_OUCTP_A_EISB3A_18Q3.mxd



EXPLANATION

- Monitoring Well with CT Detection
- Extraction Well with CT Detection
- Monitoring Well Not Sampled This Quarter
- Extraction Well Not Sampled This Quarter

Well ID - Bold When ACL Exceeded
 (* Indicates: Sample result not used for contouring)
 Baseline and/or quarterly monitoring concentration (µg/L) with validation/lab qualifier.
 Bold when exceeds the ACL.

- Monitoring Well CT Not Detected
- Extraction Well CT Not Detected
- Monitoring Well Not Sampled This Quarter
- Extraction Well Not Sampled This Quarter

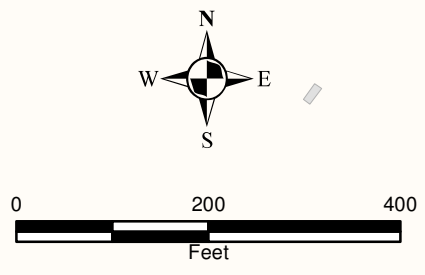
Chemical of Concern (COC) Aquifer Cleanup Level (ACL)
 Exceedance Contour in µg/L

- 0.5 Carbon tetrachloride (CT)
- Enhanced In Situ Bioremediation (EISB) Deployment Area
- Approximate Location of a Groundwater Divide
- Roads
- Facilities
- Former Fort Ord Boundary

Approximate extent of Fort Ord Landfill Areas

- OU2 Landfill Areas B through F
- Area A (clean closed)

- NOTES:
- (1) Quarterly samples at EISB Deployment Area 3A extraction wells were collected on September 17 and 18, 2018. Samples at OUCTP monitoring wells were collected on August 29, 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.



CT CONCENTRATIONS
EISB DEPLOYMENT AREA 3A, A-AQUIFER
THIRD QUARTER 2018
 Operable Unit Carbon Tetrachloride Plume
 Fourth Quarter 2017 - Third Quarter 2018
 Groundwater Monitoring Report, Former Fort Ord, California

	By: TJH	Project No. 8418191360
	Date: 11/14/2018	Figure 14

Table 2. OUCTP A-Aquifer Select Monitoring Well Data

OUCTP Hydraulic Zone ¹	EISB Deployment Area	Well Identification	COC Concentrations (µg/L)	
			3Q 2018	4Q 2018*
ACL:			0.5	
1	1C	EW-BW-109-A	1.6	1.9
1	N/A	MW-BW-24-A	3.8	3.7
2	3A	MW-BW-58-A	0.31 J	0.21 J
2	3A	MW-BW-87-A	0.57	0.79
2	3A	MW-BW-91-A	2.8	2.5
N/A	3A	MW-BW-90-A	1.2	1.4
3	3A	MW-BW-16-A	ND (0.25)	ND (0.25)
3	3A	MW-BW-57-A	ND (0.25)	ND (0.25)
3	N/A	MW-BW-88-A	1.4	1.5
3	N/A	MW-BW-93-A	NEW WELL (NS)	0.11 J
3	N/A	MW-BW-95-A	NEW WELL (NS)	1.5
4	2A	EW-BW-124-A	0.90	0.92
4	N/A	MW-B-12-A	0.23 J	0.65
4	2B	MW-B-14-A	1.8	0.56
4	2B	EW-BW-155-A	1.1	0.58
4	2A	MW-BW-26-A [^]	5.8	6.2
4	N/A	MW-BW-31-A	ND (0.25)	ND (0.25)
4	N/A	MW-BW-32-A	2.3	2.0
4	N/A	MW-BW-36-A	0.59	0.90
4	N/A	MW-BW-42-A	0.15 J	0.13 J
4	N/A	MW-BW-89-A	1.1	0.96
4	N/A	MW-BW-92-A	1.4	1.4
5	Pilot	EISB-EW-01	0.67	0.72
5	Pilot	EISB-EW-09	2.6	2.2
5	N/A	MW-BW-65-A	0.21 J	0.72
5	Pilot	MW-BW-66-A	1.4	1.5
5	N/A	MW-BW-74-A	ND (0.25) [ND (0.25)]	ND (0.25) [ND (0.25)]
5	N/A	MW-BW-49-A	1.2	1.4
5	N/A	MW-BW-78-A	0.59 [0.50]	0.63 [0.59]
5	N/A	MW-BW-80-A	0.89	0.83

Notes:

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: ND.
 * Preliminary results

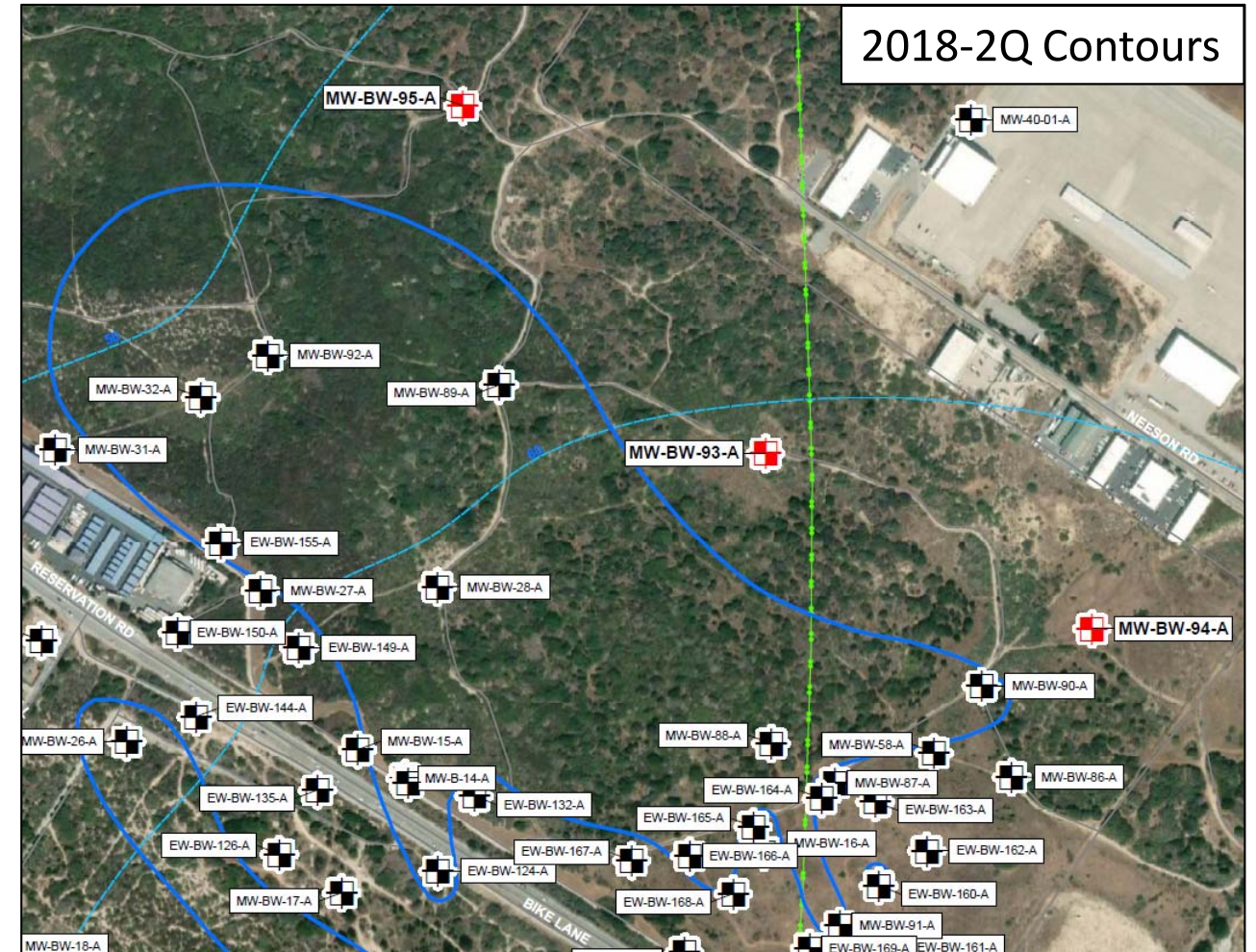


Table 3. OUCTP Upper 180-Foot Aquifer Select Monitoring Well Data

OUCTP Hydraulic Zone ¹	Well Identification	CT Concentration (µg/L) ²	
		3Q 2018	4Q 2018*
ACL:		0.5	
6	EW-OU2-09-180 ³	ND (0.25)	ND (0.25)
6	MP-BW-46-170	5.7	3.5
6	MW-BW-52-180	0.90	1.1
6	MW-BW-57-180	NEW WELL (NS)	0.14 J
6	MW-BW-58-180	NEW WELL (NS)	ND (0.25)
6	MW-OU2-64-180	7.4	7.7
6	MW-OU2-67-180 ⁵	ND (0.25)	0.44 J

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

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: ND.

* Preliminary results

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

OUCTP Hydraulic Zone ¹	Well Identification	Select COC Concentrations (µg/L) ²			
		3Q 2018	4Q 2018*	3Q 2018	4Q 2018*
		CT		TCE ⁴	
Limit:		ACL 0.5		MCL 5.0	
7	MP-BW-49-316	1.2	1.0	ND (0.25)	ND (0.25)
7	MP-BW-49-400	ND (0.25)	ND (0.25)	4.2	4.2
7	MP-BW-50-339	0.89	0.26 J	ND (0.25)	0.14 J
7	MP-BW-50-384	0.12 J	ND (0.25)	2.2	1.7
7	MP-BW-51-405	0.16 J	0.13 J	1.6	1.2
7	MW-OU2-69-180	0.55	0.83	0.13 J	ND (0.25)
8	AIRFIELD	0.59	0.47 J	ND (0.25)	ND (0.25)
N/A	EW-OU2-07-180	ND (0.25)	ND (0.25)	2.8	2.2
N/A	FO-29	0.12 J	0.17 J	2.1	1.7
N/A	FO-30	0.20 J	0.13 J	0.48 J	0.51
N/A	FO-31	ND (0.25)	0.10 J	ND (0.25)	0.95
N/A	MP-BW-41-353	ND (0.25)	ND (0.25)	1.3	1.8
N/A	MW-BW-04-180	0.45 J	NS	ND (0.25)	NS
N/A	MW-BW-59-180	NEW WELL (NS)	ND (0.25)	NEW WELL (NS)	8.6
N/A	MW-OU2-72-180	ND (0.25)	ND (0.25)	1.4	1.3
N/A	MW-OU2-78-180	ND (0.25)	ND (0.25)	2.2	2.0
N/A	MW-OU2-82-180	ND (0.25)	ND (0.25)	6.3	4.9

Table 5. OUCTP New Monitoring Well Data

OUCTP Hydraulic Zone ¹	Well Identification	Sample Depth (ft btoc)	CT Concentration (µg/L) ²	TCE Concentration (µg/L) ²
			4Q 2018*	4Q 2018*
ACL/MCL:			0.5	5.0
3	MW-BW-93-A	86	ND (0.25)	ND (0.25)
		91	ND (0.25)	ND (0.25)
		96	0.11 J	ND (0.25)
		101	ND (0.25)	ND (0.25)
		106	ND (0.25)	ND (0.25)
		111	ND (0.25)	ND (0.25)
3	MW-BW-95-A	97	1.3	0.31 J
		102	1.3	0.28 J
		107	1.3	0.24 J
		112	1.3	0.27 J
		117	1.5	0.30 J
6	MW-BW-57-180	188	ND (0.25)	NS
		193	0.14 J	NS
		198	ND (0.25)	NS
		203	ND (0.25)	NS
6	MW-BW-58-180	160	ND (0.25)	NS
		165	ND (0.25)	NS
		170	ND (0.25)	NS
		175	ND (0.25)	NS
7	MW-BW-59-180	345	ND (0.25)	8.5
		350	ND (0.25)	8.6
		355	ND (0.25)	8.0
		360	ND (0.25)	8.3

Notes:

ACL: aquifer cleanup level

COC: chemical of concern

CT: carbon tetrachloride

Ft btoc: feet below top of casing

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

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 in the Lower 180-Foot Aquifer. Results in gray are ND.

* Preliminary results