Former Fort Ord Operable Unit Carbon Tetrachloride Plume Data and Status

HTW BCT, May 9, 2018

April 2018 Key Events for OUCTP

- April 25: Biological Survey initiated for:
    - Year 3 at 2015 well installation locations (final monitoring event).
    - Year 2 at 2016 construction of EISB Deployment Area 3A.
    - Baseline survey at FONR well installation and decommissioning locations.

May 9018 Key Events for OUCTP

- May 2: Biological survey completed.
- May 9: Temporary shutdown of OU2 GWTP during PG&E transformer replacement, EW-OU2-09-180 offline.
- 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*
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**
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
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)
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)
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
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)
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**
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
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
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
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)
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)
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
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**

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

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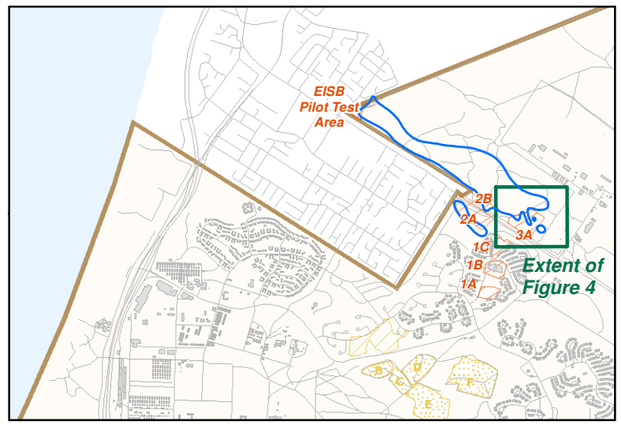


MW-BW-90-A
03/06/2018 0.86 A

MW-BW-87-A
03/06/2018 0.13 A/J

MW-BW-87-A
03/06/2018 0.14 A/J

0.5

MW-BW-88-A
03/06/2018 1.1 A

MW-BW-58-A
03/06/2018 0.68 A

EW-BW-164-A
03/14/2018 0.32 A/J

MW-BW-86-A
03/06/2018 0.14 A/J

2B

EW-BW-165-A

EW-BW-163-A

MW-BW-16-A

0.5

EW-BW-167-A
03/14/2018 0.16 A/J

EW-BW-162-A

Carbon Tetrachloride Contour, 0,5 µg/L Fourth Quarter 2016

EW-BW-166-A
03/14/2018 1.4 A

EW-BW-160-A
03/14/2018 0.91 A

0.5

EW-BW-168-A
03/14/2018 0.48 A/J

3A

EW-BW-169-A
03/14/2018 0.23 A/J

EW-BW-161-A
03/14/2018 0.15 A/J

MW-BW-57-A

MW-BW-91-A
03/06/2018 3.4 A

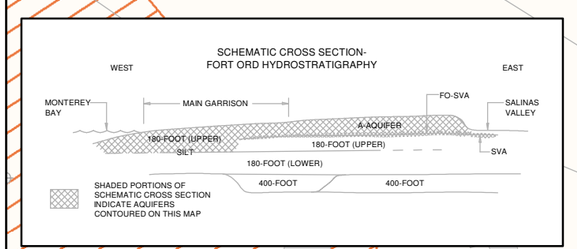
MW-BW-91-A
03/06/2018 3.5 A

0.5

MW-BW-85-A
03/06/2018 0.93 A

1C

RESERVATION RD



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EXPLANATION

- Monitoring Well with CT Detection
- Extraction Well with CT Detection
- Well ID - Bold When ACL Exceeded (* Indicates: Sample result not used for contouring)
- MW-BW-87-A 03/06/2018 0.13 A/J 03/06/2018 0.14 A/J — 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 March 14 and March 27, 2018. Samples at OUCTP monitoring wells were collected on March 6, 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
Operable Unit Carbon Tetrachloride Plume
First Quarter 2018
Groundwater Monitoring Report
Former Fort Ord, California

Date: 5/2018 | Project No. 8416181810

amec foster wheeler

Figure 4

Friday, May 04, 2018 11:34:52 AM reuben.pillsbury
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Table 2. OUCTP A-Aquifer Select Monitoring Well Data

OUCTP Hydraulic Zone[1]	EISB Deployment Area	Well Identification	Select COC Concentrations (µg/L)					
			4Q 2017	1Q 2018	4Q 2017	1Q 2018	4Q 2017	1Q 2018
			CT		Chloroform		TCE	
		ACL:	0.5		2.0		5.0	
1	1C	EW-BW-109-A	**1.8**	**1.4**	0.35 J	0.37 J	0.77	0.62
1	N/A	MW-BW-24-A	**4.5**	**3.1**	0.69	0.58	2.5	1.6
2	3A	MW-BW-58-A	**1.2**	**0.68**	0.21 J+	0.12 J	ND (0.25)	ND (0.25)
2	3A	MW-BW-87-A	0.40 J	0.14 J	0.14 J	ND (0.25)	ND (0.25)	ND (0.25)
2	3A	MW-BW-91-A	**4.4**	**3.5**	0.67	0.50	ND (0.25)	ND (0.25)
N/A	3A	MW-BW-90-A	**0.99**	**0.86**	0.15 J	0.13 J	ND (0.25)	ND (0.25)
3	3A	MW-BW-16-A	ND (0.25)	ND (0.25)	0.40 J	ND (0.25)	ND (0.25)	ND (0.25)
3	3A	MW-BW-57-A	ND (0.25)	ND (0.25)	0.15 J	0.81	ND (0.25)	ND (0.25)
3	N/A	MW-BW-88-A	**1.9**	**1.1**	0.59	0.40 J	ND (0.25)	ND (0.25)
4	2A	EW-BW-124-A	**0.59**	0.27 J	1.1	1.2	1.5	0.93
4	N/A	MW-B-12-A	**0.99**	**0.64**	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
4	2B	MW-B-14-A	**2.2**	**1.8**	0.36 J	0.41 J	0.20 J	0.25 J
4	2B	EW-BW-155-A	ND (0.25)	**0.51**	1.2	0.48 J	0.74	0.54
4	2A	MW-BW-26-A^	**5.0**	**4.4**	0.71	0.74	0.90	0.77
4	N/A	MW-BW-31-A	ND (0.25)	ND (0.25)	**2.6**	0.99	ND (0.25)	ND (0.25)
4	N/A	MW-BW-32-A	**2.5**	**2.2**	0.30 J	0.28 J	0.17 J	0.14 J
4	N/A	MW-BW-36-A	0.16 J	**0.79**	0.50	1.7	ND (0.25)	ND (0.25)
4	N/A	MW-BW-42-A	ND (0.25)	ND (0.25)	0.22 J	0.16 J	ND (0.25)	ND (0.25)
4	N/A	MW-BW-89-A	**1.3**	**0.97**	0.43 J	0.37 J	ND (0.25)	ND (0.25)
4	N/A	MW-BW-92-A	**1.9**	**1.3**	0.25 J	0.20 J	ND (0.25)	ND (0.25)
5	Pilot	EISB-EW-01	**0.52**	**0.64**	0.27 J	ND (0.36)	ND (0.25)	ND (0.25)
5	Pilot	EISB-EW-09	**3.3**	**3.0**	0.27 J	0.31 J	ND (0.25)	ND (0.25)
5	N/A	MW-BW-65-A	0.15 J	0.12 J	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
5	Pilot	MW-BW-66-A	**1.4**	**0.95**	0.27 J	0.54	ND (0.25)	ND (0.25)
5	N/A	MW-BW-74-A	ND (0.25) [0.17 J]	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)]
5	N/A	MW-BW-49-A	**1.5**	**0.94**	0.57	0.26 J	ND (0.25)	ND (0.25)
5	N/A	MW-BW-78-A	0.33 J [**0.55**]	0.25 J [0.41 J]	ND (0.25) [0.14 J]	ND (0.25) [ND (0.25)]	ND (0.25) [ND (0.25)]	ND (0.25) [ND (0.25)]
5	N/A	MW-BW-80-A	0.49 J	0.45 J	0.11 J	ND (0.25)	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 is ND.

DRAFT

City of Marina

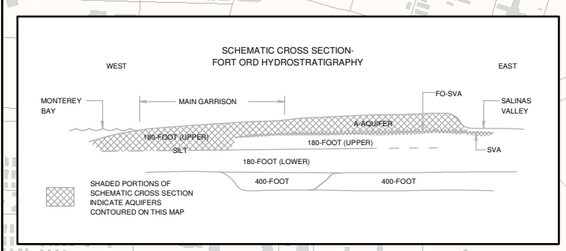
SALINAS RIVER

RESERVATION RD

IMJIN PKWY

MW-BW-80-A 0.45 A/J
MW-BW-65-A 0.12 A/J
MW-BW-74-A 0.29 A/J
MW-BW-78-A 0.41 A/J
MW-BW-77-A 0.31 A/J
EISB-EW-01 0.64 A
MW-BW-66-A 0.95 A
MW-BW-49-A 0.94 A
MW-BW-79-A 0.27 A/J
EISB-EW-09 3.0 A
MW-BW-42-A
MW-B-12-A 0.64 A
MW-BW-35-A 0.26 A/J
MW-BW-31-A
EW-BW-155-A 0.51 A
MW-BW-27-A
MW-BW-30-A
EW-BW-149-A
MW-BW-26-A 4.4 A
EW-BW-135-A
MW-B-14-A 1.8 A
MW-BW-60-A 1.2 A
MW-BW-17-A
MW-BW-24-A 3.1 A
EW-BW-124-A 0.27 A/J
MW-BW-36-A 0.79 A
0.5
MW-BW-32-A 2.2 A
MW-BW-92-A 1.3 A
MW-BW-89-A 0.97 A
MW-BW-28-A 0.90 A
MW-BW-15-A
MW-BW-88-A 1.1 A
MW-BW-58-A 0.68 A
MW-BW-90-A 0.86 A
MW-BW-86-A 0.14 A/J
MW-BW-87-A 0.14 A/J
MW-BW-91-A 3.5 A
MW-BW-85-A 0.93 A
MW-BW-16-A
MW-BW-57-A
EW-BW-109-A 1.4 A
MP-BW-46-095
EW-BW-132-A 0.23 A/J

B C D E F



N
W E
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0 1,600 3,200
Feet

EXPLANATION

- Monitoring Well with CT Detection
- Extraction Well with CT Detection
- Well ID - Bold When CT Exceeds the ACL (* Indicates: Sample result not used for contouring)
- MW-BW-88-A 1.9 A — CT Concentration (µg/L) and validation/lab qualifier. Bold when CT exceeds the ACL.
- Monitoring Well with COC ACL Exceedance (Not CT)
- Monitoring Well CT Not Detected, and No Other COC ACL Exceedances
- 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)

Approximate Extent of Landfill Areas

- OU2 Landfill Areas B through F
- Area A (clean closed)
- Approximate Location of a Groundwater Divide
- Roads
- Facilities
- Former Fort Ord Boundary

NOTES:

(1) Samples were collected between March 5 and 8, 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 and/or multiple ports where applicable.

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

CT CONCENTRATIONS
A-AQUIFER
Operable Unit Carbon Tetrachloride Plume
First Quarter 2018
Groundwater Monitoring Report
Former Fort Ord, California

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Figure 3

Date: 4/2018

Project No. 8417190510

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

OUCTP Hydraulic Zone[1]	Well Identification	CT Concentration (µg/L)[2]	
		4Q 2017	1Q 2018
	ACL:	0.5	
6	EW-OU2-09-180[3]	0.11 J	ND (0.25)
6	MP-BW-41-231	0.34 J	0.15 J
6	MP-BW-46-170	**5.4**	**5.7**
6	MW-BW-52-180	**1.1**	**0.98**
6	MW-OU2-64-180	**8.4**	**6.9**
6	MW-OU2-67-180	0.35 J	0.46 J
6	MW-OU2-70-180	ND (0.25)	NS

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 2.7 µg/L in 3Q17.
[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)

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

OUCTP Hydraulic Zone[1]	Well Identification	Select COC Concentrations (µg/L)[2]			
		4Q 2017	1Q 2018*	4Q 2017	1Q 2018
		CT		TCE[4]	
	Limit:	ACL 0.5		MCL 5.0	
7	MP-BW-49-316	**0.88**	**2.8**	ND (0.25)	ND (0.25)
7	MP-BW-49-400	ND (0.25)	ND (0.25)	4.8	4.3
7	MP-BW-50-339	0.33 J	0.36 J	ND (0.25)	0.21 J
7	MP-BW-50-384	0.10 J	0.14 J	2.4	2.5
7	MP-BW-51-405	0.18 J	0.17 J	1.7	1.6
7	MW-OU2-69-180	**0.70**	**0.71**	0.13 J	0.13 J
8	AIRFIELD	**0.68**	**0.62**	ND (0.25)	ND (0.25)
N/A	EW-OU2-07-180	ND (0.25)	ND (0.25)	2.2	2.0
N/A	FO-29	0.17 J	0.19 J	1.6	1.4
N/A	FO-30	0.15 J	0.16 J	0.52	0.54
N/A	FO-31	ND (0.25)	ND (0.25)	0.52	0.85
N/A	MP-BW-41-353	ND (0.25)	ND (0.25)	1.7	1.6
N/A	MW-OU2-72-180	ND (0.25)	ND (0.25)	1.6	1.3
N/A	MW-OU2-78-180	ND (0.25)	ND (0.25)	2.3	2.1
N/A	MW-OU2-82-180	ND (0.25)	ND (0.25)	**6.3**	**5.3**

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City of Marina

SALINAS RIVER

MP-BW-46-170
5.7 A

0.5

MW-BW-52-180
0.98 A

MW-OU2-64-180
6.9 A

0.5

EW-OU2-09-180

MW-BW-02-180

MP-BW-41-231
0.15 A/J

MW-OU2-67-180
0.46 A/J

RESERVATION RD

IMJIN PKWY

B C D E F

SCHEMATIC CROSS SECTION-
FORT ORD HYDROSTRATIGRAPHY

WEST EAST

MONTEREY BAY — MAIN GARRISON — FO-SVA — SALINAS VALLEY

180-FOOT (UPPER)
A-AQUIFER
SILT
180-FOOT (UPPER)
SVA
180-FOOT (LOWER)
400-FOOT
400-FOOT

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

EXPLANATION

- Monitoring Well with CT Detection
- Extraction Well with CT Detection
- MW-OU2-64-180 / 6.9 A — Well ID - Bold When Concentration Exceeds the ACL (* Indicates: Sample result not used for contouring); CT Concentration (µg/L) and validation/lab qualifier (red indicates TCE; blue indicates CT) Bold when exceeds the ACL.
- Monitoring Well CT Not Detected
- Extraction Well CT Not Detected
- Monitoring Well Not Sampled This Quarter

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

- 0.5 — Carbon tetrachloride (CT)

Approximate extent of Landfill Areas

- OU2 Landfill Areas B through F
- Area A (clean closed)
- Roads
- Facilities
- Former Fort Ord Boundary

NOTES:

(1) Samples were collected between March 6 and 8, 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 and/or multiple ports where applicable.

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

CT CONCENTRATIONS
UPPER 180-FOOT AQUIFER
OUCTP
First Quarter 2018
Groundwater Monitoring Report
Former Fort Ord, California

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Date: 4/2018 | Project No. 8416181810 | Figure 7

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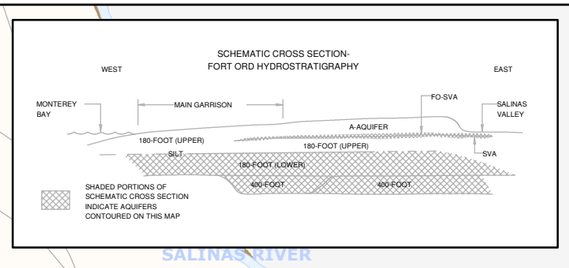

SALINAS RIVER

IMJIN PKWY

RESERVATION RD

Airfield
0.62 A

MP-BW-31-292
0.26 A/J

MP-BW-42-345
1.3 A

MP-BW-49-368
1.0 A

MP-BW-49-400
4.3 A

MP-BW-50-339
0.36 A/J

MP-BW-50-384
0.14 A/J

MW-OU2-66-180
0.51 A

MP-BW-50-339
0.21 A/J

MP-BW-50-384
2.5 A

MP-BW-41-318
0.74 A

MP-BW-41-353
1.6 A

0.5

MP-BW-49-287
1.3 A

MW-OU2-69-180
0.71 A

MW-OU2-69-180
0.13 A/J

MP-BW-51-405
1.6 A

MP-BW-51-405
0.17 A/J

EW-OU2-07-180
2.0 A

MP-BW-49-316
2.8 A

MW-OU2-78-180
2.1 A

MW-OU2-72-180
1.3 A

MW-OU2-82-180
5.3 A

FO-30
0.54 A

FO-30
0.16 A/J

FO-29
1.4 A

FO-29
0.19 A/J

FO-31
0.85 A

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W
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Feet

Date:

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EXPLANATION

- Monitoring Well with CT Detection
- Monitoring Well with TCE Detection
- Remediation Extraction Well with TCE Detection
- Active Supply Well with TCE Detection
- Monitoring Well with TCE and CT Detections
- Well ID - Bold When Concentration Exceeds ACL
  # Indicates: Multi-port well sampled at more than one depth with no detections.
- MP-BW-51-405 1.6 A — Concentration in µg/L and validation/lab qualifier (red indicates TCE; blue indicates CT) Bold when exceeds the ACL.
- Monitoring Well CT Not Detected
- Active Supply Well CT Not Detected
- Monitoring Well Not Sampled This Quarter
- Supply Well Not Sampled This Quarter

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

- 0.5 — Carbon tetrachloride (CT)

Approximate Extent of Landfill Areas

- OU2 Landfill Areas B through F
- Area A (clean closed)
- Roads
- Facilities
- Former Fort Ord Boundary

NOTES:

(1) Samples were collected between March 5 and 8, 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 and/or multiple ports where applicable.

(4) Supply wells FO-29, FO-30 and FO-31 have been renamed as 29(A), 30(B) and 31(C) respectively. The wells are referred to by the original names in this report for consistency.

(5) TCE is not a chemical of concern in the OUCTP Lower 180-Foot Aquifer.

CT AND TCE CONCENTRATIONS LOWER 180-FOOT/400-FOOT AQUIFERS Operable Unit Carbon Tetrachloride Plume First Quarter 2018 Groundwater Monitoring Report Former Fort Ord, California

amec foster wheeler

4/2018 | Project No. 8416181810

Figure 9

OUCTP Groundwater Sample Frequency Changes for Second Quarter 2018

Well ID	SS	Proposed Frequency Change[1]	Primary COC	Figure	Graph
A-Aquifer					
MW-BW-17-A	Q	Meets decision criteria to reduce from quarterly sampling to annual sampling[2]	CT	B-1	B-1
Upper 180-Foot Aquifer					
MP-BW-41-231	Q	Meets decision criteria to reduce from quarterly sampling to annual sampling	CT	B-2	B-2

Notes:

[1] Based on data collected through First Quarter 2018.

[2] If four consecutive quarters of monitoring data show concentrations of COCs below their respective limit of quantitations, or below 10 percent of their respective aquifer cleanup levels, whichever is greater, then an annual sampling schedule may be proposed.

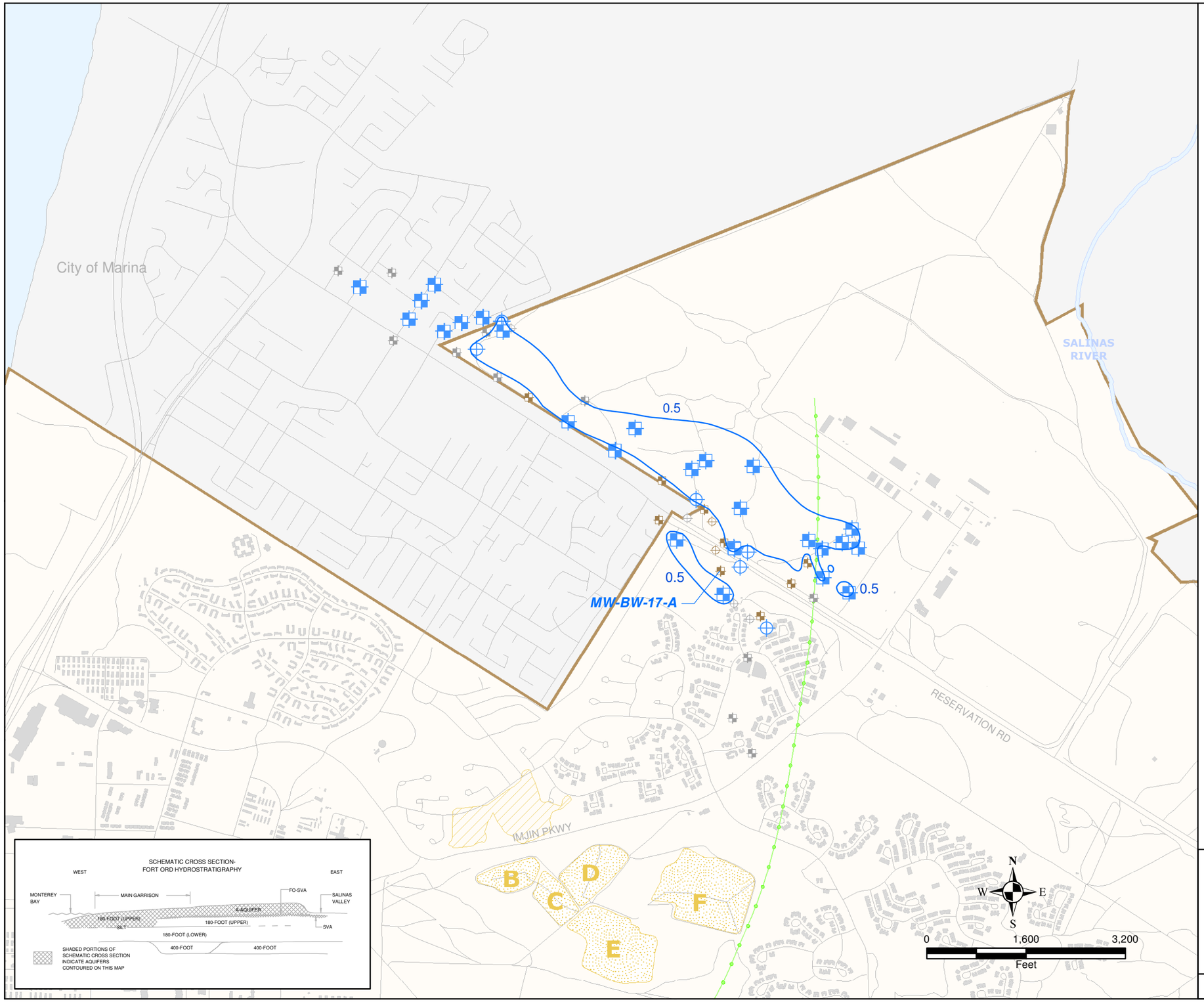
Acronyms and Abbreviations:

COC: chemical of concern

CT: carbon tetrachloride

Q: well currently sampled on a quarterly schedule

SS: sample schedule currently



EXPLANATION

- Monitoring Well with CT Detection
- Extraction Well with CT Detection
- Well ID - Bold When CT Exceeds the ACL (* Indicates: Sample result not used for contouring)
- MW-BW-88-A / 1.9 A — CT Concentration (µg/L) and validation/lab qualifier. Bold when CT exceeds the ACL.
- Monitoring Well with COC ACL Exceedance (Not CT)
- Monitoring Well CT Not Detected, and No Other COC ACL Exceedances
- 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)

Approximate Extent of Landfill Areas

- OU2 Landfill Areas B through F
- Area A (clean closed)
- Approximate Location of a Groundwater Divide
- Roads
- Facilities
- Former Fort Ord Boundary

MW-BW-17-A — Meets criteria to reduce from quarterly sampling to annual sampling as defined in the QAPP.

NOTES:

(1) Samples were collected between March 5 and 8, 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 and/or multiple ports where applicable.

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

Sample Frequency Changes
A-Aquifer
Operable Unit Carbon Tetrachloride Plume
First Quarter 2018
Groundwater Monitoring Report
Former Fort Ord, California

amec foster wheeler

Date: 4/2018

Project No. 8417190510

Figure **B-1**

Thursday, April 26, 2018 1:22:46 PM
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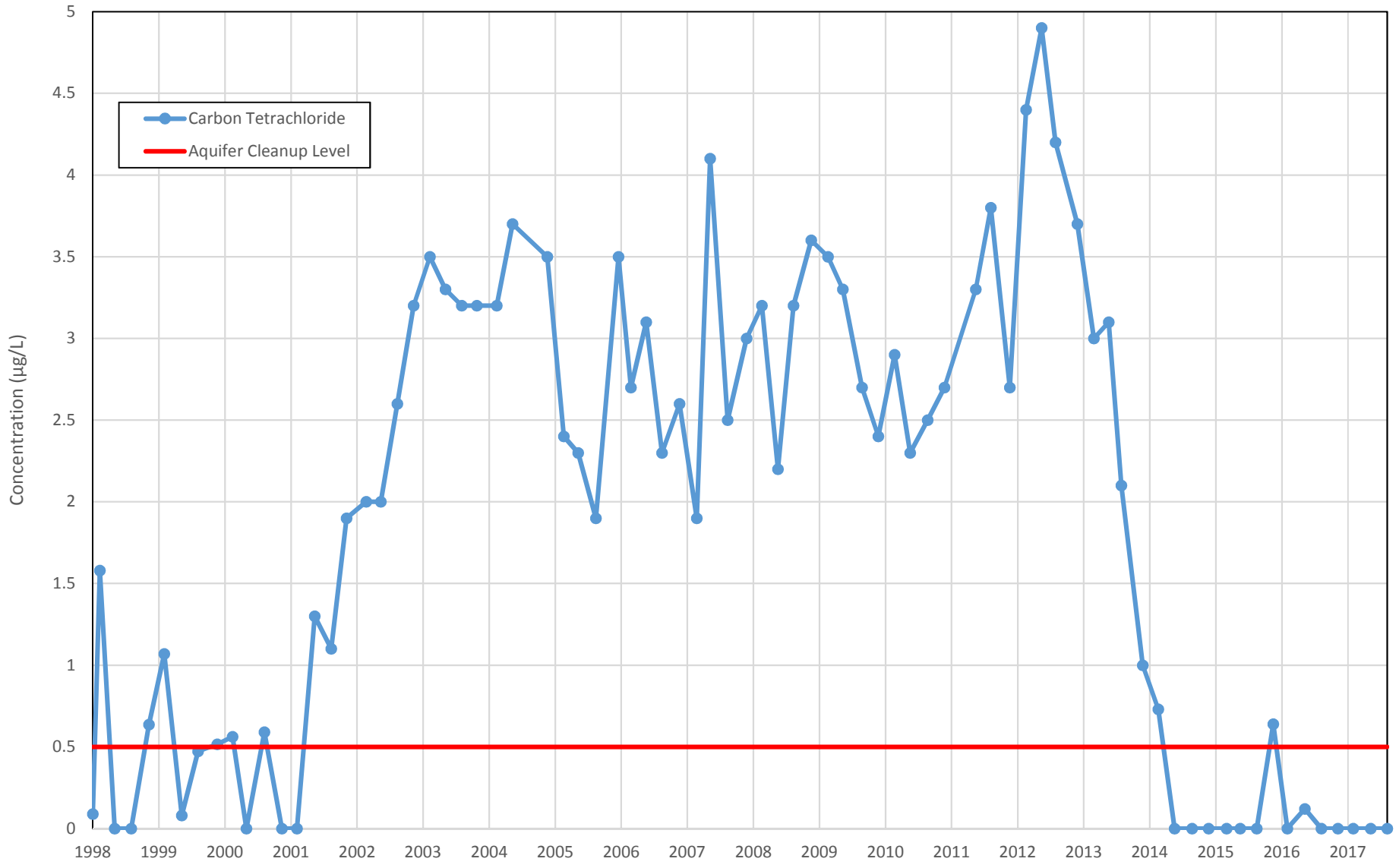

Ahtna

MW-BW-17-A CT Concentrations through First Quarter 2018

Operable Unit Carbon Tetrachloride Plume First Quarter 2018
Groundwater Monitoring Report, Former Fort Ord, California

Graph:

B-1

N
W E
S

0 1,600 3,200
Feet

City of Marina

SALINAS RIVER

1

IMJIN PKWY

RESERVATION RD

0.5

0.5

MP-BW-41-231

B C D E F

SCHEMATIC CROSS SECTION-
FORT ORD HYDROSTRATIGRAPHY

WEST EAST

MONTEREY BAY — MAIN GARRISON — FO-SVA — SALINAS VALLEY

A-AQUIFER

180-FOOT (UPPER) — SILT — 180-FOOT (UPPER) — SVA

180-FOOT (LOWER)

400-FOOT — 400-FOOT

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

EXPLANATION

- Monitoring Well with CT Detection
- Extraction Well with CT Detection
- MW-OU2-64-180 — Well ID - Bold When Concentration Exceeds the ACL (* Indicates: Sample result not used for contouring)
- 6.9 A — CT Concentration (µg/L) and validation/lab qualifier (red indicates TCE; blue indicates CT) Bold when exceeds the ACL.
- Monitoring Well CT Not Detected
- Extraction Well CT Not Detected
- Monitoring Well Not Sampled This Quarter

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

- 0.5 — Carbon tetrachloride (CT)

Approximate extent of Landfill Areas

- OU2 Landfill Areas B through F
- Area A (clean closed)
- Roads
- Facilities
- Former Fort Ord Boundary

MP-BW-41-231 Meets criteria to reduce from quarterly sampling to annual sampling as defined in the QAPP.

NOTES:

(1) Samples were collected between March 6 and 8, 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 and/or multiple ports where applicable.

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

Sampling Frequency Changes
Upper 180-Foot Aquifer
OUCTP
First Quarter 2018
Groundwater Monitoring Report
Former Fort Ord, California

amec foster wheeler

Date: 4/2018 | Project No. 8416181810

Figure **B-2**

Friday, April 27, 2018 2:11:11 PM reuben.pillsbury
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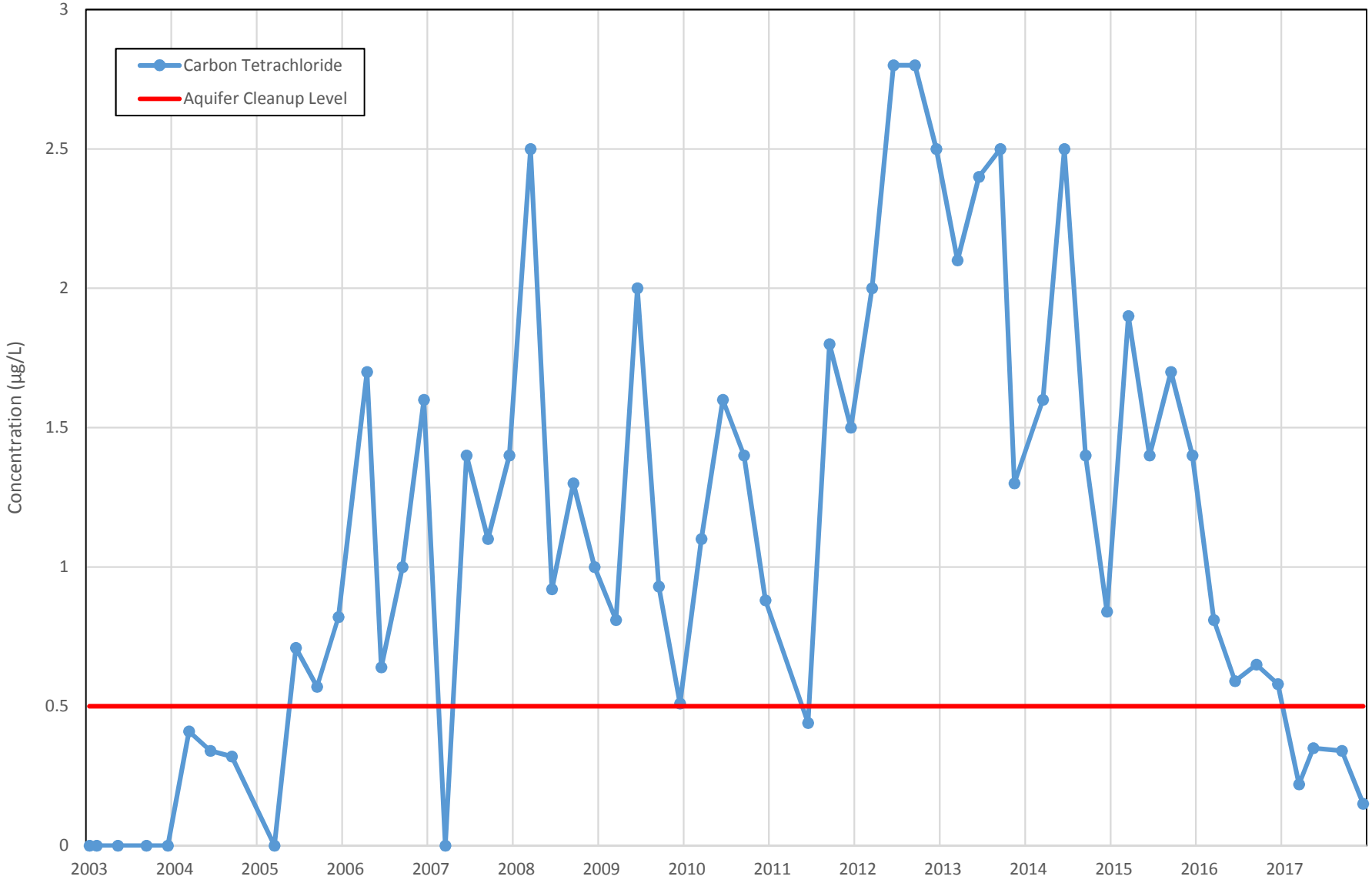


Ahtna

MP-BW-41-231 CT Concentrations through First Quarter 2018

Operable Unit Carbon Tetrachloride Plume First Quarter 2018
Groundwater Monitoring Report, Former Fort Ord, California

Graph:

B-2

Table 5: OUCTP Well Decommissioning 2018*

Well ID	Aquifer	FONR	Notes
MW-BW-62-A	A	No	Well installed in 2003. Last sampled in 2009, CT always below ACL, currently used for DTW but not needed.
MW-BW-64-A	A	No	Well installed in 2003. Last sampled in 2013, CT below ACL since 2006, currently used for DTW but not needed.
MW-BW-68-A	A	No	Well installed in 2004. SVE well not screened in aquifer, not sampled or used for DTW.
MW-BW-69-A	A	No	Well installed in 2004. SVE well not screened in aquifer, not sampled or used for DTW.
MW-BW-70-A	A	No	Well installed in 2004. SVE well not screened in aquifer, not sampled or used for DTW.
MW-BW-20-180	Upper 180	No	Well installed in 1998. Last sampled in 2003, CT always ND, currently used for DTW but not needed.
MW-BW-22-180	Upper 180	No	Well installed in 1998. Last sampled in 2009, CT ND since 2006, currently used for DTW but not needed.
MW-BW-29-180	Upper 180	Yes	Well installed in 2000. Last sampled in 2009, CT always below ACL, currently used for DTW but not needed.

Table 6: OUCTP Well Installation 2018

Tentative Well ID	Aquifer	FONR	Notes
MW-BW-93-A	A	Yes	Location may be adjusted due to presence of sensitive plant species
MW-BW-94-A	A	Yes	Location may be adjusted due to presence of sensitive plant species
MW-BW-95-A	A	Yes	Location may be adjusted due to presence of sensitive plant species
MW-BW-57-180	Upper 180	No	
MW-BW-58-180	Upper 180	No	
MW-BW-59-180	Lower 180	No	

Notes:
* Sampling no longer conducted and water levels unnecessary as listed in the OUCTP Annual Report.
ACL: aquifer cleanup level
CT: carbon tetrachloride
DTW: depth to water
FONR: Fort Ord Natural Reserve
SVE: soil vapor extraction

MW-BW-24-A
EW-BW-120-A
MW-BW-25-A
EW-BW-119-A
EW-BW-116-A
EW-BW-115-A
IW-BW-114-A
EW-BW-159-A
EW-BW-113-A
EW-BW-112-A
IW-BW-111-A
IW-BW-110-A
EW-BW-108-A
EW-BW-109-A
IW-BW-105-A
EW-BW-106-A
EW-BW-104-A
MW-BW-55-A
MW-BW-53-A
EW-BW-101-A
EW-BW-100-A
IW-BW-103-A
IW-BW-158-A
EW-BW-98-A
MW-BW-52-A
EW-BW-102-A
IW-BW-99-A
EW-BW-97-A
EW-BW-97-A
IW-BW-96-A
EW-BW-95-A
IW-BW-94-A
MW-BW-23-A
EW-BW-92-A
EW-BW-93-A
EW-BW-91-A
MW-BW-71-A
IW-BW-89-A
IW-BW-90-A
IW-BW-88-A
MW-BW-69-A
EW-BW-87-A
EW-BW-85-A
MW-BW-64-A
EW-BW-86-A
MW-BW-63-A
MW-BW-62-A
MW-BW-70-A
MW-BW-50-A
IW-BW-161-A
IW-BW-160-A
MW-BW-85-A
IW-BW-159-A
MW-BW-56-A
MW-BW-54-A
MW-BW-51-A
60
70
17TH REGIMENT CT
BAILEY CT
WITTENMYER CT
BANDHOLTZ CT
WAHL CT
MACARTHUR DR
SAN PABLO CT
KUMWHA CT
31ST REGIMENT CT
HORN CT
PRESTON DR
32ND REGIMENT CT
BARTH CT
ABRAMS DR
BAYONET CT
BAYONET CIR
CARPENTER CT
DEVERS CT
BROSTROM DR
LEXINGTON CT
BROWN CT
LANDRUM CT
ARNOLD CT
STEWART CT
READY CT
IMJIN PKWY
RESERVATION RD
BIKE LANE

Legend

- Groundwater Divide
- Carbon Tetrachloride (0.5 ug/L) 2017-4Q
- Groundwater (ft MSL) 2017-4Q
- Roads
- OU2 Landfills
- Buildings
- Former Fort Ord Boundary

A-Aquifer Well Types

- EISB Extraction Well
- Multi-Port Well (Westbay)
- Monitoring Well
- Monitoring Well - To Decommission

OUCTP EISB Wells

- Extraction Well
- Injection Well
- SVE Well - To Decommission

0 140 280 560 Feet

N

OUCTP A-Aquifer Monitoring Well and Soil Vapor Extraction Well Decommissioning Locations

Well Decommissioning
Work Plan
Former Fort Ord, California

Ahtna

Figure: 4

MW-BW-54-180
MP-BW-37
MP-BW-30
MW-BW-26-180
MP-BW-32
MW-BW-29-180
MW-BW-55-180
MW-BW-43-180
MW-BW-20-180
MW-BW-21-180
MP-BW-33
MW-BW-22-180
MP-BW-35
MW-BW-44-180
MW-BW-45-180
MP-BW-46
MW-BW-53-180
MW-BW-52-180
MW-BW-47-180
MW-BW-51-180
MP-BW-42
ANDREW CIR
DIANA PL
LYNSCOTT DR
EDNA CT
LELIA PL
CRIVELLO RD
FOREST CIR
BAYER ST
MARSAN CT
LAVELL CT
ALBERT WAY
BAYER CT
ELLIS CT
SALINAS AVE
CARMEL AVE
LEWIS PL
BARRET LN
BAYER AVE
ALEXIS CT
BOSTICK AVE
BAYER DR
RIDGEVIEW AVE
NEESON RD
E ST
RESERVATION RD
MARINA PUBLIC AIRFIELD
IMJIN PKWY
17TH REGIMENT CT
WITTENMYER CT
BAILEY CT
BANDHOLTZ CT
BROWN CT
LANDRUM CT
WAHL CT
MACARTHUR DR
VINEYARD CT
SAN PABLO CT
KUMWHA CT
FREEDOM CT
31ST REGIMENT CT
HORN CT
PRESTON DR
ARNOLD CT
STEWART CT
READY CT
CHOSIN CT
32ND REGIMENT CT
BARTH CT
ABRAMS DR
BAYONET CT
BAYONET CIR
-10

Legend

- Roads
- Carbon Tetrachloride (0.5 ug/L) 2017-4Q
- Groundwater Elevation (ft MSL) 2017-4Q
- Former Fort Ord Boundary
- Buildings

OUCTP Upper 180-Foot Aquifer Well Type

- Extraction Well
- Monitoring Well
- Multi-Port Well (Westbay)
- Monitoring Well - To Decommission

N

0 250 500 1,000 Feet

OUCTP Upper 180-Foot Aquifer Monitoring Well Decommissioning Locations

Well Decommissioning
Work Plan
Former Fort Ord, California

Ahtna

Figure: 5

MW-BW-95-A
MW-40-01-A
MW-BW-92-A
MW-BW-32-A
MW-BW-89-A
MW-BW-31-A
MW-BW-93-A
EW-BW-155-A
MW-BW-27-A
MW-BW-28-A
MW-BW-94-A
MW-BW-30-A
EW-BW-149-A
MW-BW-90-A
EW-BW-150-A
EW-BW-144-A
MW-BW-88-A
MW-BW-26-A
MW-BW-15-A
MW-BW-87-A
MW-BW-86-A
MW-B-14-A
EW-BW-135-A
EW-BW-132-A
EW-BW-165-A
EW-BW-163-A
MW-BW-16-A
EW-BW-162-A
EW-BW-167-A
EW-BW-126-A
EW-BW-160-A
EW-BW-168-A
MW-BW-17-A
EW-BW-161-A
MW-BW-18-A
MW-BW-85-A
MW-BW-57-A
MW-BW-24-A
MW-BW-56-A
MW-BW-25-A
EW-BW-159-A
MP-BW-46
EW-BW-119-A
MW-BW-54-A
EW-BW-109-A
EW-BW-104-A
50
60
70
NEESON RD
RESERVATION RD
MARINA
D ST
E ST
C ST
B ST
IMJIN PKWY
BIKE LANE
17TH REGIMENT CT
WITTENMYER CT
BANDHOLTZ CT
BAILEY CT
BROWN CT

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Groundwater Divide
- Groundwater Elevation (ft MSL) 2017-4Q
- Carbon Tetrachloride (0.5 ug/L) 2017-4Q
- Roads
- FONR Boundary
- Existing Wells
- Proposed Well Location
- Access Routes
- Staging Areas

N

0 250 500 1,000 Feet

OUCTP A-Aquifer
New Monitoring Well Locations

Well Installation
Work Plan
Former Fort Ord, California

Ahtna

Figure:
3

Legend

Well Type

- Existing Extraction Well
- Existing Multi-Port Well
- Existing Monitoring Well
- Proposed Well Location
- Carbon Tetrachloride (0.5 ug/L) 2017-4Q
- Groundwater Elevation (ft MSL) 2017-4Q
- Roads
- FONR Boundary
- Staging Area
- Access Route

N

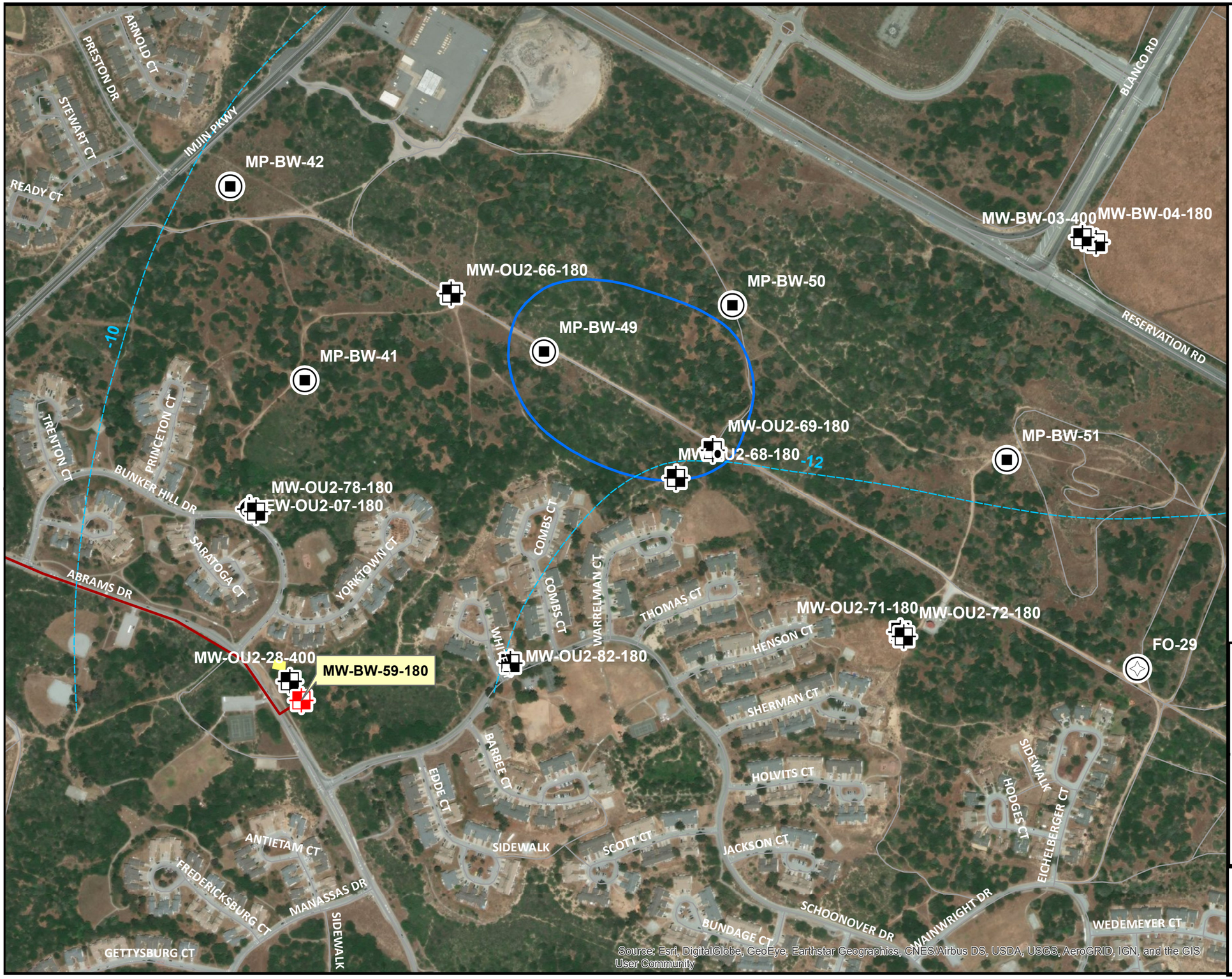
0 250 500 1,000 Feet

OUCTP Upper 180-Foot Aquifer
New Monitoring Well Locations

Well Installation
Work Plan
Former Fort Ord, California

Ahtna

Figure:
4



Legend

- Roads
- Groundwater Elevation (ft MSL) 2017-4Q
- Carbon Tetrachloride (0.5 ug/L) 2017-4Q

Well Type

- Existing Extraction Well
- Existing Supply Well
- Existing Multi-Port Well
- Existing Monitoring Well
- Proposed Well Location
- Staging Area
- Access Route

N

0 245 490 980 Feet

OUCTP Lower 180-Foot Aquifer
New Monitoring Well Location

Well Installation
Work Plan
Former Fort Ord, California

Ahtna

Figure: **5**