

Former Fort Ord Operable Unit Carbon Tetrachloride Plume Data and Status

HTW BCT, July 22, 2022

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

OUCTP Hydraulic Zone ¹	EISB Deployment Area	Well Identification	CT Concentrations (µg/L) ²			
			3Q 2021	4Q 2021	1Q 2022	2Q 2022*
ACL:			0.5			
1	1C	EW-BW-109-A	0.32 J	0.94	0.67	0.79
1	N/A	MW-BW-24-A	ND (0.25)	NS	NS	NS
2	3A	MW-BW-58-A	0.16 J	0.14 J	0.17 J	NS
2	3A	MW-BW-87-A	2.4	2.0 J+	2.3	3.0
2	3A	MW-BW-91-A	0.89	0.56 J+	0.43 J	0.50
2	N/A	MW-BW-94-AR	0.43 J	0.30 J	0.32 J	0.48 J
N/A	3A	MW-BW-90-A	1.3	0.95	1.0	1.3
2	3A	EW-BW-160-A	1.3	1.5 J+	1.1	1.9
3	3A	EW-BW-166-A	ND (0.25)	NS	NS	NS
3	N/A	MW-BW-88-A	0.55	0.82	1.2	1.7
3	N/A	MW-BW-93-A	0.36 J	0.29 J	0.30 J	0.51
3	N/A	MW-BW-95-A	1.1	1.0 J+	1.1	1.4
N/A	N/A	MW-40-01-A	NS	ND (0.25)	ND (0.25)	ND (0.25)

May-June Key Events

- June 6-10: Second Quarter 2022 Groundwater Monitoring event. Sampled second PDB at MW-BW-65-A, MW-BW-79-A, and MW-BW-82-A on June 27.

Future Key Events

- Aug 29-Sept 2: Third Quarter 2022 Groundwater Monitoring event.

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.

² 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



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

OUCTP Hydraulic Zone ¹	EISB Deployment Area	Well Identification	CT Concentrations (µg/L) ²			
			3Q 2021	4Q 2021	1Q 2022	2Q 2022*
ACL:			0.5			
4	2A	EW-BW-124-A	0.43 J	0.59 J+	0.67	0.55
4	2A	EW-BW-129-A	2.0	1.7	1.2	1.8
4	2A	EW-BW-140-A	0.52	0.49 J	0.41 J	0.50
4	2A	MW-BW-26-A^	2.5	2.4	2.1	2.2
4	N/A	MW-B-12-A	0.23 J	0.15 J	0.17 J	NS
4	2B	MW-B-14-A	0.34 J	0.24 J	0.33 J	0.30 J
4	2B	EW-BW-155-A	0.17 J	0.26 J	0.14 J	0.15 J
4	N/A	MW-BW-31-A	0.88	0.43 J	0.15 J	ND (0.25)
4	N/A	MW-BW-32-A	1.2	2.0	2.7	2.7
4	N/A	MW-BW-35-A	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
4	N/A	MW-BW-36-A	ND (0.25)	0.12 J	ND (0.25)	ND (0.25)
4	N/A	MW-BW-42-A	ND (0.25)	NS	NS	NS
4	N/A	MW-BW-89-A	0.48 J	0.50 J+	0.53	0.64
4	N/A	MW-BW-92-A	1.0	1.0	1.1	0.99
5	Pilot	EISB-EW-01	0.22 J	0.20 J	0.19 J	0.17 J
5	Pilot	EISB-EW-09	1.1	1.2 J+	0.92	0.99
5	N/A	MW-BW-49-A	0.32 J	0.26 J	0.18 J	NS
5	N/A	MW-BW-65-A	0.56	0.66	ND (0.25) [0.59]	1.0 [0.82]
5	Pilot	MW-BW-66-A	0.37 J	0.31 J	0.17 J	0.27 J
5	N/A	MW-BW-74-A	ND (0.25) [0.14 J]	NS	NS	NS
5	N/A	MW-BW-75-A	2.3	0.29 J [2.0]	0.27 J [1.8]	0.60 [2.3]
5	N/A	MW-BW-78-A	0.16 J [0.20 J]	NS	NS	NS
5	N/A	MW-BW-79-A	0.64	1.3 J+	ND (0.25) [0.68]	1.2 [ND (0.25)]
5	N/A	MW-BW-80-A	5.4	5.5 [5.1]	5.1 [4.2]	3.9 [4.1]
5	N/A	MW-BW-81-A	NS	0.18 J	0.22 J	0.27 J
5	N/A	MW-BW-82-A	1.1	0.84 J+	ND (0.25) [0.88]	ND (0.25) [0.72]

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.

² Results in **bold** and shaded are concentrations above the ACL

Results in gray are ND

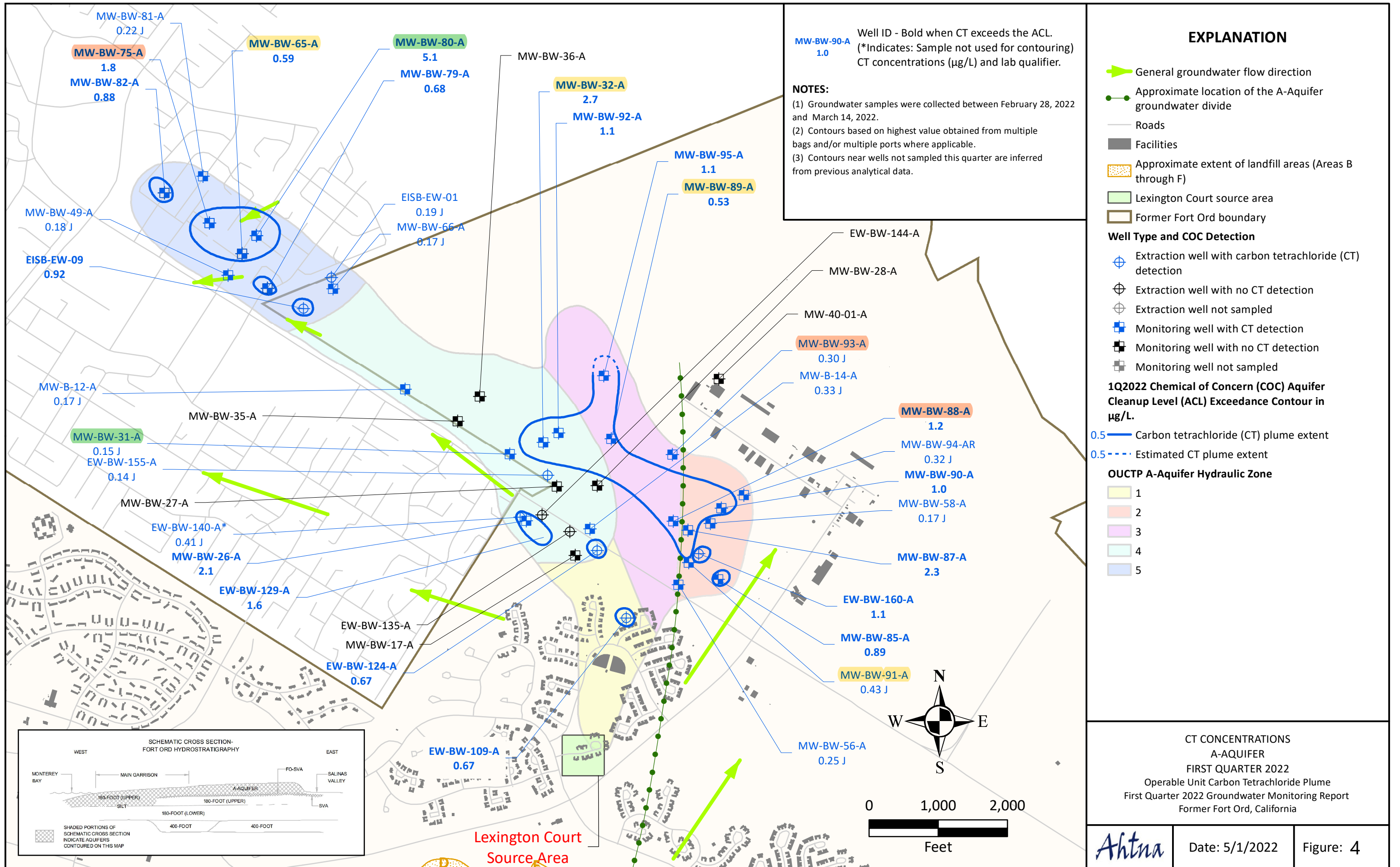
COC: chemical of concern

[Results in brackets are from a second deeper passive diffusion bag]

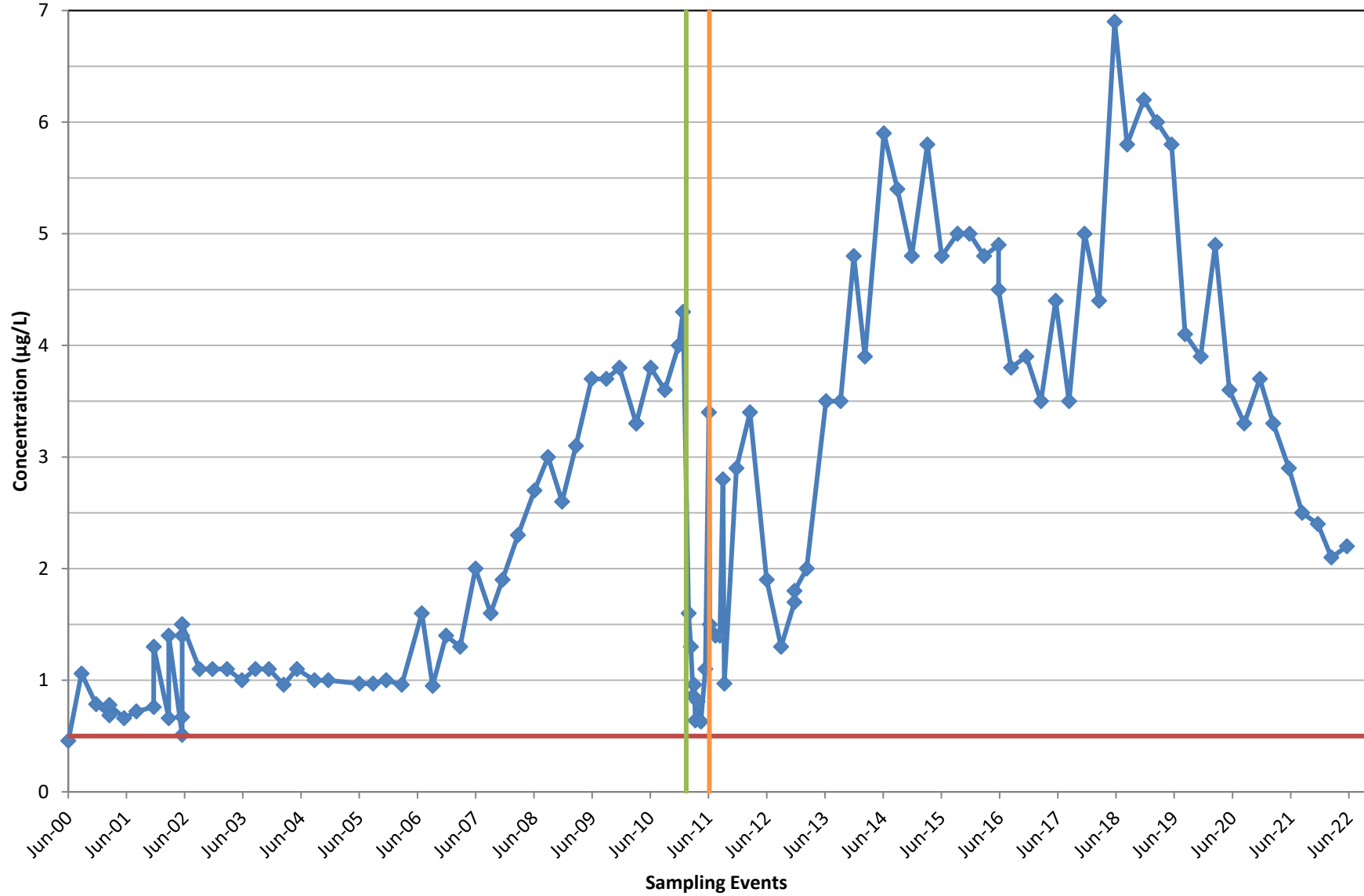
^ Downgradient monitoring well MW-BW-30-A sampled annually: ND.

* Preliminary data



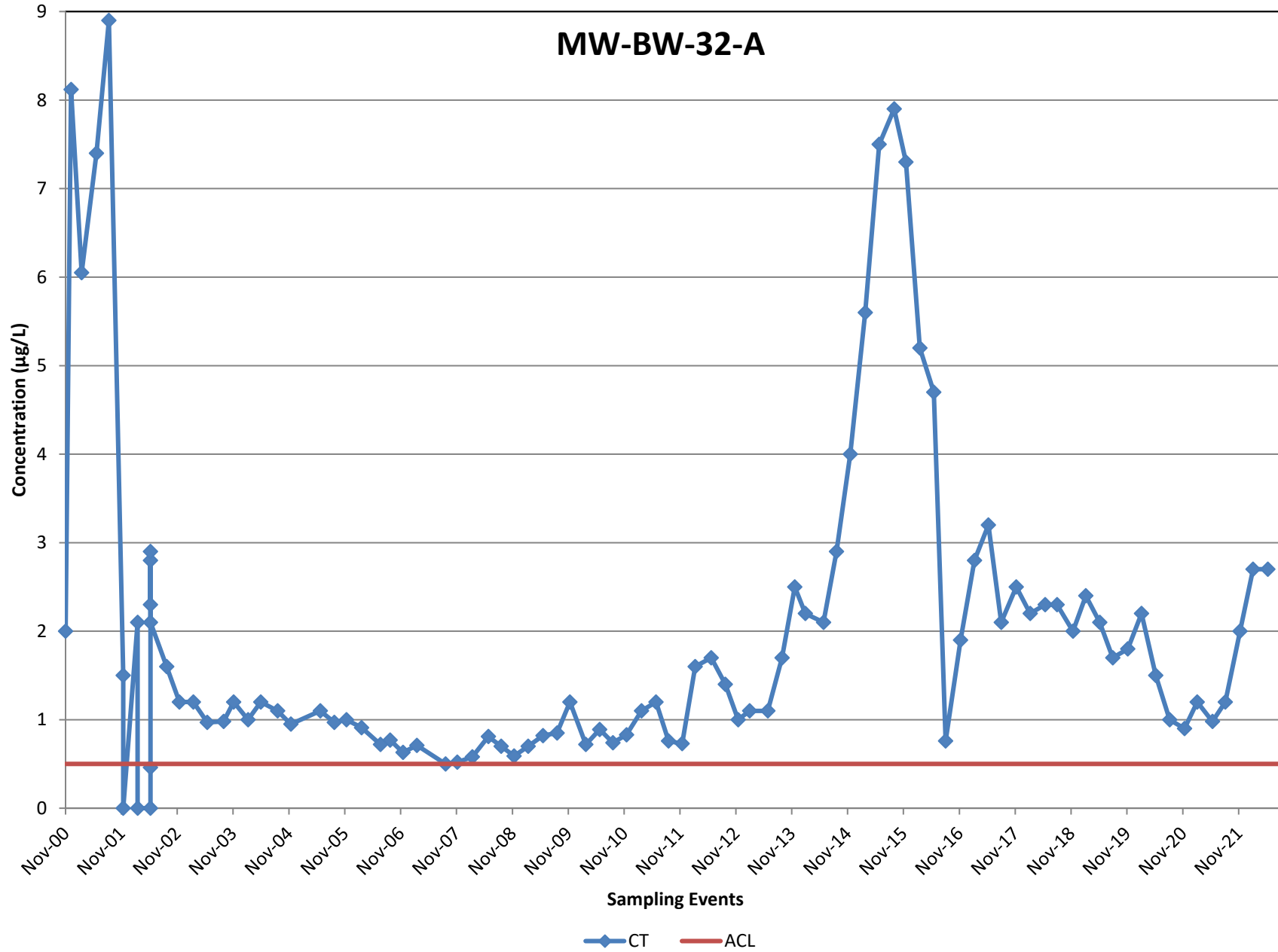


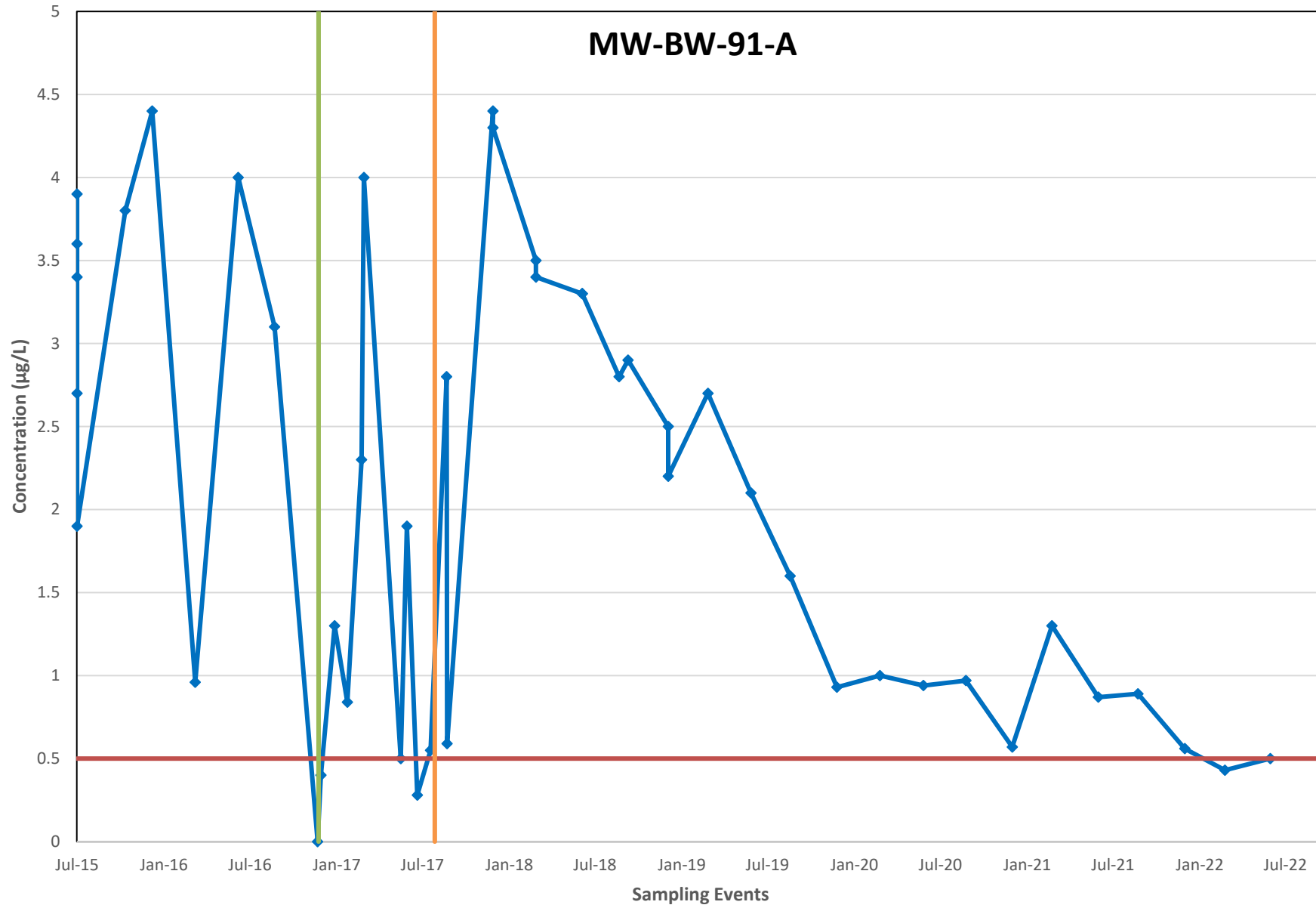
MW-BW-26-A



◆ CT — ACL — EISB 2A Injection Start — EISB 2A Recirculation Complete







CT CT ACL EISB 3A Injection Start EISB 3A Recirculation Complete

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

OUCTP Hydraulic Zone ¹	Well Identification	CT Concentrations (µg/L) ²			
		3Q 2021	4Q 2021	1Q 2022	2Q 2022*
ACL:		0.5			
6	EW-OU2-09-180 ³	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
6	MP-BW-46-170	6.2 J+	5.4	5.0	4.3
N/A	MW-BW-21-180	ND (0.25)	ND (0.25)	0.17 J	0.17 J
N/A	MW-BW-43-180	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
6	MW-BW-52-180	0.53	0.47 J	0.49 J	0.59
6	MW-BW-57-180	0.30 J	0.17 J	0.11 J	0.10 J
6	MW-BW-58-180	ND (0.25)	NS	NS	NS
6	MW-OU2-64-180	3.5 J+	2.1 J+	2.4	3.1
6	MW-OU2-67-180 ⁴	ND (0.25)	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.

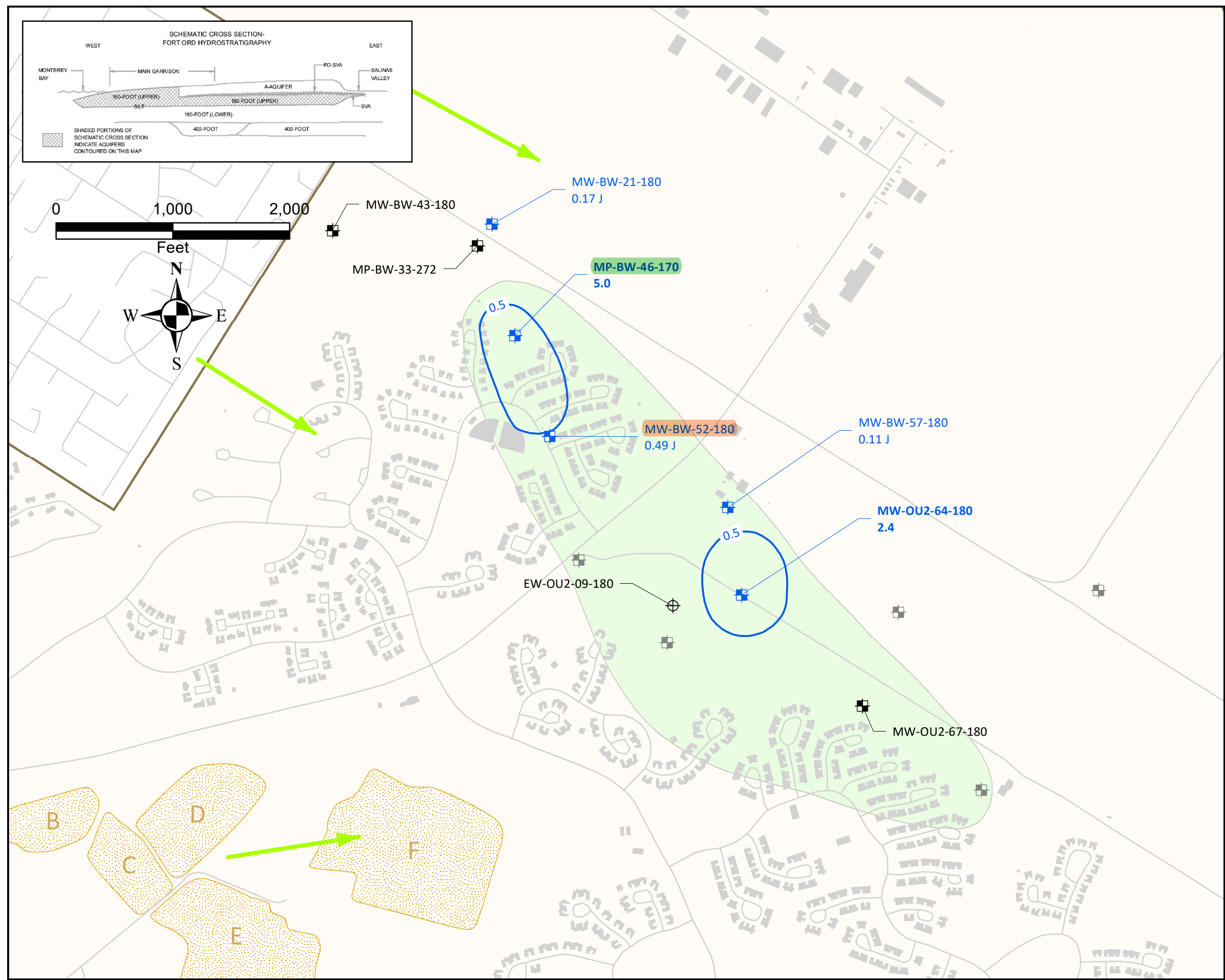
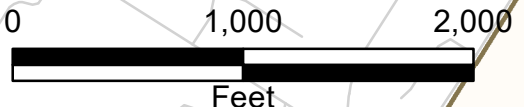
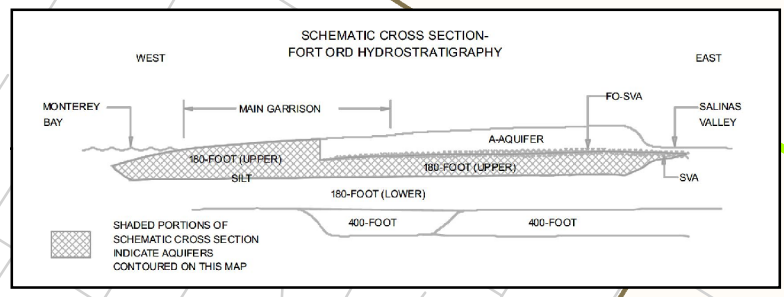
² Concentration in **bold** and shaded cell exceeds the Aquifer Cleanup Level (ACL) for CT and the Maximum Contaminant Level (MCL) for TCE. Results in gray are ND.

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 Downgradient well MW-OU2-70-180 sampled annually: ND.

* Preliminary data





EXPLANATION

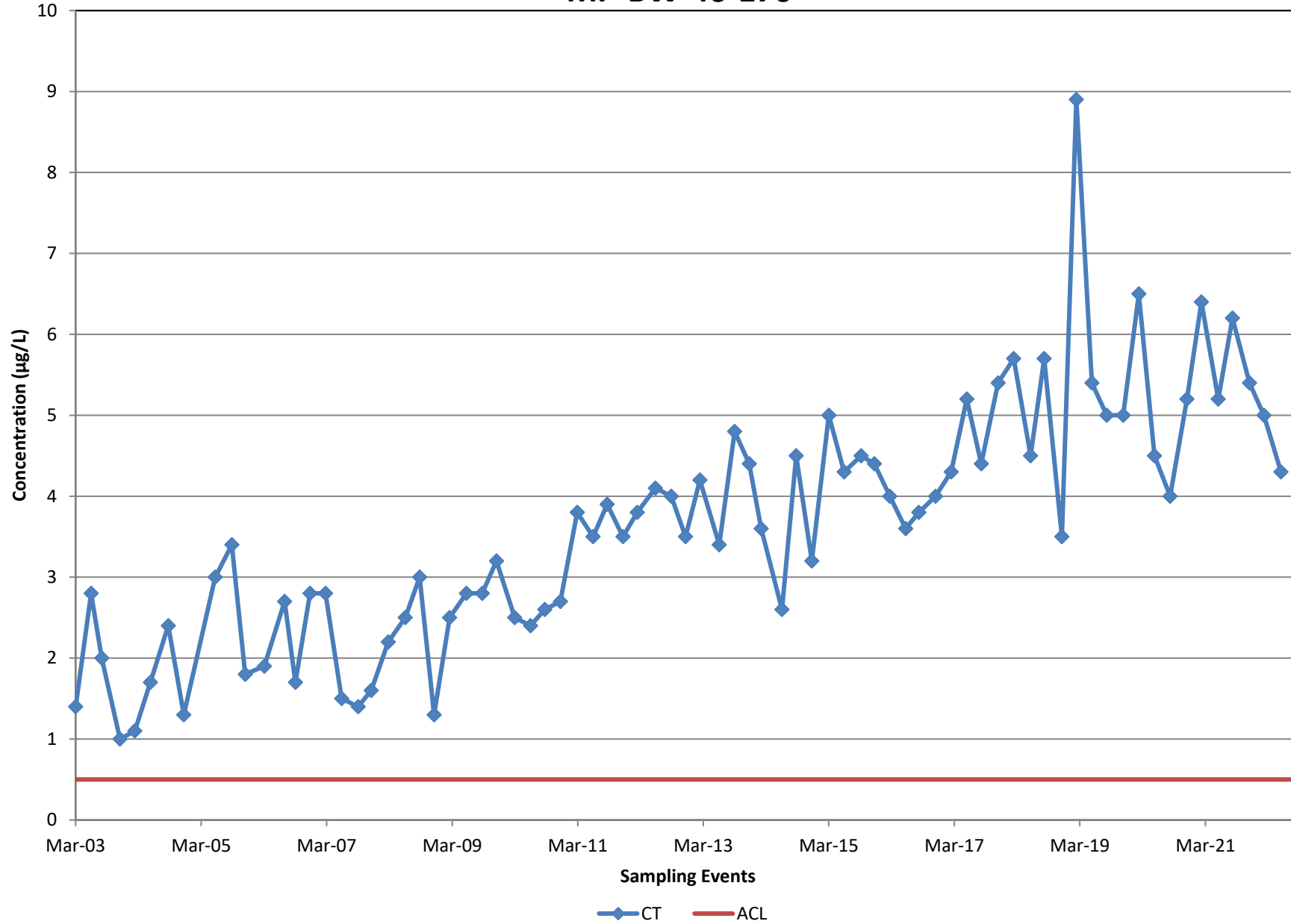
- General groundwater flow direction
- Roads
- Facilities
- Approximate extent of landfill areas (Areas B through F)
- Former Fort Ord boundary
- Well Type and CT Detection**
 - Extraction well with no carbon tetrachloride (CT) detected
 - Monitoring well with CT detected
 - Monitoring well with no CT detected
 - Monitoring well not sampled
- Chemical of Concern (COC) Aquifer Cleanup Level (ACL) exceedance contour in µg/L.**
 - 0.5 Carbon Tetrachloride
- OUCTP Upper 180-Foot Aquifer Hydraulic Zone**
 - 6

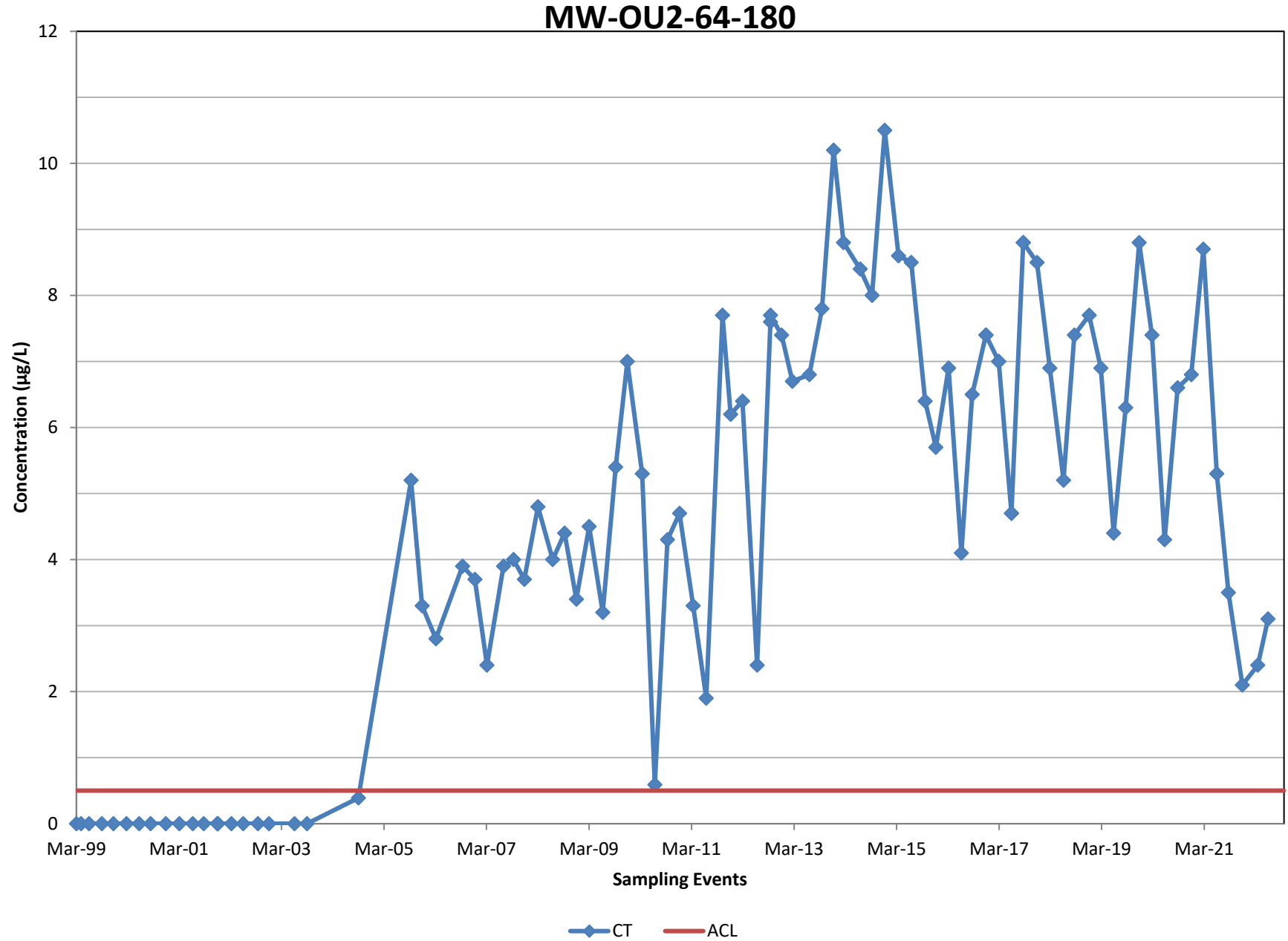
Well ID - Bold When Concentration Exceeds the ACL for CT
MW-OU2-64-180 2.4
 CT Concentrations (µg/L) and validation/lab qualifier.

- NOTES:**
- (1) Samples were collected between February 28, 2022 and March 28, 2022.
 - (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
 FIRST QUARTER 2022
 Operable Unit Carbon Tetrachloride Plume
 First Quarter 2022 Groundwater Monitoring Report
 Former Fort Ord, California

MP-BW-46-170





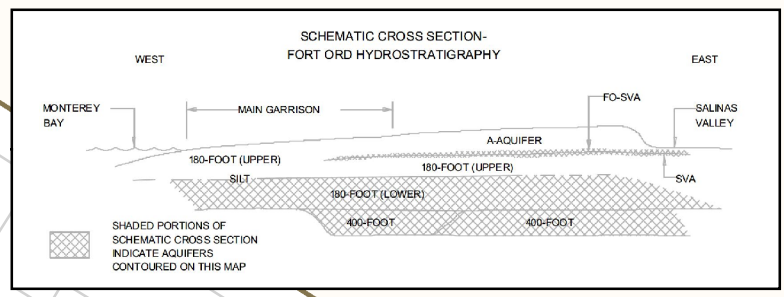
CT ACL

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

OUCTP Hydraulic Zone ¹	Well Identification	Select COC Concentrations (µg/L) ²							
		3Q 2021	4Q 2021	1Q 2022	2Q 2022*	3Q 2021	4Q 2021	1Q 2022	2Q 2022*
		CT				TCE ³			
Limit:		ACL 0.5				MCL 5.0			
7	MP-BW-49-316	3.0	1.6	2.3	3.0	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
7	MP-BW-49-400	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	4.0	4.5 J+	4.3	4.0
7	MP-BW-50-339	1.2	0.39 J	1.3	0.86	ND (0.25)	0.13 J	ND (0.25)	0.11 J
7	MP-BW-50-384	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	2.0	2.1 J+	1.9	2.0
7	MP-BW-51-405	0.16 J	0.11 J	0.11 J	ND (0.25)	1.5	1.3 J+	1.5	1.3
7	MW-OU2-66-180	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	0.35 J	0.28 J	ND (0.25)	0.28 J
7	MW-OU2-69-180	1.1 J+	0.86	0.98	1.1	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
8	AIRFIELD	0.39 J	NS	NS	NS	ND (0.25)	NS	NS	NS
N/A	EW-OU2-07-180	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	3.6	4.0 J+	3.8	5.3
N/A	FO-29	0.17 J	0.18 J	0.19 J	0.18 J	2.6	2.1	1.8	2.5
N/A	FO-30	0.24 J	0.19 J	0.18 J	0.26 J	0.55	0.57 J+	0.54	0.38 J
N/A	FO-31	NS	0.10 J	0.10 J	0.11 J	NS	1.0	1.1	1.2
N/A	MP-BW-41-318	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	0.37 J	0.22 J	0.36 J	0.37 J
N/A	MP-BW-41-353	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	1.3	1.2 J+	1.2	1.2
N/A	MW-BW-59-180	0.14 J	ND (0.25)	ND (0.25)	0.12 J	10.0 J+	9.6 J+	8.3	10.6
N/A	MW-OU2-72-180	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	1.8	1.9	1.6	1.9
N/A	MW-OU2-78-180	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	2.2 J+	2.6 J+	2.1	3.0
N/A	MW-OU2-82-180	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	5.9	4.5	4.5	0.81

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 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)
 * Preliminary data





MP-BW-51-405 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 February 28, 2022 and March 28, 2022.
 (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 concern in the OUCTP Lower 180-Foot Aquifer.

EXPLANATION

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

Well Type and COC Detection

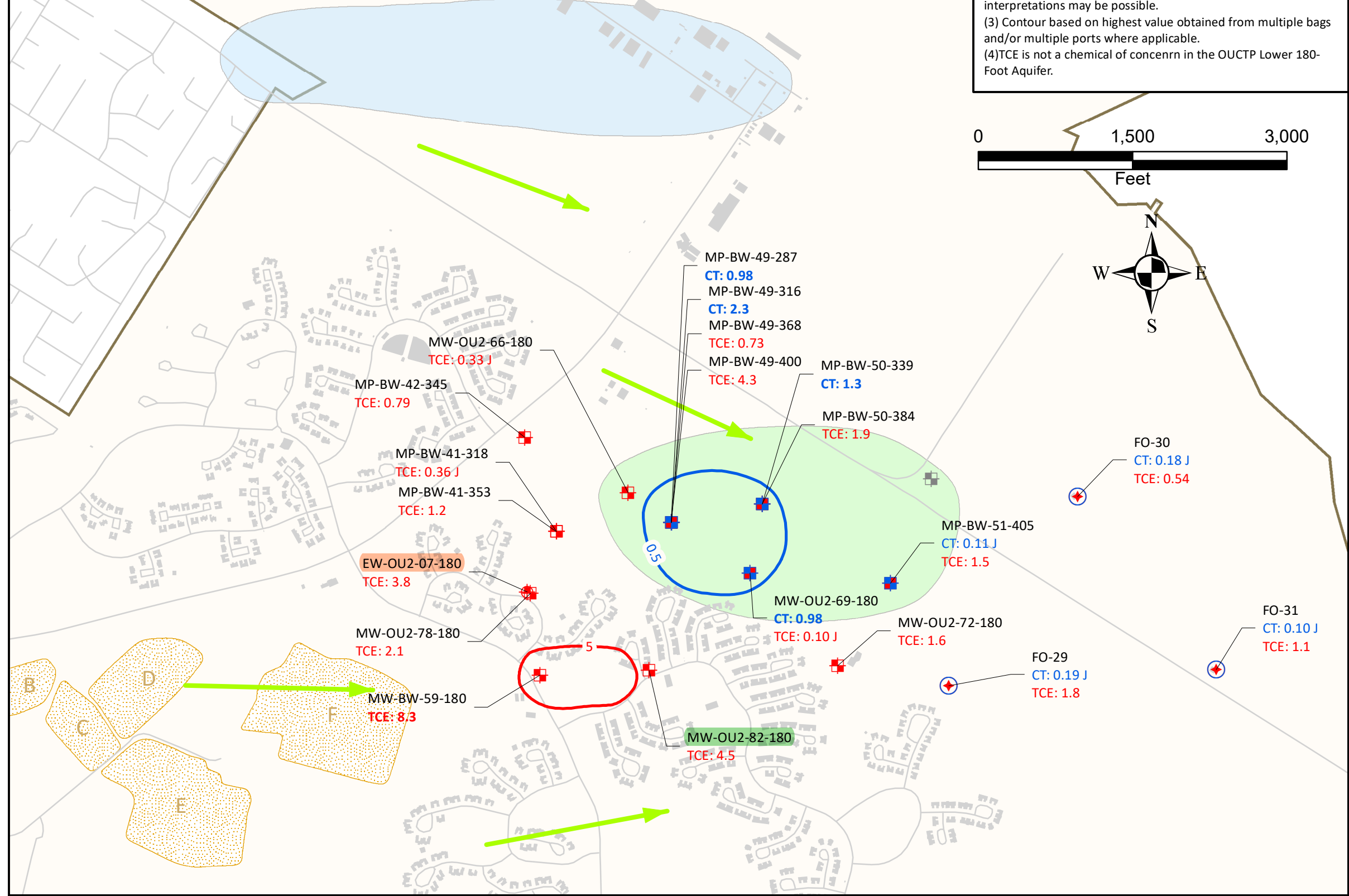
- Extraction well with trichloroethene (TCE) detection
- Monitoring well with TCE detection
- Monitoring well with CT and TCE detection
- Marina Coast active supply well with CT and TCE detection
- Monitoring well not sampled

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

- 0.5 Carbon tetrachloride (CT) plume extent
- 5.0 Trichloroethene (TCE) plume extent

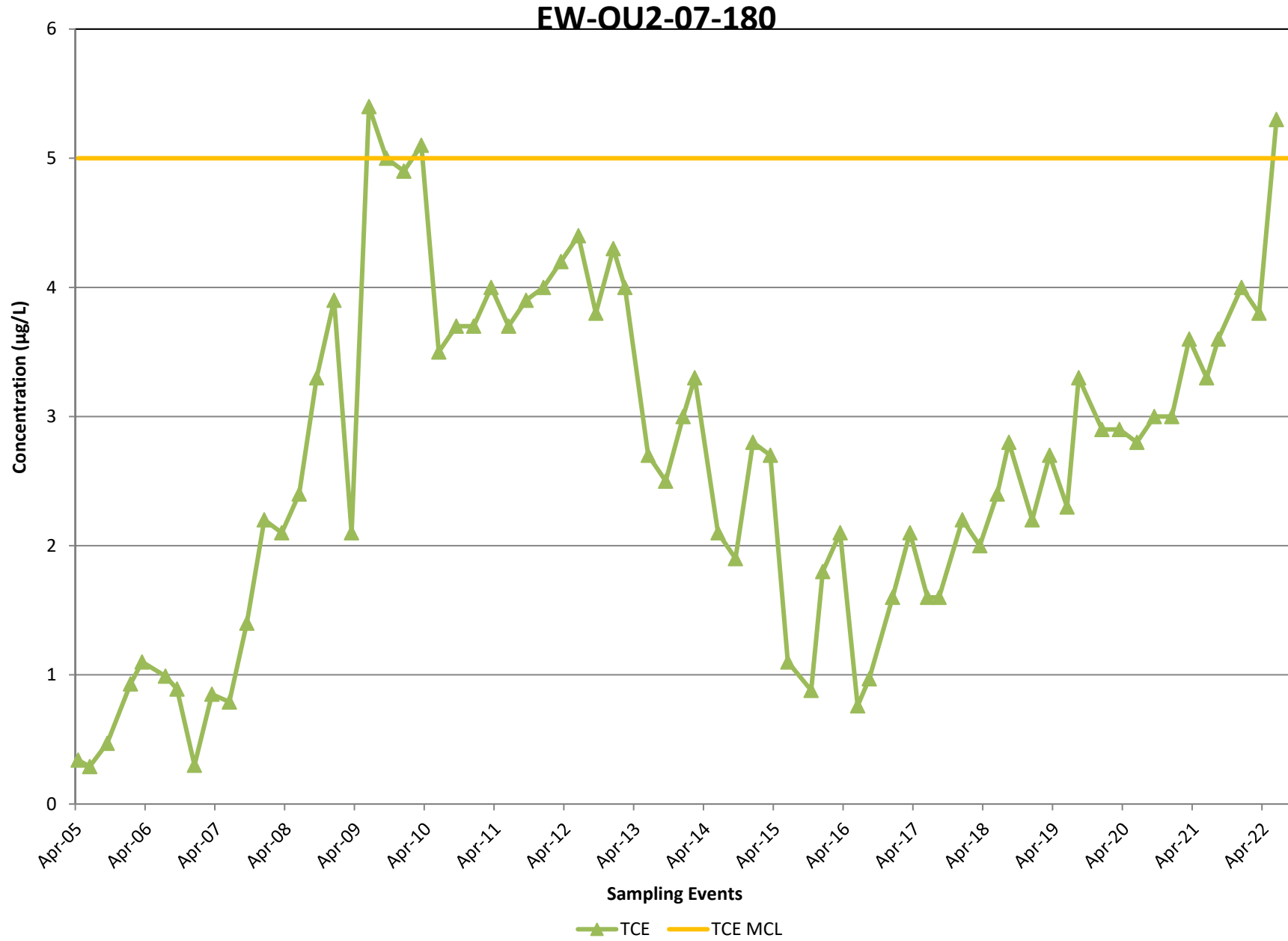
OUCTP Lower 180-Foot Aquifer Hydraulic Zone

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- 8

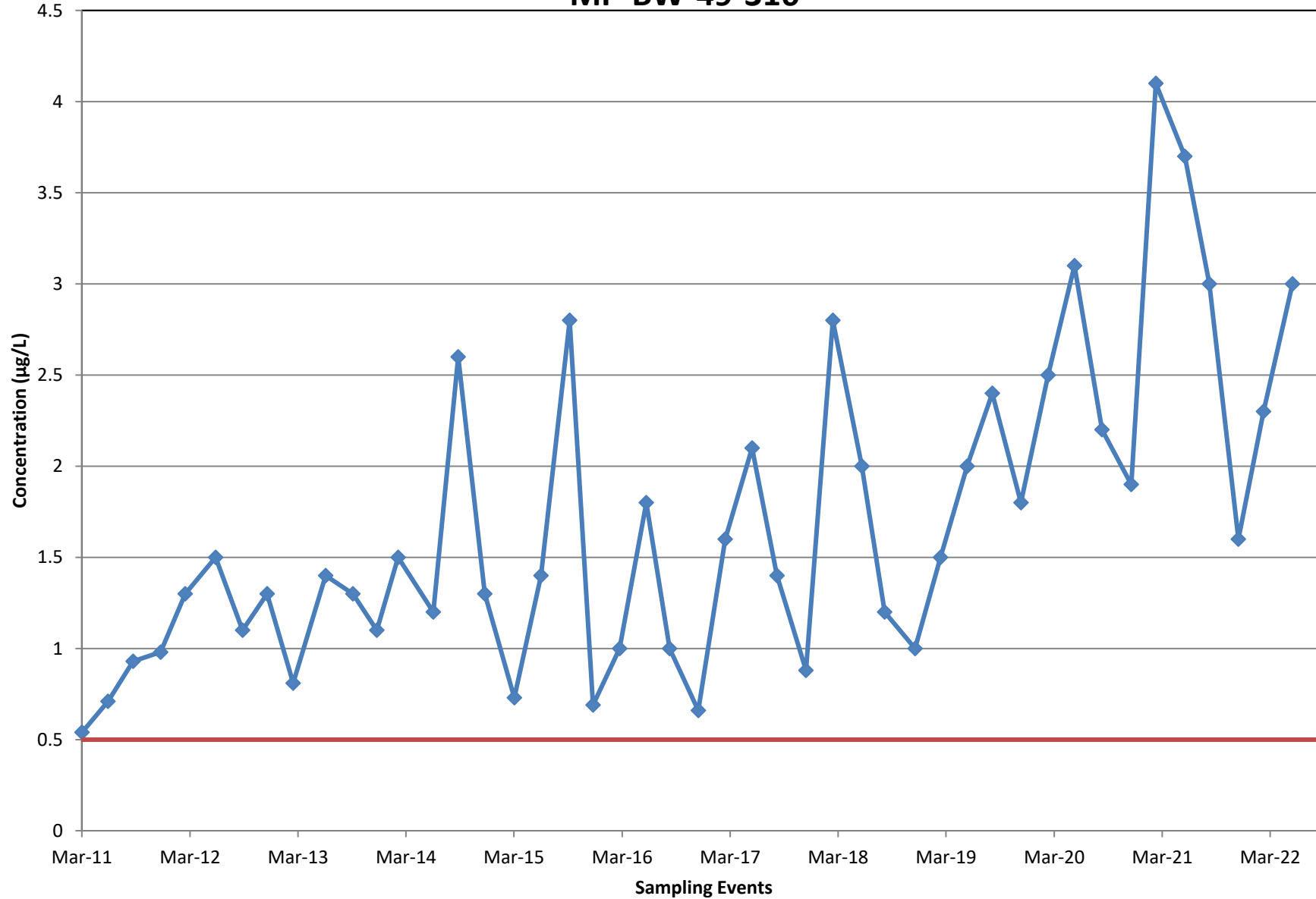


CT AND TCE CONCENTRATIONS
 LOWER 180-FOOT/400-FOOT AQUIFERS
 FIRST QUARTER 2022
 Operable Unit Carbon Tetrachloride Plume
 First Quarter 2022 Groundwater Monitoring Report
 Former Fort Ord, California

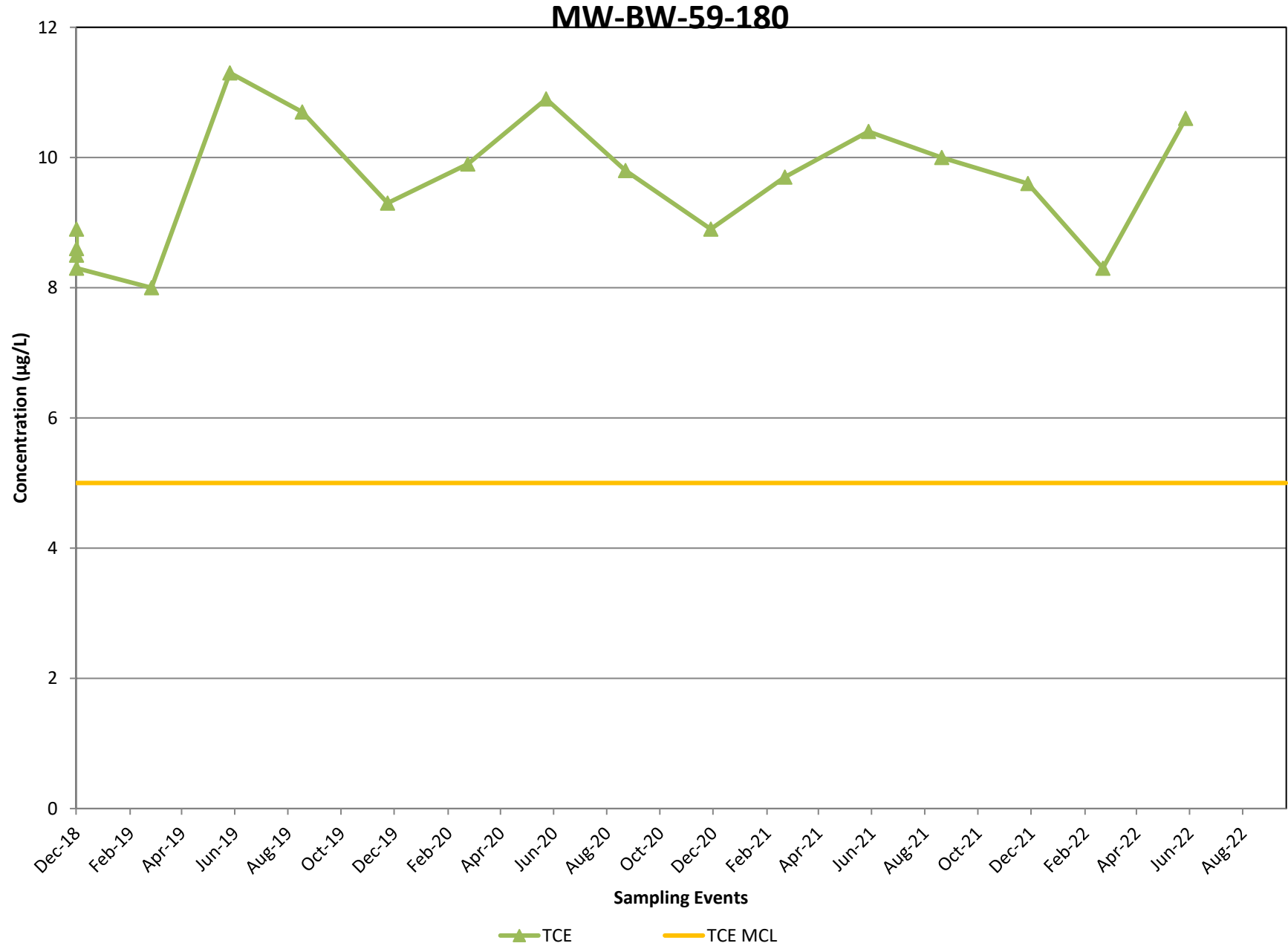
Ahtna Date: 5/1/2022 Figure: 9



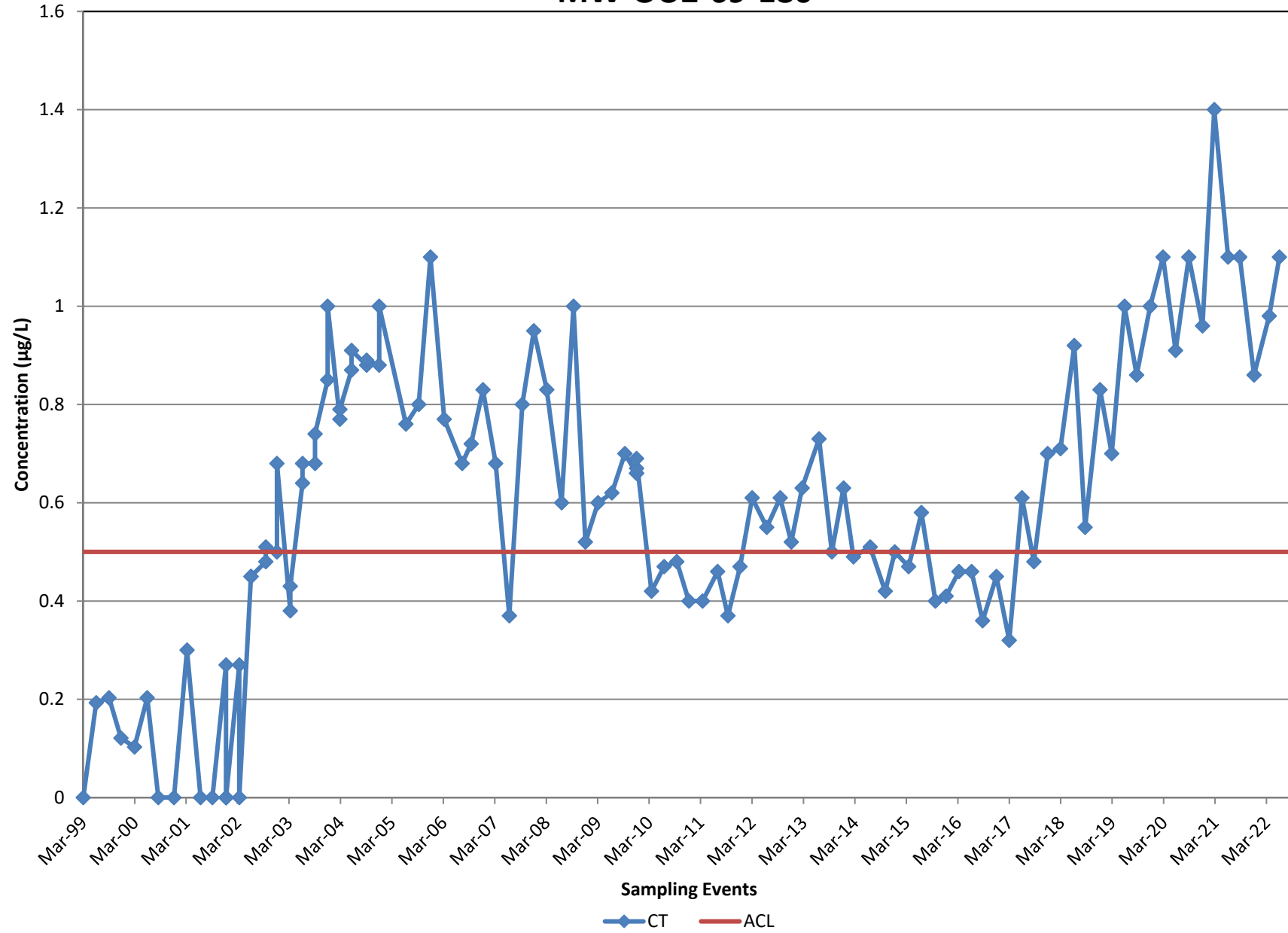
MP-BW-49-316



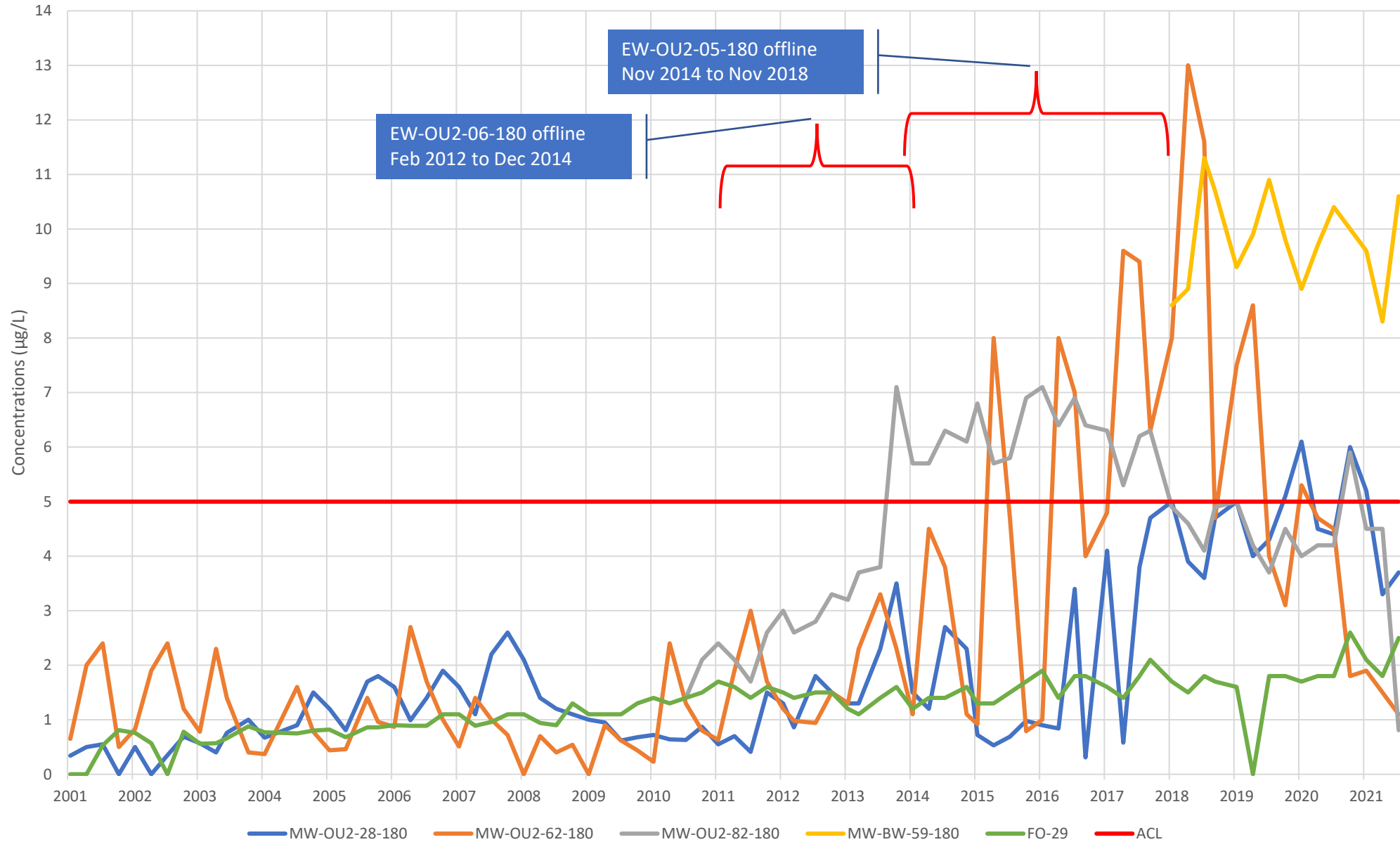
CT ACL



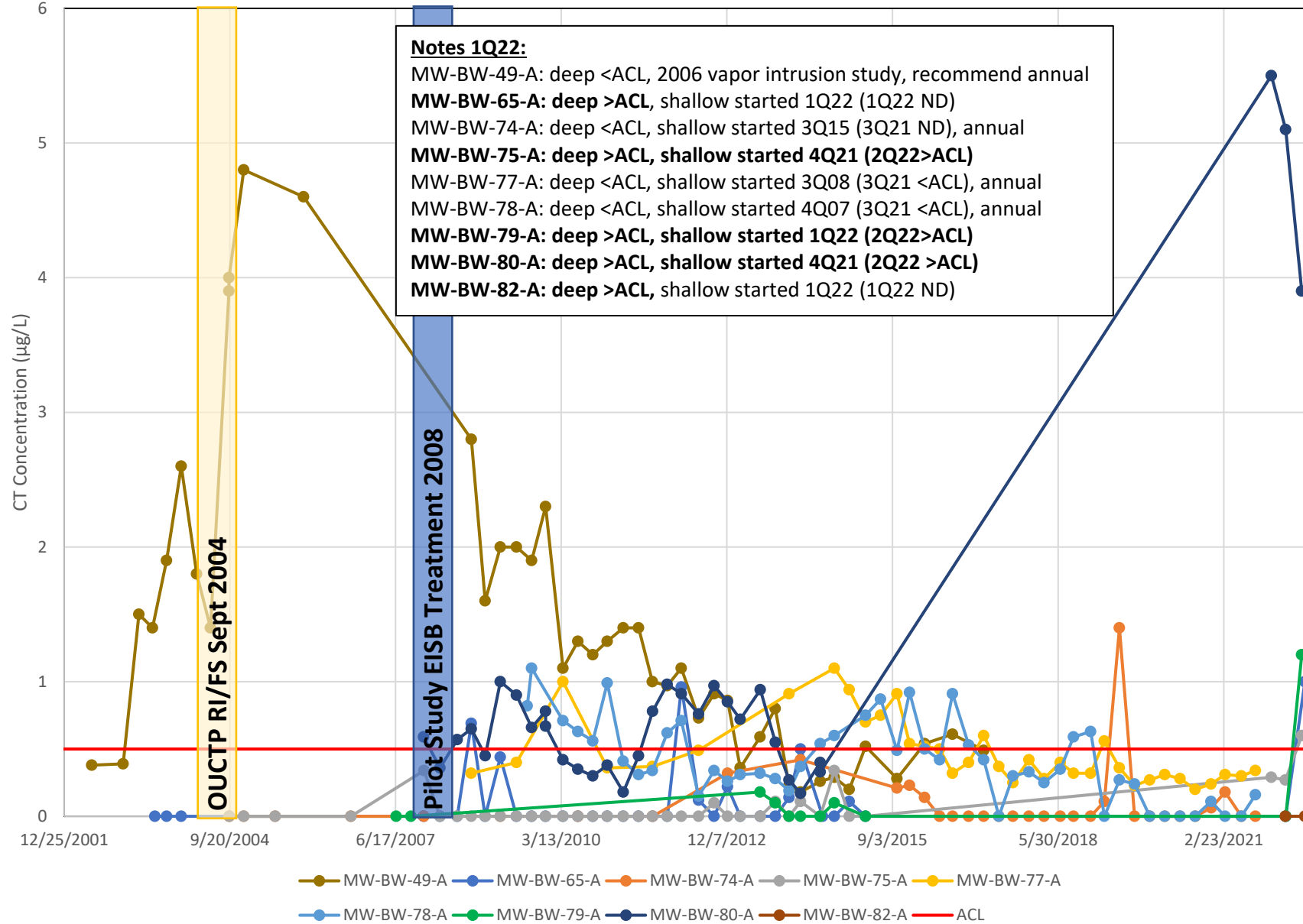
MW-OU2-69-180



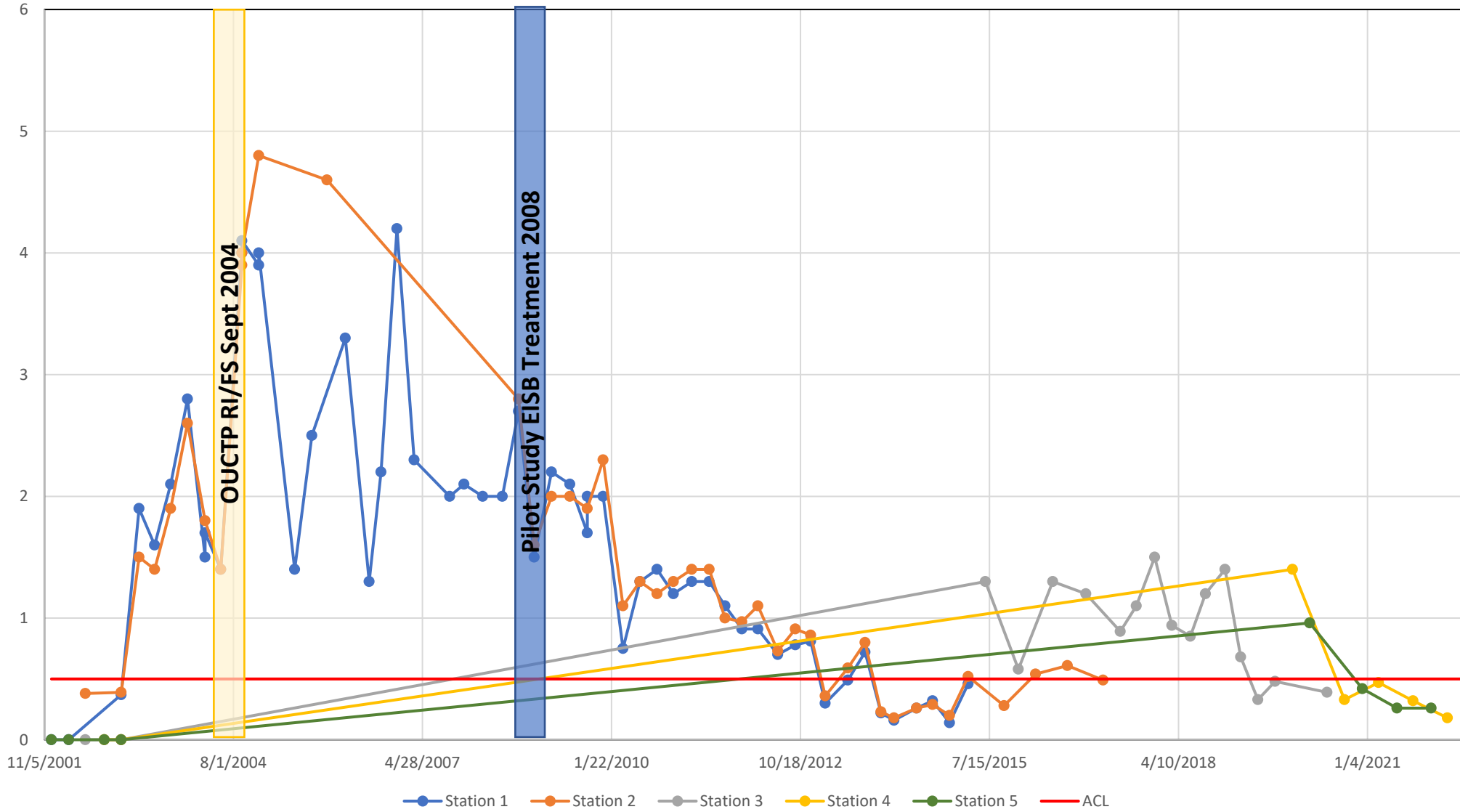
TCE in the Lower 180-Foot Aquifer



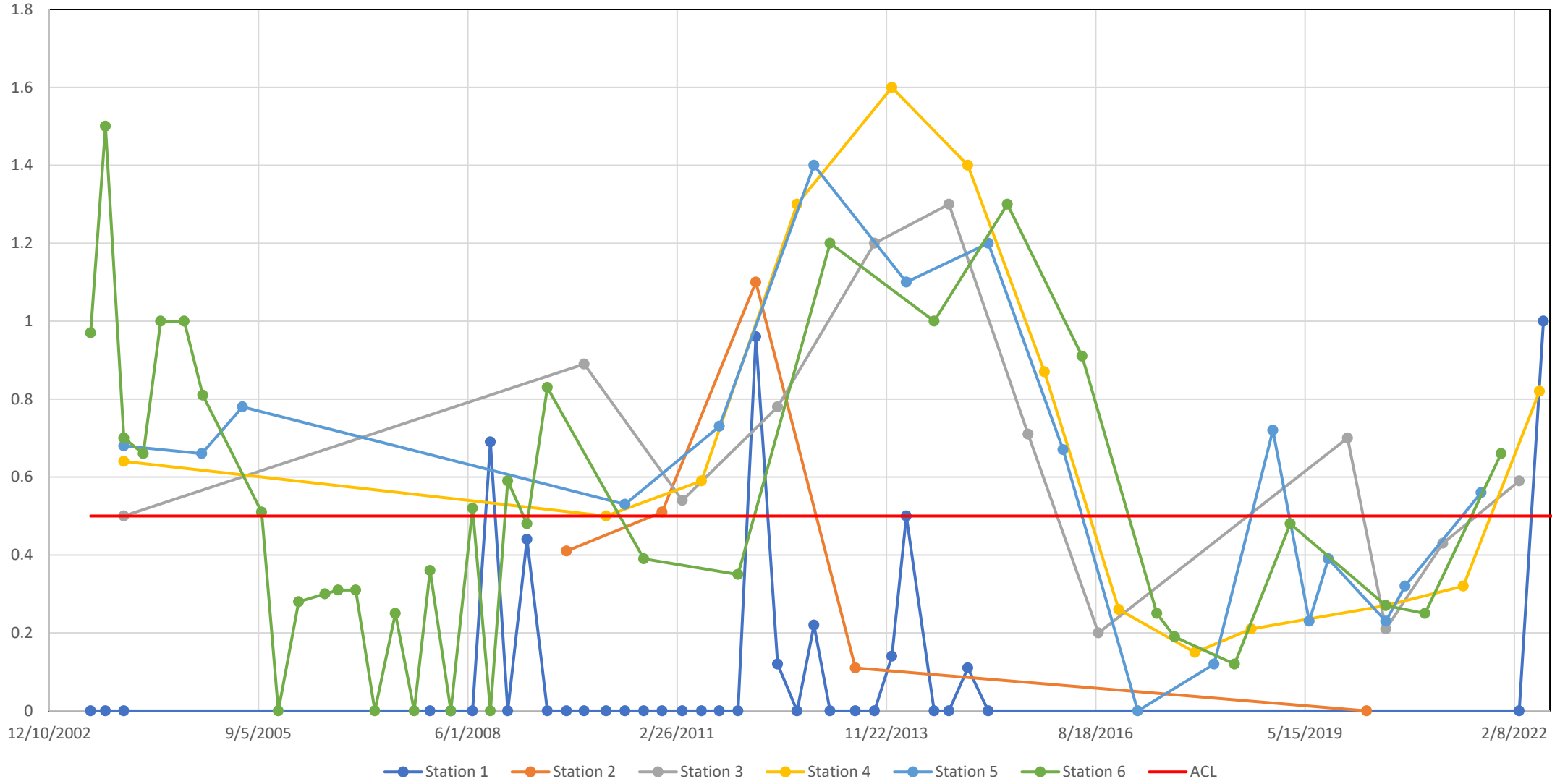
CT Shallow Stations: City of Marina HZ 5



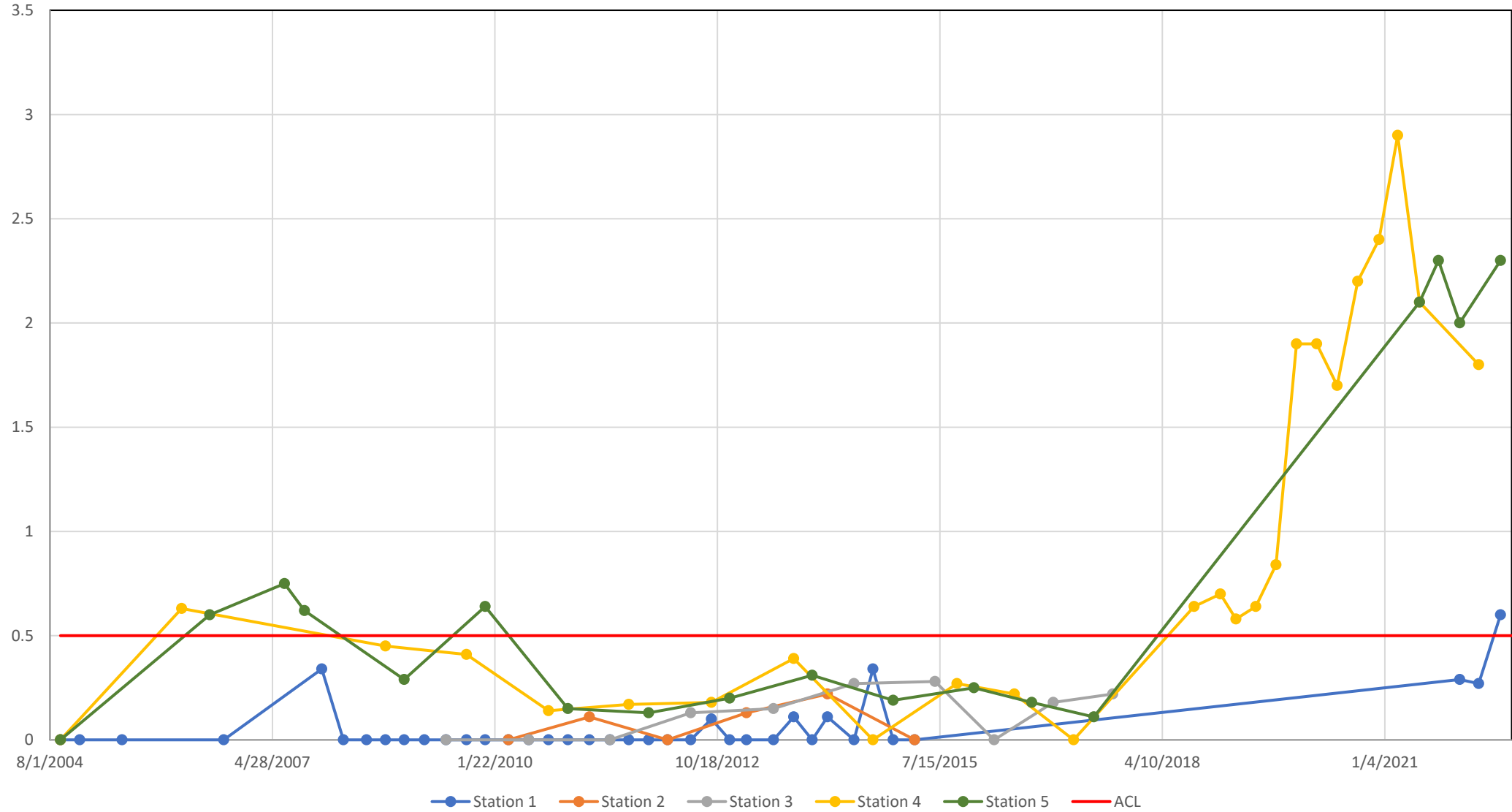
MW-BW-49-A CT



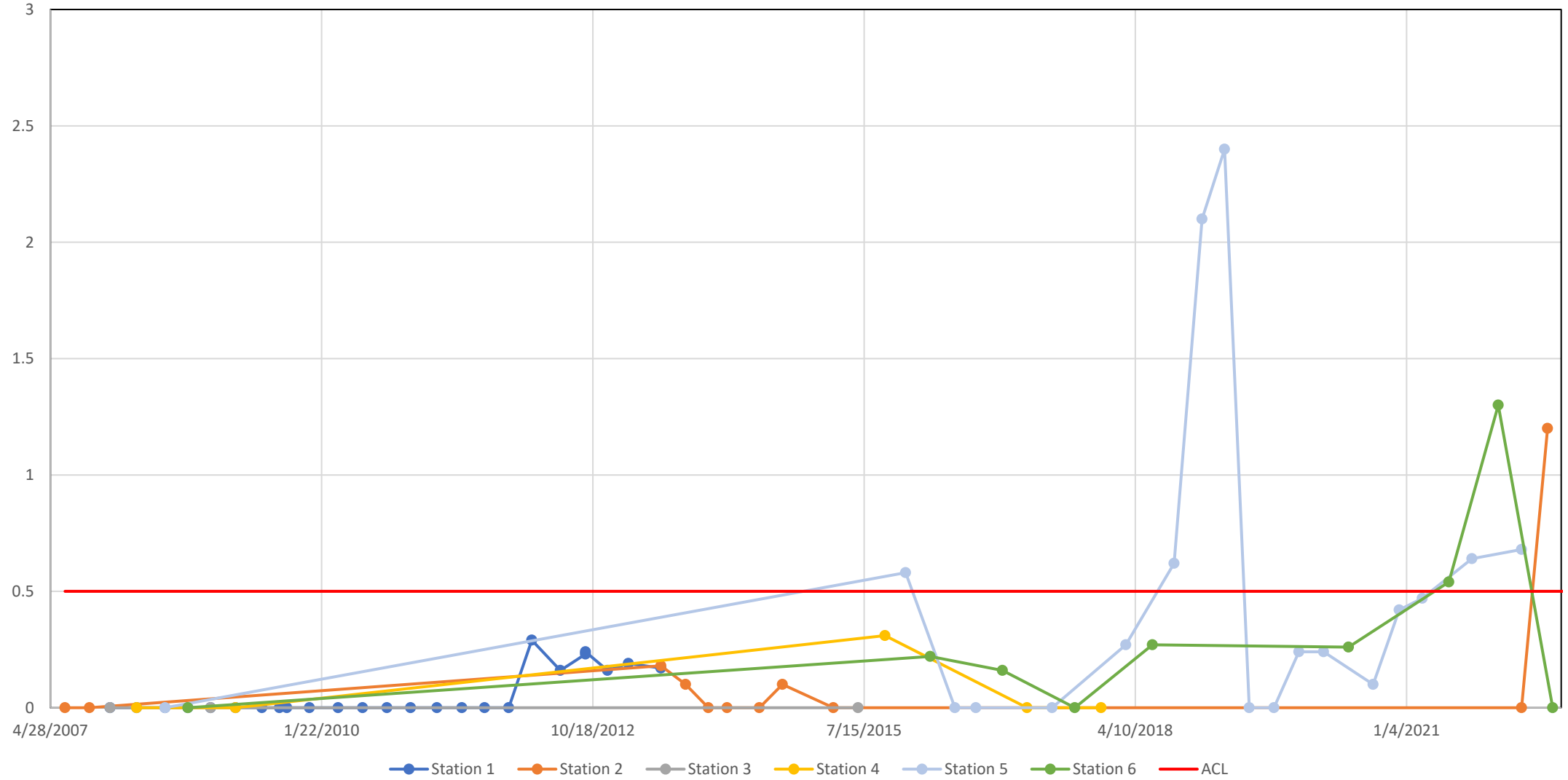
MW-BW-65-A CT



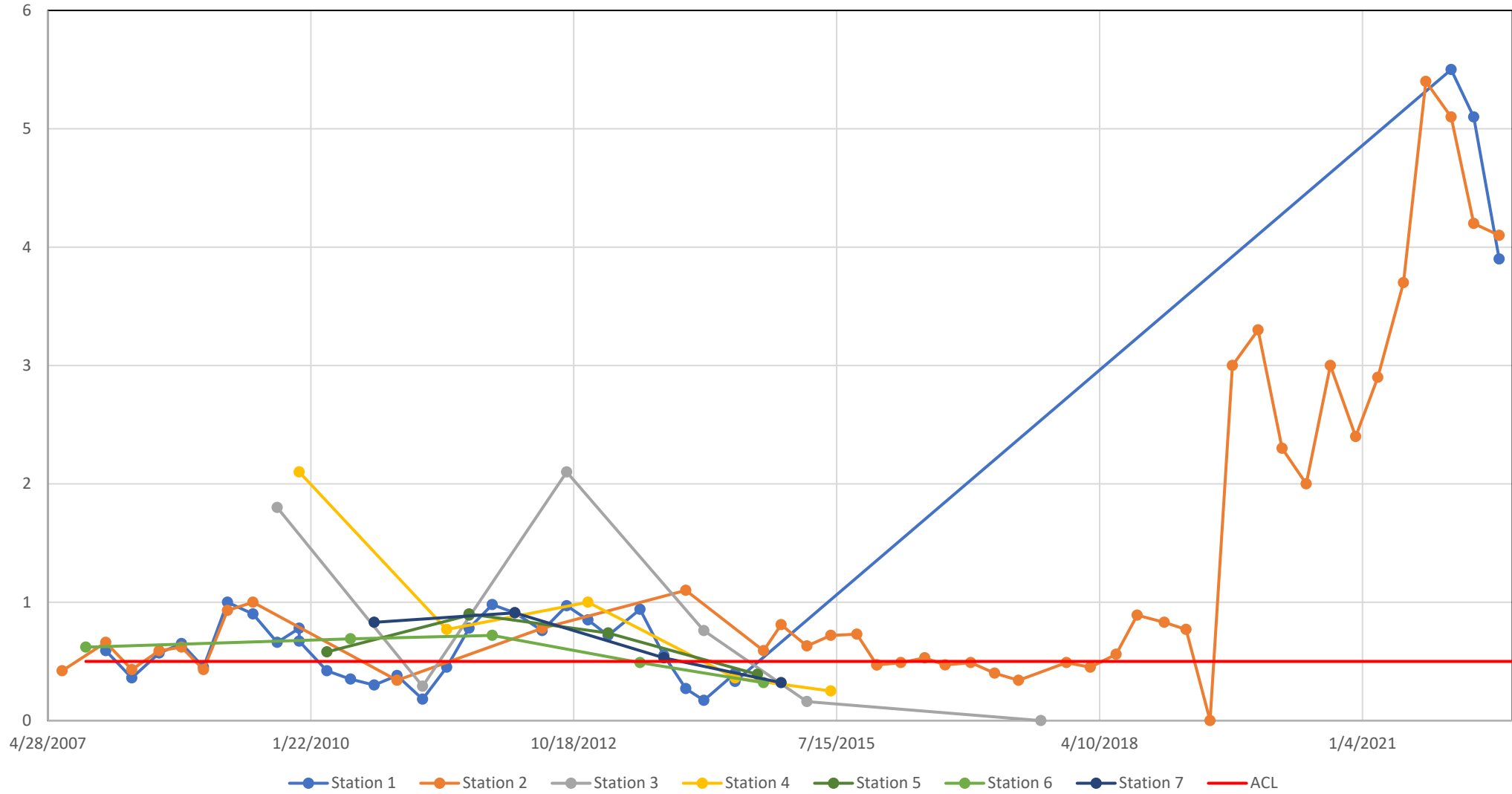
MW-BW-75-A CT



MW-BW-79-A CT



MW-BW-80-A CT



MW-BW-82-A CT

