Former Fort Ord Operable Unit Carbon Tetrachloride Plume Data and Status

HTW BCT, September 17, 2021

Table 1. OUCTP A-Aquifer Select Monitoring Well Data – Hydraulic Zones 1, 2, and 3

OUCTP Hydraulic Zone[1]	EISB Deployment Area	Well Identification	COC Concentrations (µg/L)			
			4Q 2020	1Q 2021	2Q 2021	3Q 2021*
			CT			
		ACL:	0.5			
1	1C	EW-BW-109-A	**0.58 J**	**1.4 J+**	**0.80**	
1	N/A	MW-BW-24-A	ND (0.025)	ND (0.25)	ND (0.25)	
2	3A	MW-BW-58-A	0.33	0.26 J	0.15 J	0.16 J
2	3A	MW-BW-87-A	**2.1**	**3.9 J+**	**3.2**	**2.4**
2	3A	MW-BW-91-A	**0.57**	**1.3**	**0.87**	**0.89**
2	N/A	MW-BW-94-AR	0.48	**0.56**	0.28 J	0.43 J
N/A	3A	MW-BW-90-A	**1.3**	**1.4**	**1.1**	**1.3**
2	3A	EW-BW-160-A	**1.8**	**2.1**	**1.3**	**1.3**
3	3A	EW-BW-166-A	0.029 J	ND (0.25)	ND (0.25)	ND (0.25)
3	N/A	MW-BW-88-A	**0.74**	**0.63**	**0.92**	
3	N/A	MW-BW-93-A	0.28	0.34 J	0.24 J [0.16 J]	0.36 J
3	N/A	MW-BW-95-A	**1.1**	**1.4**	**0.84**	**1.1**

Notes:
CT: carbon tetrachloride
µg/L: micrograms per liter
ND: The analyte was not detected above the detection limit
NS: not sampled
N/A: not applicable
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]
* Preliminary data

August and Future 2021 Key Events

- Aug 30 – Sept 3: Third Quarter 2021 Groundwater Monitoring event.
- Sept 23: Collect 3Q samples from MW-BW-89-A and MW-OU2-72-180.

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Table 2. OUCTP A-Aquifer Select Monitoring Well Data – Hydraulic Zones 4 and 5

OUCTP Hydraulic Zone[1]	EISB Deployment Area	Well Identification	COC Concentrations (µg/L)			
			4Q 2020	1Q 2021	2Q 2021	3Q 2021*
			CT			
		ACL:	0.5			
4	2A	EW-BW-124-A	0.41	**0.94 J+**	**0.84 J-**	
4	2A	EW-BW-129-A	**4.1**	**4.0 J**	**2.4 J-**	
4	2A	EW-BW-140-A	0.48	**0.97 J+**	**0.69 J-**	
4	2A	MW-BW-26-A^	**3.7**	**3.3 J+**	**2.9 J-**	
4	N/A	MW-B-12-A	0.46	0.32 J	0.44 J	0.23 J
4	2B	MW-B-14-A	**0.55**	**0.52**	0.48 J	
4	2B	EW-BW-155-A	**0.95**	0.11 J	0.26 J	0.17 J
4	N/A	MW-BW-31-A	**0.64**	**0.84**	ND (0.25)	**0.88**
4	N/A	MW-BW-32-A	**0.90**	**1.2**	**0.98 J-**	
4	N/A	MW-BW-35-A	0.095 J	ND (0.25)	ND (0.25)	ND (0.25)
4	N/A	MW-BW-36-A	**0.65**	0.46 J	0.17 J	
4	N/A	MW-BW-42-A	NS	NS	NS	ND (0.25)
4	N/A	MW-BW-89-A	**0.67**	**0.73**	0.47 J	
4	N/A	MW-BW-92-A	**0.95**	**1.2**	**0.78**	
5	Pilot	EISB-EW-01	0.26	0.28 J	0.25 J [0.27 J]	0.22 J
5	Pilot	EISB-EW-09	**1.1**	**1.1**	**0.97**	**1.1**
5	N/A	MW-BW-49-A	0.42	0.47 J	0.26 J	
5	N/A	MW-BW-65-A	0.25	0.43 J	0.32 J	
5	Pilot	MW-BW-66-A	0.50	**0.53**	0.46 J	0.37 J
5	N/A	MW-BW-74-A	0.063 J [0.091 J]	0.18 J [0.23 J]	ND (0.25) [0.12 J]	
5	N/A	MW-BW-75-A	**2.4**	**2.9 J+**	**2.1 [2.1]**	
5	N/A	MW-BW-78-A	0.11 J [0.22]	ND (0.25) [0.16 J]	ND (0.25) [0.17 J]	
5	N/A	MW-BW-80-A	**2.4**	**2.9 J+**	**3.7**	
5	N/A	MW-BW-82-A	**1.1**	**1.4**	**0.98**	

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: Pending.
* Preliminary data

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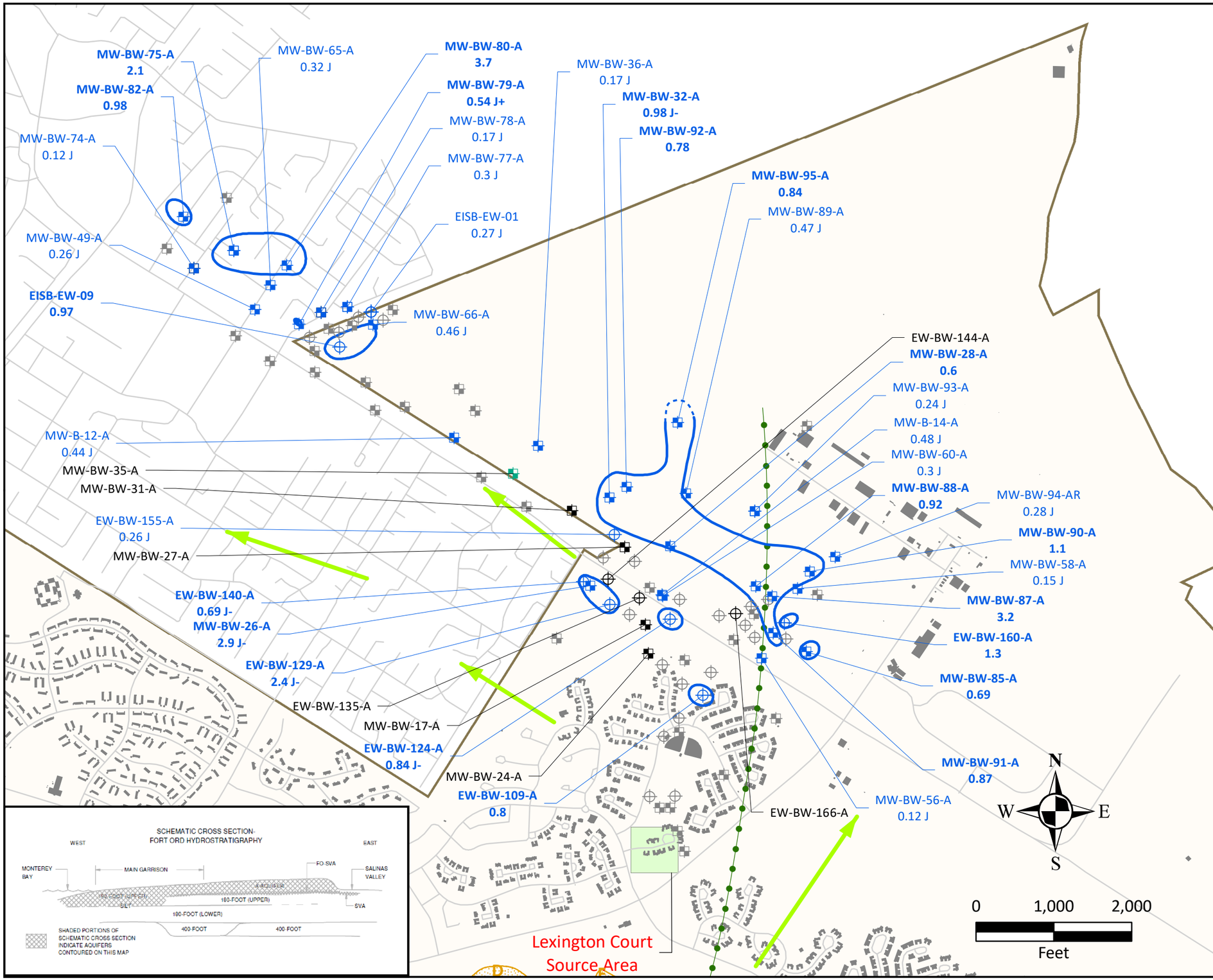

EXPLANATION

- General groundwater flow direction
- Approximate location of the A-Aquifer groundwater divide
- Roads
- Facilities
- Approximate extent of landfill areas
- Lexington Court source area
- Former Fort Ord boundary

Well Type and COC Detection

- Extraction well with CT detection
- Extraction well with no CT detection
- Monitoring well wil CT detection
- Monitoring well with no CT detection and above ACL for Chloroform
- Monitoring well with no CT detection
- Extraction well not sampled
- Monitoring well not sampled

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

- 0.5 Carbon Tetrachloride (CT) Plume Extent
- 0.5 Estimated Carbon Tetrachloride (CT) Plume Extent

MW-BW-90-A 1.1 — Well ID - Bold when CT exceeds the ACL. CT concentrations (µg/L) and validation/lab qualifier.

NOTES:

(1) Groundwater samples were collected between June 7, 2021 and June 11, 2021.

(2) Contours based on highest value obtained from multiple bags and/or multiple ports where applicable.

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

CT CONCENTRATIONS
A-AQUIFER
Second Quarter 2021
Operable Unit Carbon Tetrachloride Plume
Groundwater Monitoring Report
Former Fort Ord, California

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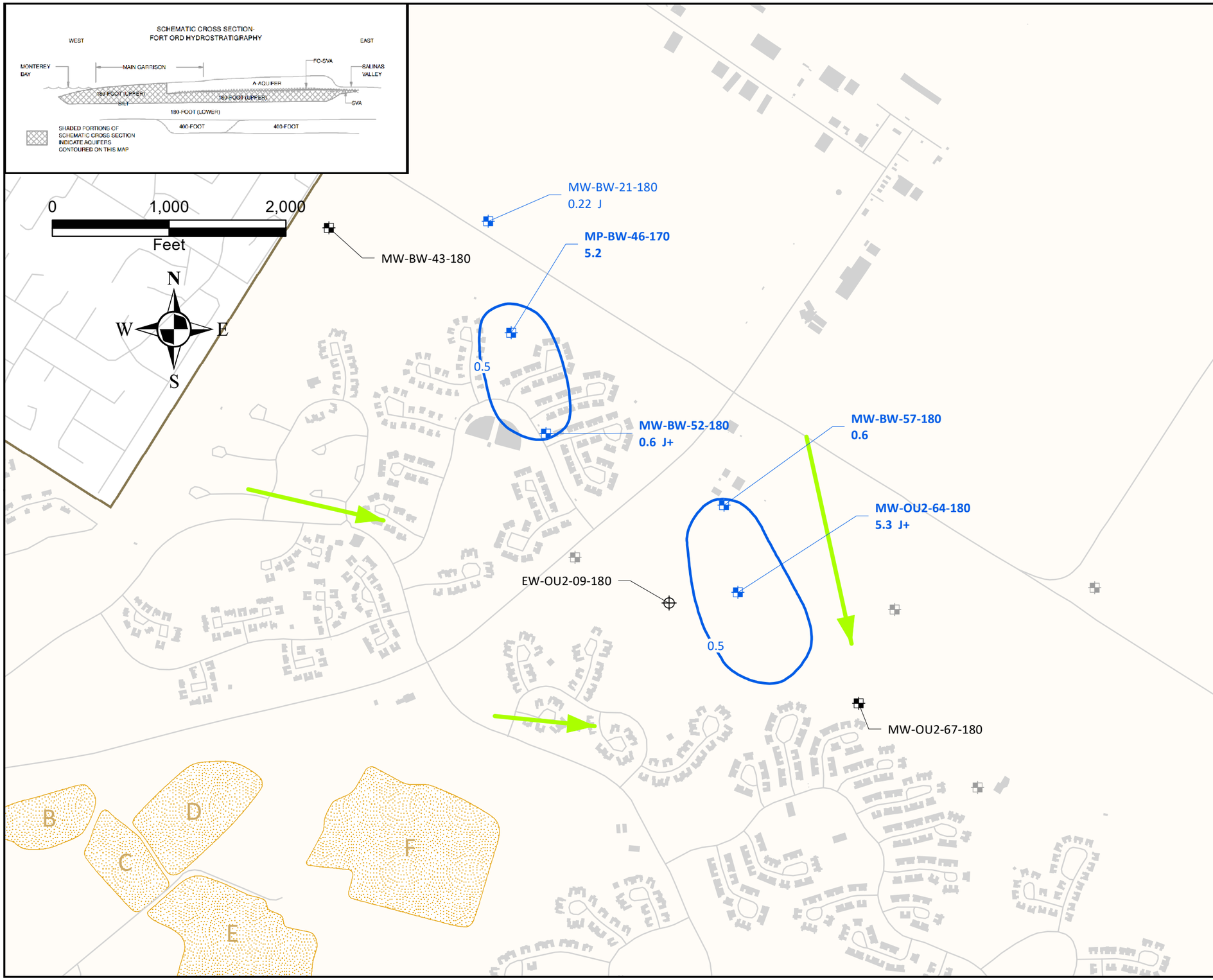
Table 4. OUCTP Upper 180-Foot Aquifer Select Monitoring Well Data

OUCTP Hydraulic Zone[1]	Well Identification	CT Concentration (µg/L)[2]			
		4Q 2020	1Q 2021	2Q 2021	3Q 2021*
	ACL:	0.5			
6	EW-OU2-09-180[3]	0.025 J	ND (0.25)	ND (0.25)	ND (0.25)
6	MP-BW-46-170	**5.2**	**6.4 J+**	**5.2**	**6.2**
N/A	MW-BW-21-180	0.044 J	0.16 J	0.22 J	
N/A	MW-BW-43-180	ND (0.025)	ND (0.25)	ND (0.25)	
6	MW-BW-52-180	**0.70**	**0.67 J+**	**0.60 J+**	
6	MW-BW-57-180	**0.82**	**0.70**	**0.60**	
6	MW-BW-58-180	NS	NS	NS	ND (0.25)
6	MW-OU2-64-180	**6.8**	**8.7 J+**	**5.3 J+**	**3.5**
6	MW-OU2-67-180[5]	ND (0.025)	ND (0.25)	ND (0.25)	ND (0.25)

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.
[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 data



EXPLANATION

General groundwater flow direction

Roads

Facilities

Approximate extent of landfill areas (Areas B through F)

Former Fort Ord boundary

Well Type and CT Detection

Extraction well with no CT detected

Monitoring well with CT detected

Monitoring well with no CT detected

Monitoring well not sampled

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) exceedance contour in µg/L.

0.5 Carbon Tetrachloride (CT)

Well ID - Bold When Concentration Exceeds the ACL

MW-OU2-64-180
5.3 J+

CT Concentrations (µg/L) and validation/lab qualifier.

NOTES:

(1) Samples were collected between June 7, 2021 and June 11, 2021.

(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 are based on highest value obtained from multiple bags and/or multiple ports were applicable.

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

CT CONCENTRATIONS
UPPER 180-FOOT AQUIFER
Second Quarter 2021
Operable Unit Carbon Tetrachloride Plume
Groundwater Monitoring Report
Former Fort Ord, California

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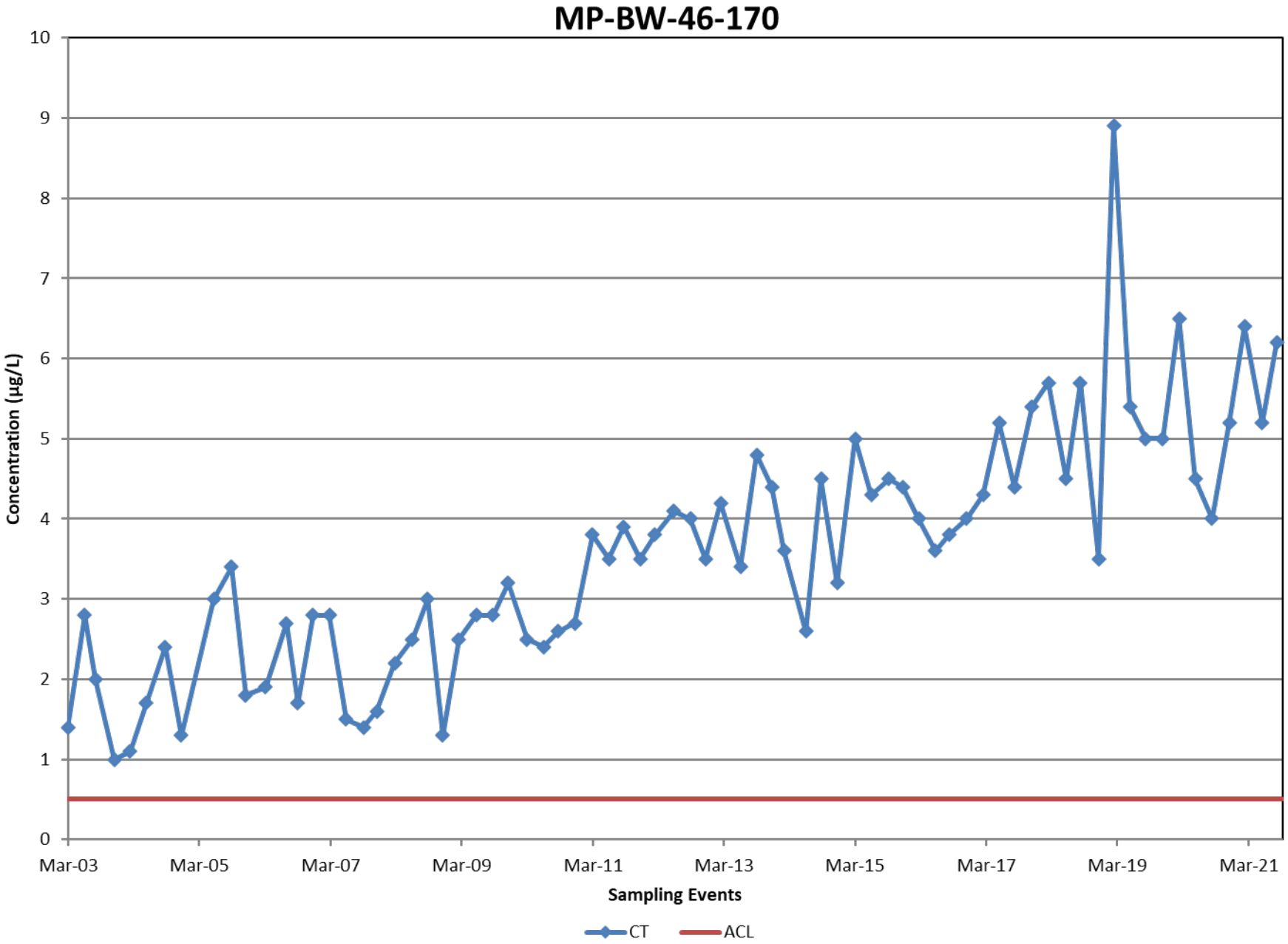

MP-BW-46-170
Concentration (µg/L)
10
9
8
7
6
5
4
3
2
1
0
Mar-03
Mar-05
Mar-07
Mar-09
Mar-11
Mar-13
Mar-15
Mar-17
Mar-19
Mar-21
Sampling Events
CT
ACL

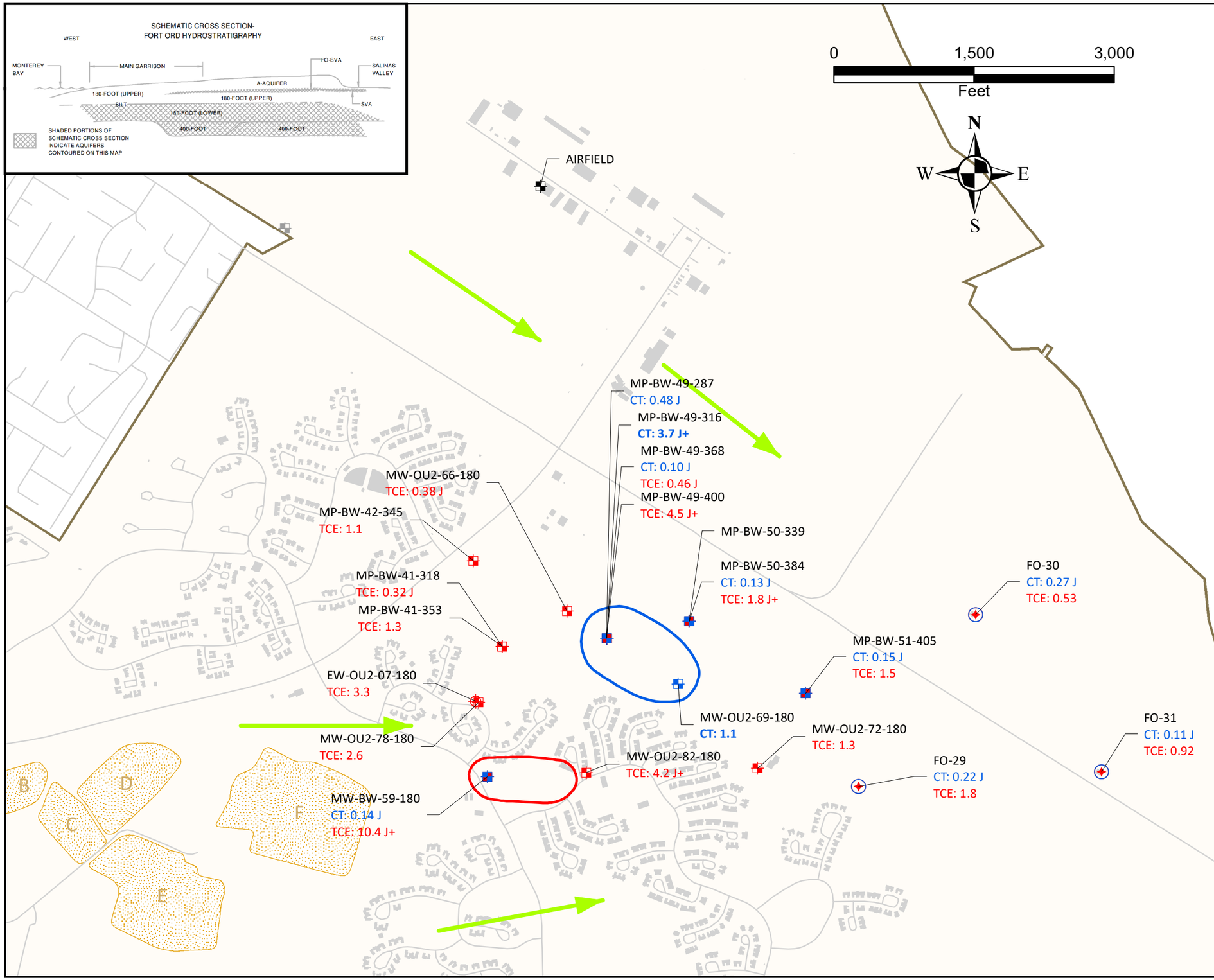
Ahtna

Table 5. OUCTP Lower 180-Foot Aquifer Select Monitoring Well Data

OUCTP Hydraulic Zone[1]	Well Identification	Select COC Concentrations (µg/L)[2]							
		4Q 2020	1Q 2021	2Q 2021	3Q 2021*	4Q 2020	1Q 2021	2Q 2021	3Q 2021*
		CT				TCE[4]			
Limit:		ACL 0.5				MCL 5.0			
7	MP-BW-49-316	**1.9**	**4.1 J+**	**3.7 J+**		ND (0.066)	ND (0.25)	ND (0.25)	
7	MP-BW-49-400	ND (0.025)	ND (0.25)	ND (0.25)		4.0	**5.4 J+**	4.5 J+	
7	MP-BW-50-339	0.31	**0.56 J+**	ND (0.25)		ND (0.066)	0.23 J	ND (0.25)	
7	MP-BW-50-384	0.058 J	0.11 J	0.13 J		1.6	2.5	1.8 J+	
7	MP-BW-51-405	0.13 J	0.12 J	0.15 J		1.7	1.2 J+	1.5	
7	MW-OU2-69-180	**0.96**	**1.4 J+**	**1.1**		ND (0.066)	ND (0.25)	ND (0.25)	
8	AIRFIELD	ND (0.025)	0.37 J	ND (0.25)	0.39 J	ND (0.066)	ND (0.25)	ND (0.25)	ND (0.25)
9	EW-OU2-07-180	0.030 J	ND (0.25)	ND (0.25)		3.0	3.6	3.3	
N/A	FO-29	0.18 J	0.27 J	0.22 J	0.17 J	1.7	1.8	1.8	2.6
N/A	FO-30	0.17 J	0.19 J	0.27 J	0.24 J	0.38	0.55	0.53	0.55
N/A	FO-31	0.11 J	0.15 J	0.11 J	NS	0.75	0.95	0.92	NS
N/A	MP-BW-41-318	ND (0.025)	ND (0.25)	ND (0.25)		ND (0.066)	0.59 J	0.32 J	
N/A	MP-BW-41-353	ND (0.025)	ND (0.25)	ND (0.25)		ND (0.066)	1.5 J+	1.3	
9	MW-BW-59-180	0.076 J	0.12 J	0.14 J		**8.9**	**9.7 J+**	**10.4 J+**	
N/A	MW-OU2-72-180	ND (0.025)	ND (0.25)	ND (0.25)		1.4	1.4 J+	1.3	
9	MW-OU2-78-180	ND (0.025)	ND (0.25)	ND (0.25)		2.1	2.5 J+	2.6	
9	MW-OU2-82-180	0.041 J	ND (0.25)	ND (0.25)	ND (0.25)	4.0	4.2 J+	4.2 J+	**5.9**

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.
[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 data



EXPLANATION

- General groundwater flow direction
- Roads
- Facilities
- Approximate extent of landfill areas (Areas B through F)
- Former Fort Ord boundary

Well Type and COC Concentration

- Extraction well with TCE detection
- Monitoring well with CT detection
- Monitoring well with TCE Detection
- Monitoring well with CT and TCE detection
- Marina Coast Active Supply Wells with CT and TCE detection
- Monitoring well with no CT or TCE detected
- Monitoring well not sampled

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

0.5 — Carbon Tetrachloride (CT)

5.0 — Trichloroethene (TCE)

MP-BW-51-405
CT: 0.15 J
TCE: 1.5

Well ID
Concentration in µg/L and validation/lab qualifier.
(blue indicates CT; red indicates TCE)
CT Bold when COC exceeds the ACL.

NOTES:

(1) Groundwater samples were collected between June 7, 2021 and June 11, 2021.
(2) Contour is based on one interpretation of the data that was available at the time this report was prepared; other interpretations may be possible.
(3) Contour based on highest value obtained from multiple bags and/or multiple ports where applicable.
(4)TCE is not a chemical of concenrn in the OUCTP Lower 180-Foot Aquifer.

CT AND TCE CONCENTRATIONS
LOWER 180-FOOT/400-FOOT AQUIFERS
Second Quarter 2021
Operable Unit Carbon Tetrachloride Plume
Groundwater Monitoring Report
Former Fort Ord, California

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