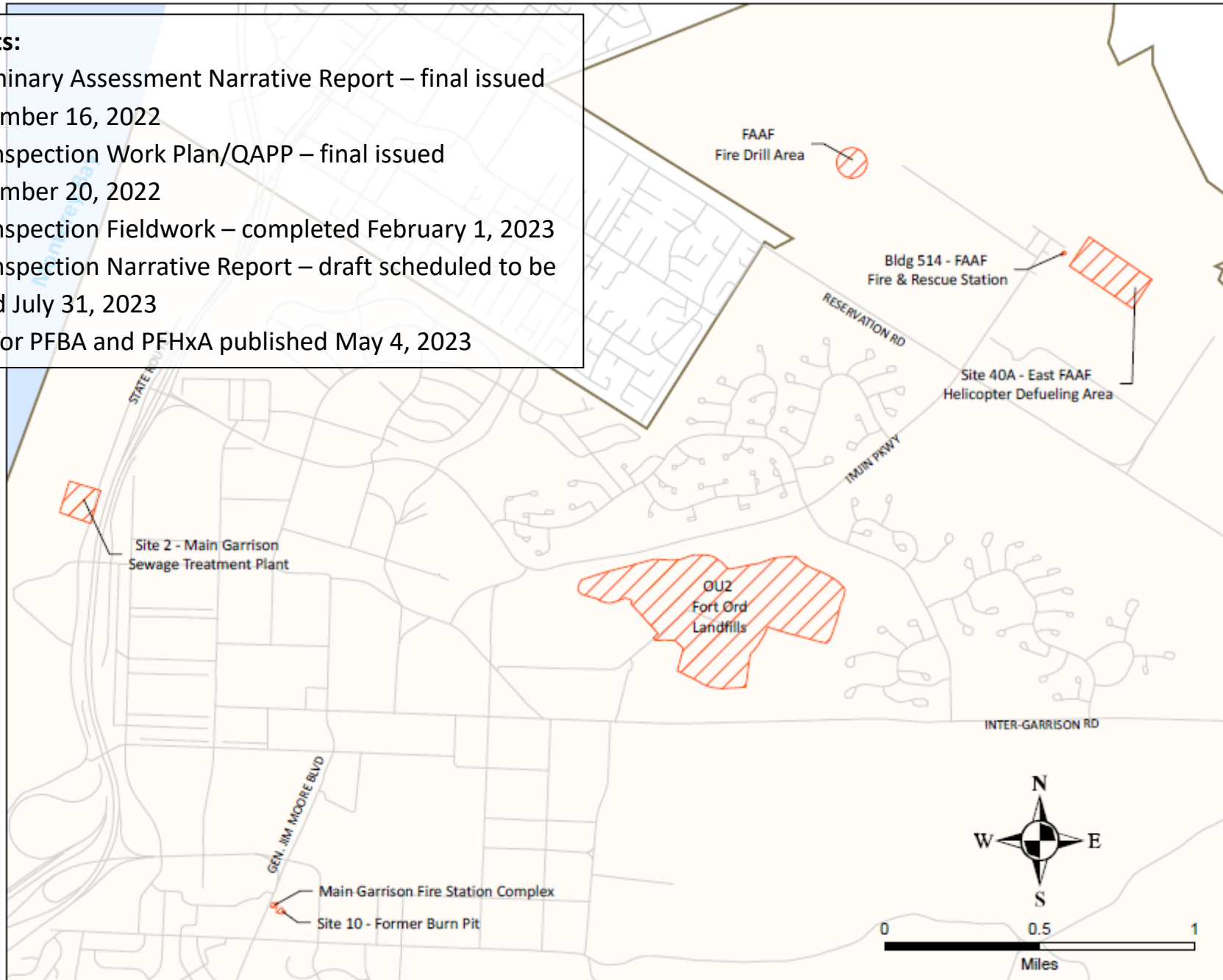


Per- and Polyfluoroalkyl Substances (PFAS) Preliminary Assessment/Site Inspection

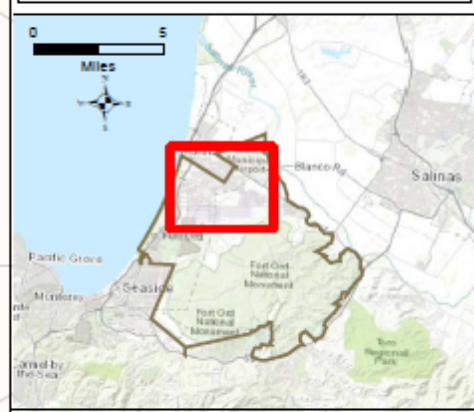
- Key Events:**
- Preliminary Assessment Narrative Report – final issued September 16, 2022
 - Site Inspection Work Plan/QAPP – final issued September 20, 2022
 - Site Inspection Fieldwork – completed February 1, 2023
 - Site Inspection Narrative Report – draft scheduled to be issued July 31, 2023
 - RSLs for PFBA and PFHxA published May 4, 2023



EXPLANATION

- Site Sites (Red hatched box)
- Former Fort Ord boundary (Brown outline)
- Roads (Grey lines)

NOTES:
Main Garrison Fire Station Complex = Bldgs 4400, 4401, and 5-4403
ACRONYMS/ABBREVIATIONS:
OU2 = Operable Unit 2
FAAF = Fritzsche Army Airfield (Marina Municipal Airport)



SITE LOCATION MAP
PFAS Site Inspection Narrative Report
Former Fort Ord, California

Table 1: Screening Levels for PFAS in Soil and Groundwater

Compound	Residential Scenario PSLs/RSLs				Industrial/Commercial Composite Worker PSLs/RSLs	
	Tap Water (µg/L)		Soil (µg/kg)		Soil (µg/kg)	
	HQ = 1.0	HQ = 0.1	HQ = 1.0	HQ = 0.1	HQ = 1.0	HQ = 0.1
Perfluorooctanesulfonic acid (PFOS)	0.04	0.004	130	13	1,600	160
Perfluorooctanoic acid (PFOA)	0.06	0.006	190	19	2,500	250
Perfluorobutanesulfonic acid (PFBS)	6.01	0.601	19,000	1,900	250,000	25,000
Perfluorononanoic acid (PFNA)	0.059	0.006	190	19	2,500	250
Perfluorohexanesulfonic acid (PFHxS)	0.394	0.039	1,300	130	16,000	1,600
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0.06	0.006	230	23	3,500	350
Perfluorobutanoic acid (PFBA)*	18	1.8	78,000	7,800	1,200,000	120,000
Perfluorohexanoic acid (PFHxA)*	9.9	0.99	32,000	3200	410,000	41,000

Notes:

µg/kg = micrograms per kilogram

µg/L = micrograms per liter

HQ = Hazard Quotient

PSL = Project Screening Level

RSL = Regional Screening Level

*RSL only, no published PSL

Tap Water PSLs/RSLs applied to groundwater potentially used as drinking water.

PSLs/RSLs based on residential and industrial/commercial worker receptor scenarios for either direct ingestion of groundwater (residential scenario only) or incidental ingestion of soil (both residential and composite worker scenarios).

If multiple PFAS are encountered at a site, a 0.1 factor is applied to the screening level.



Table 2: Quality Control and IDW Analytical Results

Samples	PFOA	PFNA	PFBS	PFHxS	PFOS	HFPO-DA	PFBA	PFHxA	Other PFAS Detected
Equipment and Field Blanks	ND	ND	ND	ND	ND	ND	ND	ND	0
Potable water (OU2 GWTP)	ND	ND	ND	ND	ND	ND	ND	ND	0
IDW Stockpile 1 (soil from all other sites)	1.4 µg/kg	1.2 µg/kg	ND	1.7 µg/kg	31.9 J µg/kg	ND	ND	1.5 µg/kg	11
IDW Stockpile 2 (soil from MW-10-07-180)	ND	ND	ND	ND	ND	ND	ND	ND	0
IDW (soil from MW-40A-01-A)	ND	ND	ND	ND	ND	ND	ND	ND	0

Notes:

µg/kg = micrograms per kilogram

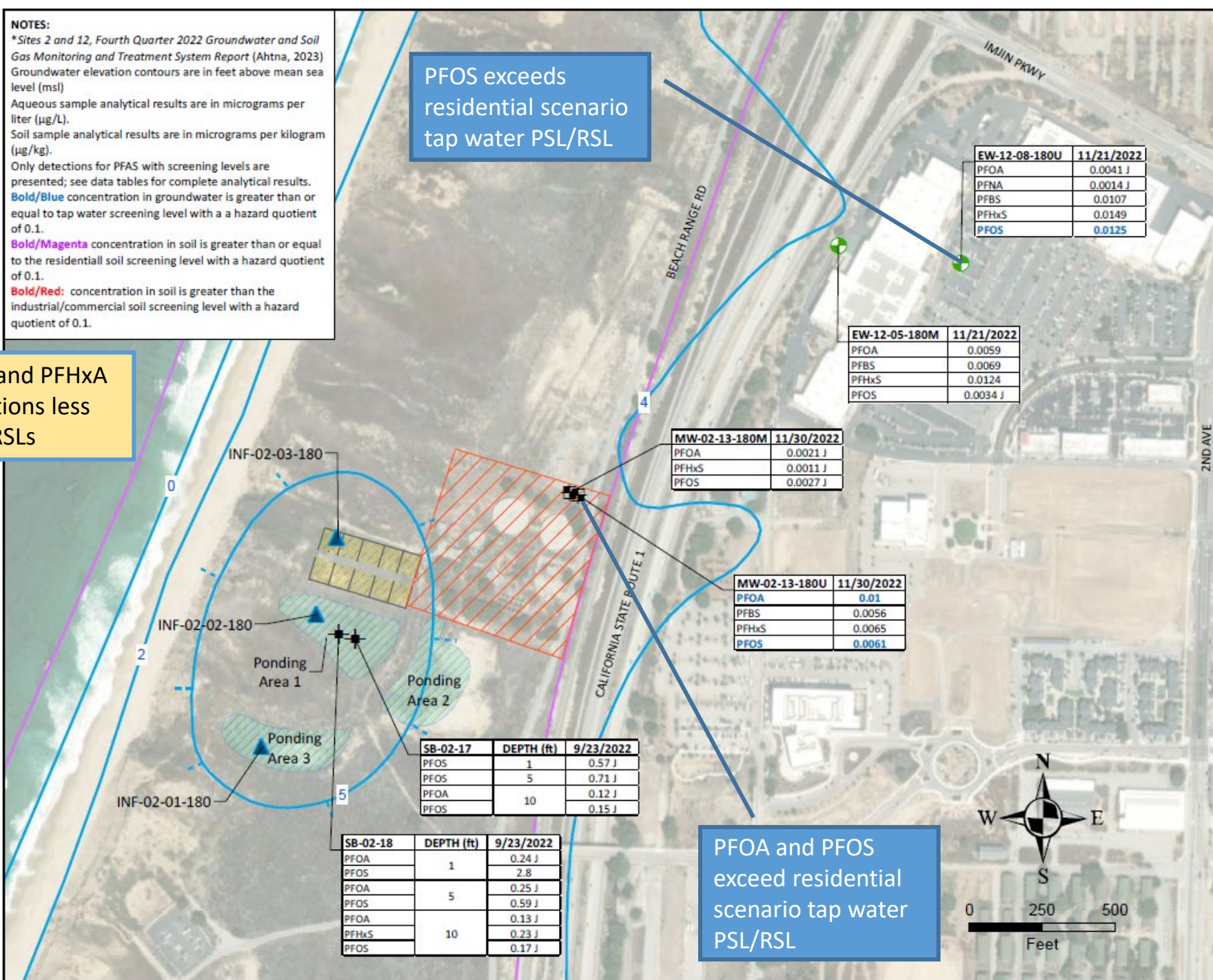
If multiple PFAS are encountered at a site, a 0.1 factor is applied to the screening level.

NOTES:
 *Sites 2 and 12, Fourth Quarter 2022 Groundwater and Soil Gas Monitoring and Treatment System Report (Ahtna, 2023)
 Groundwater elevation contours are in feet above mean sea level (msl)
 Aqueous sample analytical results are in micrograms per liter (µg/L).
 Soil sample analytical results are in micrograms per kilogram (µg/kg).
 Only detections for PFAS with screening levels are presented; see data tables for complete analytical results.
Bold/Blue concentration in groundwater is greater than or equal to tap water screening level with a hazard quotient of 0.1.
Bold/Magenta concentration in soil is greater than or equal to the residential soil screening level with a hazard quotient of 0.1.
Bold/Red: concentration in soil is greater than the industrial/commercial soil screening level with a hazard quotient of 0.1.

PFBA and PFHxA detections less than RSLs

PFOS exceeds residential scenario tap water PSL/RSL

PFOA and PFOS exceed residential scenario tap water PSL/RSL



EW-12-08-180U	11/21/2022
PFOA	0.0041 J
PFNA	0.0014 J
PFBS	0.0107
PFHxS	0.0149
PFOS	0.0125

EW-12-05-180M	11/21/2022
PFOA	0.0059
PFBS	0.0069
PFHxS	0.0124
PFOS	0.0034 J

MW-02-13-180M	11/30/2022
PFOA	0.0021 J
PFHxS	0.0011 J
PFOS	0.0027 J

MW-02-13-180U	11/30/2022
PFOA	0.01
PFBS	0.0056
PFHxS	0.0065
PFOS	0.0061

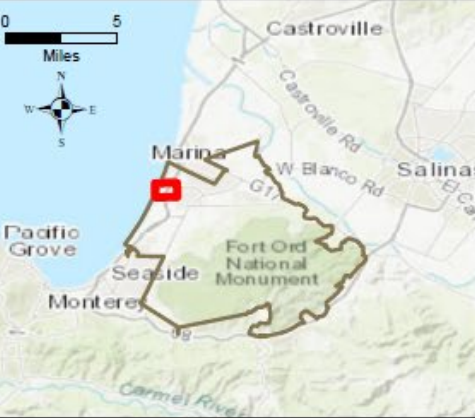
SB-02-17	DEPTH (ft)	9/23/2022
PFOS	1	0.57 J
PFOS	5	0.71 J
PFOA	10	0.12 J
PFOS	10	0.15 J

SB-02-18	DEPTH (ft)	9/23/2022
PFOA	1	0.24 J
PFOS	1	2.8
PFOA	5	0.25 J
PFOS	5	0.59 J
PFOA	10	0.13 J
PFHxS	10	0.23 J
PFOS	10	0.17 J

EXPLANATION

- SI Sites
- Groundwater Elevation, Unconfined Upper 180-Foot Aquifer*
- Former Sludge Drying Beds
- Ponding Area
- Fort Ord Dunes State Park
- Infiltration well
- Sampled Location**
- Operating extraction well
- Monitoring well
- Soil boring

ACRONYMS/ABBREVIATIONS:
 PFOA = perfluorooctanoic acid
 PFNA = perfluorononanoic acid
 PFBS = perfluorobutanesulfonic acid
 PFHxS = perfluorohexanesulfonic acid
 PFOS = perfluorooctanesulfonic acid



SAMPLING LOCATIONS AND ANALYTICAL RESULTS
 SITE 2 - MAIN GARRISON
 SEWAGE TREATMENT PLANT
 PFAS Site Inspection Narrative Report
 Former Fort Ord, California

PFOS exceeds industrial scenario soil PSL/RSL

PFBA and PFHxA detections less than soil RSLs

PFOS exceeds residential scenario soil PSL/RSL

Site 10: all detections less than soil PSLs/RSLs

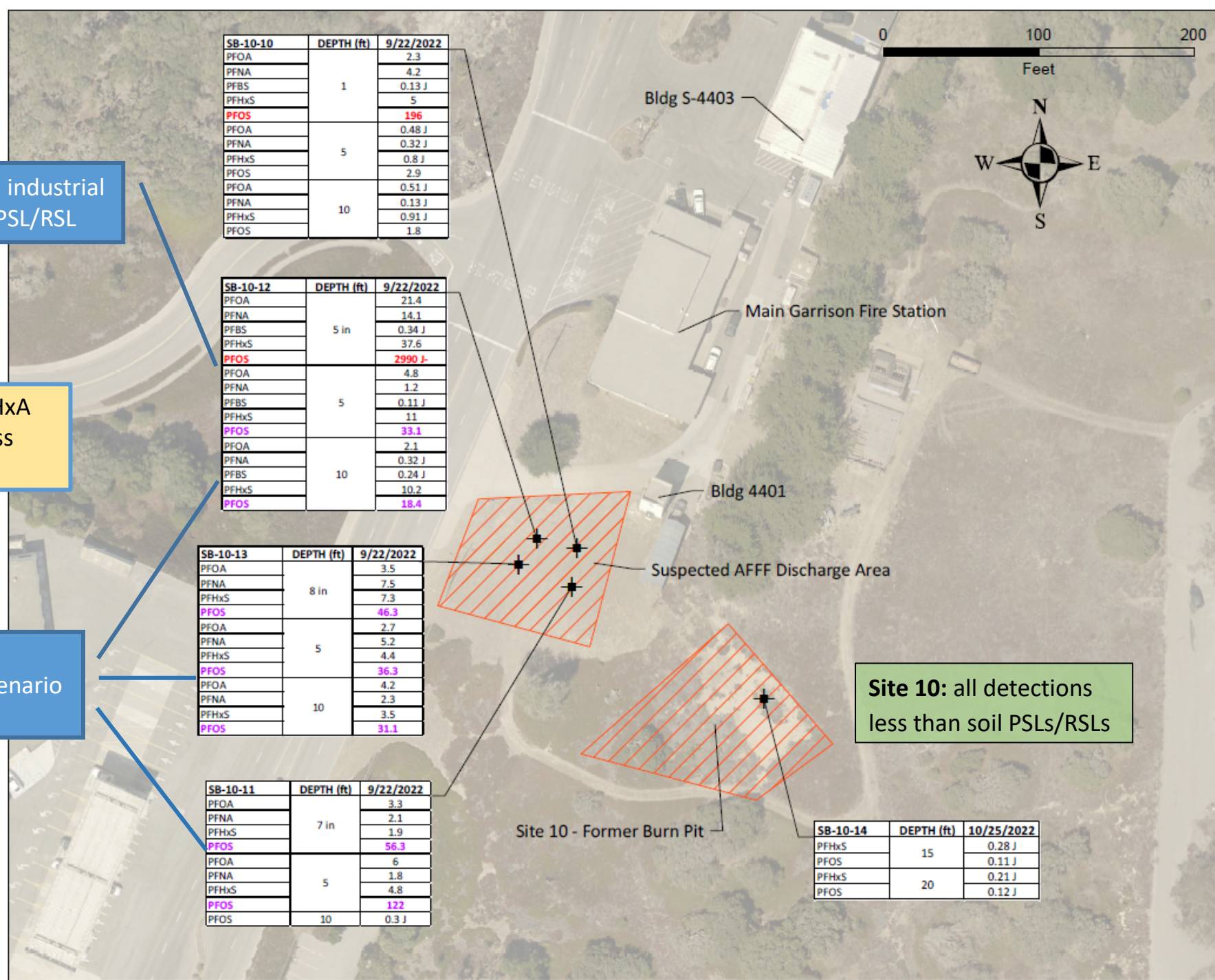
SB-10-10	DEPTH (ft)	9/22/2022
PFOA	1	2.3
PFNA		4.2
PFBS		0.13 J
PFHxS	5	5
PFOS		196
PFOA		0.48 J
PFNA	10	0.32 J
PFHxS		0.8 J
PFOS		2.9
PFOA	5	0.51 J
PFNA		0.13 J
PFHxS		0.91 J
PFOS	10	1.8

SB-10-12	DEPTH (ft)	9/22/2022
PFOA	5 in	21.4
PFNA		14.1
PFBS		0.34 J
PFHxS	5	37.6
PFOS		2990 J
PFOA		4.8
PFNA	10	1.2
PFBS		0.11 J
PFHxS		11
PFOS	5	33.1
PFOA		2.1
PFNA		0.32 J
PFBS	10	0.24 J
PFHxS		10.2
PFOS		18.4

SB-10-13	DEPTH (ft)	9/22/2022
PFOA	8 in	3.5
PFNA		7.5
PFHxS		7.3
PFOS	5	46.3
PFOA		2.7
PFNA		5.2
PFHxS	10	4.4
PFOS		36.3
PFOA		4.2
PFNA	5	2.3
PFHxS		3.5
PFOS		31.1

SB-10-11	DEPTH (ft)	9/22/2022
PFOA	7 in	3.3
PFNA		2.1
PFHxS		1.9
PFOS	5	56.3
PFOA		6
PFNA		1.8
PFHxS	10	4.8
PFOS		122
PFOS		0.3 J

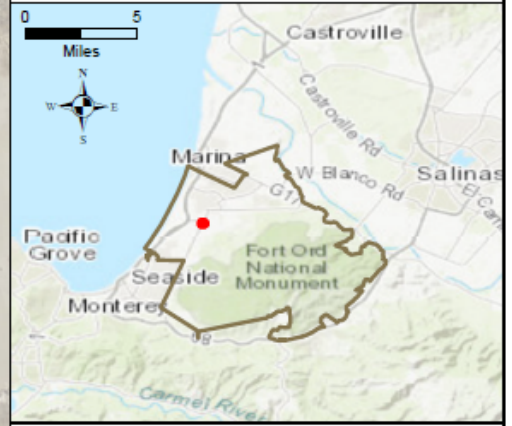
SB-10-14	DEPTH (ft)	10/25/2022
PFHxS	15	0.28 J
PFOS		0.11 J
PFHxS	20	0.21 J
PFOS		0.12 J



EXPLANATION

- SI Sites
- Sampled Location
- Soil boring

NOTES:
 Soil sample analytical results are in micrograms per kilogram (µg/kg).
 Only detections for PFAS with screening levels are presented; see data tables for complete analytical results.
Bold/Magenta concentration in soil is greater than or equal to the residential soil screening level with a hazard quotient of 0.1.
Bold/Red: concentration in soil is greater than the industrial/commercial soil screening level with a hazard quotient of 0.1.
ACRONYMS/ABBREVIATIONS:
 PFOA = perfluorooctanoic acid
 PFNA = perfluorononanoic acid
 PFBS = perfluorobutanesulfonic acid
 PFHxS = perfluorohexanesulfonic acid
 PFOS = perfluorooctanesulfonic acid
 AFFF = Aqueous Film Forming Foam



SAMPLING LOCATIONS AND ANALYTICAL RESULTS
SITE 10 AND MAIN GARRISON FIRE STATION
 PFAS Site Inspection Narrative Report
 Former Fort Ord, California

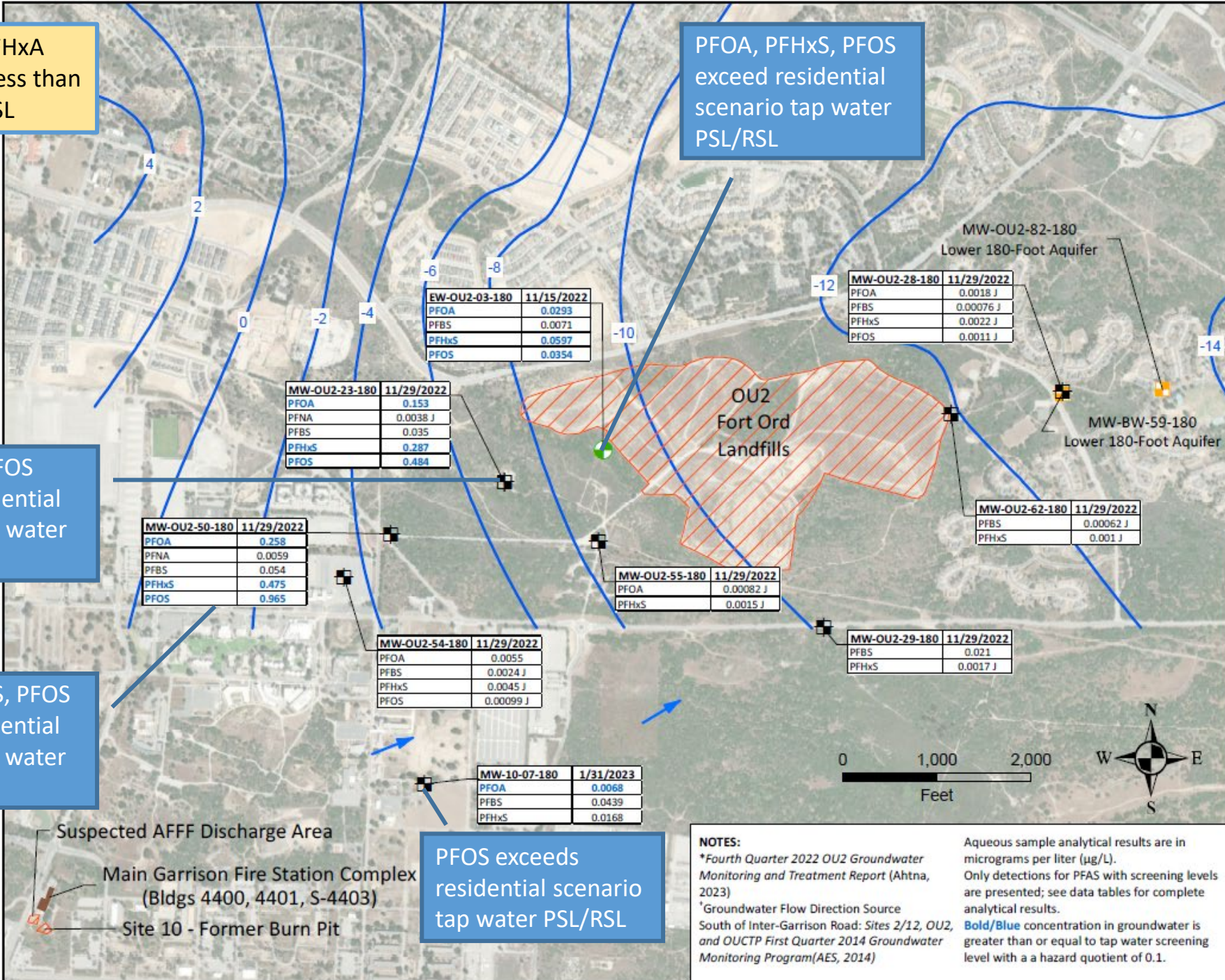
PFBA and PFHxA detections less than tap water RSL

PFOA, PFHxS, PFOS exceed residential scenario tap water PSL/RSL

PFOA and PFOS exceed residential scenario tap water PSL/RSL

PFOA, PFHxS, PFOS exceed residential scenario tap water PSL/RSL

PFOS exceeds residential scenario tap water PSL/RSL



EXPLANATION

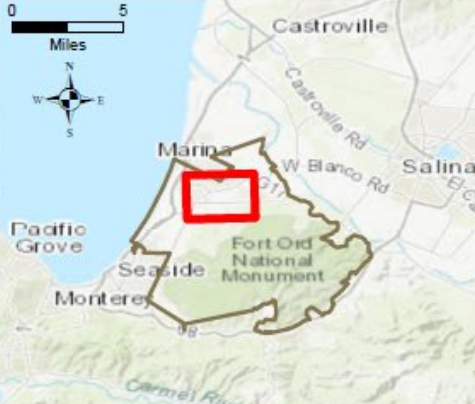
- SI Sites
- Groundwater Elevation, Upper 180-Foot Aquifer*
- General Upper 180-Foot Aquifer Groundwater Flow Direction*

Sampled Location

- Operating extraction well
- Monitoring well - Upper 180-Foot Aquifer
- Monitoring well - Lower 180/400-Foot Aquifer (Figure 21)

ACRONYMS/ABBREVIATIONS:

OU2 = Operable Unit 2 (Fort Ord Landfills)
 PFOA = perfluorooctanoic acid
 PFNA = perfluorononanoic acid
 PFBS = perfluorobutanesulfonic acid
 PFHxS = perfluorohexanesulfonic acid
 PFOS = perfluorooctanesulfonic acid



Suspected AFFF Discharge Area
 Main Garrison Fire Station Complex (Bldgs 4400, 4401, S-4403)
 Site 10 - Former Burn Pit

NOTES:

*Fourth Quarter 2022 OU2 Groundwater Monitoring and Treatment Report (Ahtna, 2023)
 *Groundwater Flow Direction Source South of Inter-Garrison Road: Sites 2/12, OU2, and OUCTP First Quarter 2014 Groundwater Monitoring Program(AES, 2014)

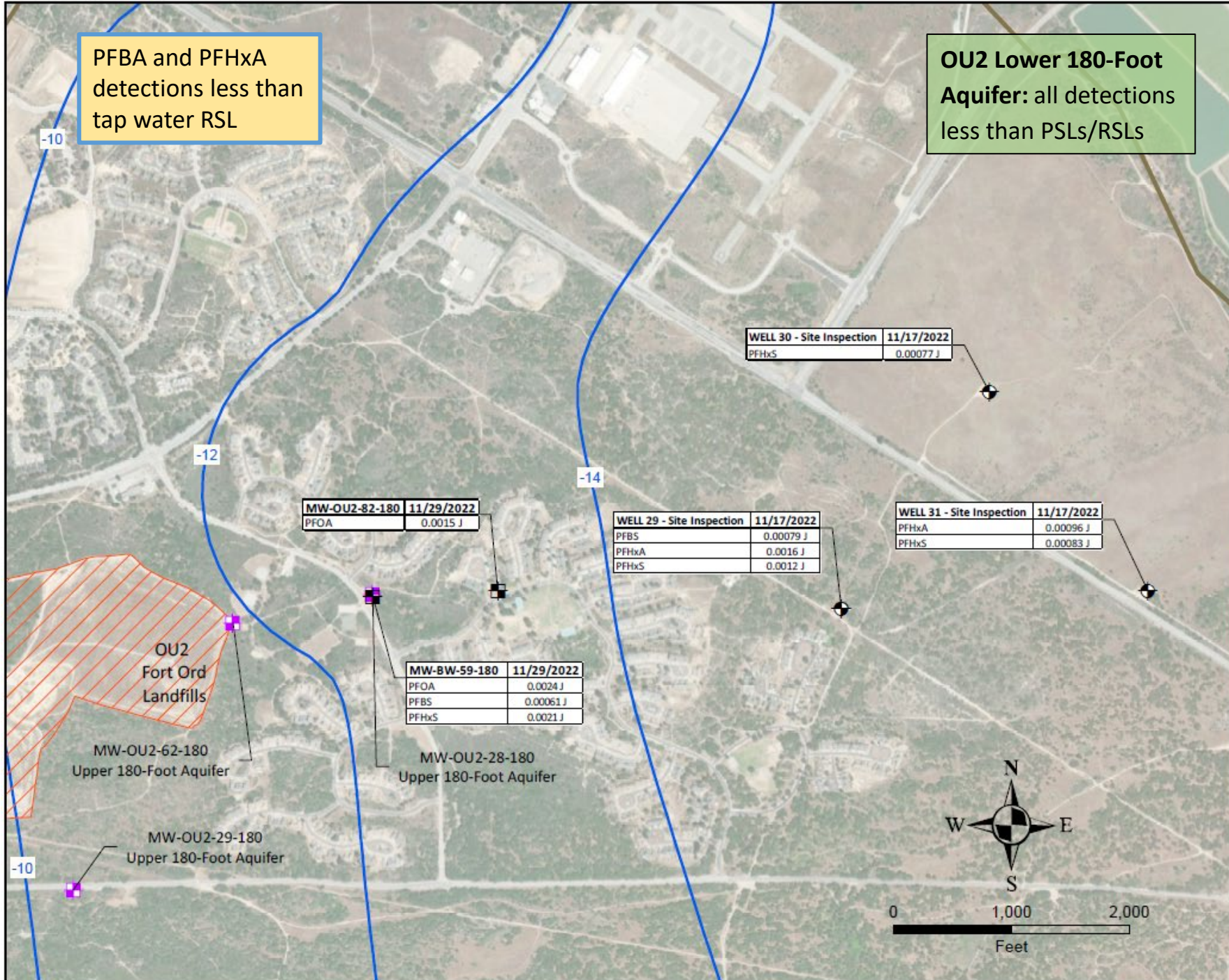
Aqueous sample analytical results are in micrograms per liter (µg/L). Only detections for PFAS with screening levels are presented; see data tables for complete analytical results.
Blue concentration in groundwater is greater than or equal to tap water screening level with a hazard quotient of 0.1.

SAMPLING LOCATIONS AND ANALYTICAL RESULTS

SITE 10 AND OU2
 UPPER 180-FOOT AQUIFER
 PFAS Site Inspection Narrative Report
 Former Fort Ord, California

PFBA and PFHxA
detections less than
tap water RSL

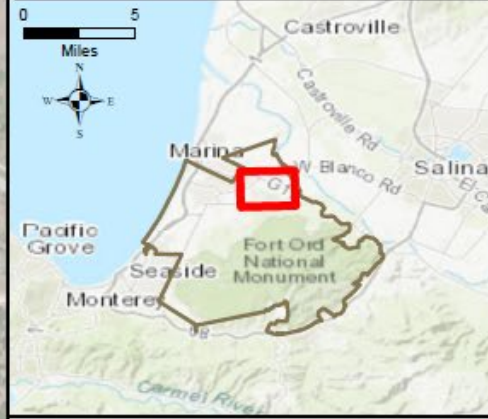
OU2 Lower 180-Foot
Aquifer: all detections
less than PSLs/RSLs



EXPLANATION

- Groundwater elevation, Lower 180/400-Foot Aquifer*
- SI Sites
- Former Fort Ord Boundary
- Sampled Location**
- Marina Coast Water District Supply well
- Monitoring well - Lower 180-Foot Aquifer
- Monitoring well - Upper 180-foot aquifer (Figure 20)

NOTES:
 *Operable Unit Carbon Tetrachloride Plume Fourth Quarter 2022 Groundwater Monitoring Report (Ahtna, 2023)
 Aqueous sample analytical results are in micrograms per liter (µg/L).
 Only detections for PFAS with screening levels are presented; see data tables for complete analytical results.
Bold/Blue concentration in groundwater is greater than or equal to tap water screening level with a a hazard quotient of 0.1.
ACRONYMS/ABBREVIATIONS:
 OU2 = Operable Unit 2 (Fort Ord Landfills)
 PFOA = perfluorooctanoic acid
 PFNA = perfluorononanoic acid
 PFBS = perfluorobutanesulfonic acid
 PFHxA = Perfluorohexanoic acid
 PFHxS = perfluorohexanesulfonic acid



SAMPLING LOCATIONS AND ANALYTICAL RESULTS
 OU2
 LOWER 180/400-FOOT AQUIFERS
 PFAS Site Inspection Narrative Report
 Former Fort Ord, California

SB-40A-07 (AQ)	DEPTH (ft)	9/25/2022
PFOA	86.8	0.0581 J-
PFNA		0.0041 J
PFBS		0.0092 J-
PFHxS		0.0682 J-
PFOS		0.0526 J-

SB-40A-07 (SO)	DEPTH (ft)	9/25/2022
PFOA	30	0.96 J
PFNA		0.26 J
PFHxS	65	0.54 J
PFOS		2.2
PFOA	86.8	2.8
PFNA		0.85 J
PFHxS		1.8
PFOS		16.3
PFOA		0.62 J
PFBS	0.27 J	
PFHxS	1.4	
PFOS	0.21 J	

SB-40A-04	DEPTH (ft)	9/20/2022
PFOA	1	1.7
PFNA		2
PFHxS		0.58 J
PFOA	5	3.2
PFNA		6.6
PFHxS	10	1.3
PFOS		203
PFOA	10	2.8
PFNA		2.4
PFHxS		1.5
PFOS	34.7	

MW-40A-02-A	11/30/2022
PFOA	1.88 J-
PFBS	0.778 J-
PFHxS	4.56 J-
PFOS	0.162 J

SB-40A-03	DEPTH (ft)	9/21/2022
nd for all PFAS at all depths		

MW-40A-01-A	11/30/2022
PFOA	1.34 J-
PFNA	0.0386 J-
PFBS	0.366 J-
PFHxS	17.8 J-
PFOS	19 J-

SB-40A-02	DEPTH (ft)	9/20/2022
PFOS	1	0.17 J
PFOS	5	0.17 J
PFOS	10	0.11 J

SB-40A-01	DEPTH (ft)	9/22/2022
PFOS	1	0.11 J

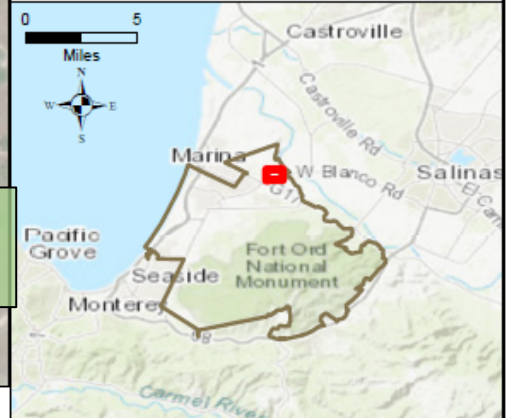
EXPLANATION

- Surface water flow
- Drainage channel
- SI Sites
- Sampled Location
- Monitoring well
- Soil boring

NOTES:
 Fourth Quarter 2022 OU2 Groundwater Monitoring and Treatment Report (Ahtna, 2023)
 Aqueous sample analytical results are in micrograms per liter (µg/L).
 Soil sample analytical results are in micrograms per kilogram (µg/kg).

PFAS with screening levels are presented; complete analytical results are not shown. Concentration in groundwater is greater than or equal to the screening level with a hazard quotient of 1.0 or greater.
 Concentration in soil is greater than or equal to the residential soil screening level with a hazard quotient of 0.1.

Bold/Red: concentration in soil is greater than the industrial/commercial soil screening level with a hazard quotient of 0.1.



SAMPLING LOCATIONS AND ANALYTICAL RESULTS
 FAAF AREA
 PFAS Site Inspection Narrative Report
 Former Fort Ord, California

PFOA, PFNA, PFHxS, PFOS, exceed residential scenario tap water PSL/RSL

PFHxA detections exceed residential scenario tap water RSL

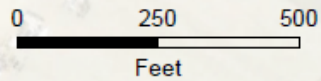
Site 40A: all detections less than soil PSLs/RSLs

PFBA detections less than RSLs

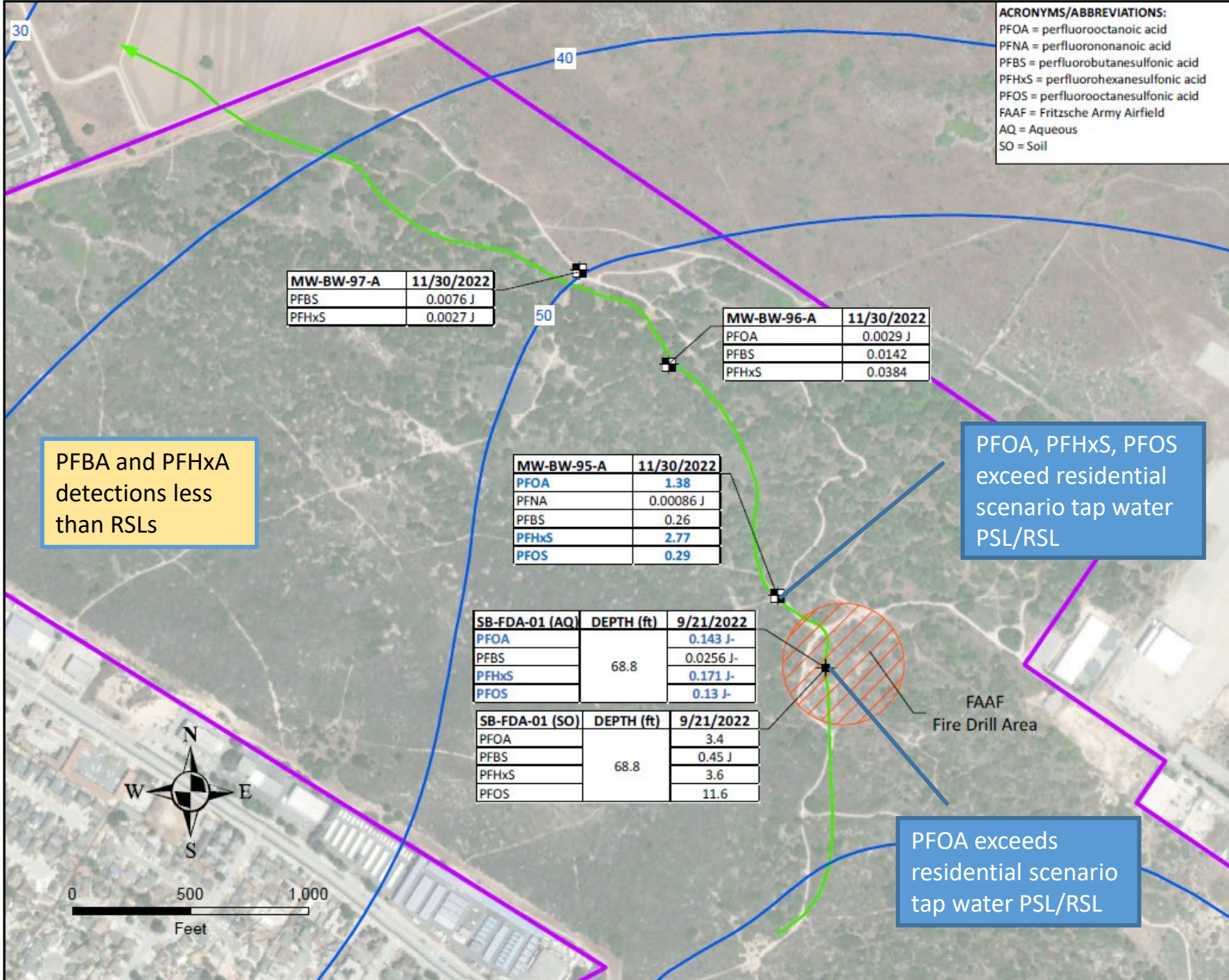
FAAF Fire & Rescue Station: Detections of PFOS exceed residential scenario soil PSL/RSL

Bldg 514 - FAAF Fire & Rescue Station

Site 40A - East FAAF Helicopter Defueling Area



ACRONYMS/ABBREVIATIONS:
 ND = non-detect
 FAAF = Fritzsche Army Airfield
 SO = Soil
 AQ = Aqueous
 PFOA = perfluorooctanoic acid
 PFNA = perfluorononanoic acid
 PFBS = perfluorobutanesulfonic acid
 PFHxS = perfluorohexanesulfonic acid
 PFOS = perfluorooctanesulfonic acid



ACRONYMS/ABBREVIATIONS:
 PFOA = perfluorooctanoic acid
 PFNA = perfluorononanoic acid
 PFBS = perfluorobutanesulfonic acid
 PFHxS = perfluorohexanesulfonic acid
 PFOS = perfluorooctanesulfonic acid
 FAAF = Fritzsche Army Airfield
 AQ = Aqueous
 SO = Soil

EXPLANATION

- Groundwater elevation, A-Aquifer*
- Fort Ord-Salinas Valley Aquitard Channel Low**
- Fort Ord Natural Reserve
- SI Sites

Sampled

- Monitoring
- Soil

NOTES:

*Fourth Quarter 2022 OU2 Groundwater Monitoring and Treatment Report (Ahtna, 2023)

**Remedial Action Completion Report/Technical Memorandum, Operable Unit 1 Attainment Monitoring Results, Sampling Events #1 through #4 (HGL, 2016)

Aqueous sample analytical results are in micrograms per liter (µg/L).
 Soil sample analytical results are in micrograms per kilogram (µg/kg).
 Only detections for PFAS with screening levels are presented; see data tables for complete analytical results.
Bold/Blue concentration in groundwater is greater than or equal to tap water screening level with a hazard quotient of 0.1.
Bold/Magenta concentration in soil is greater than or equal to the residential soil screening level with a hazard quotient of 0.1.

PFBA and PFHxA detections less than RSLs

MW-BW-97-A	11/30/2022
PFBS	0.0076 J
PFHxS	0.0027 J

MW-BW-96-A	11/30/2022
PFOA	0.0029 J
PFBS	0.0142
PFHxS	0.0384

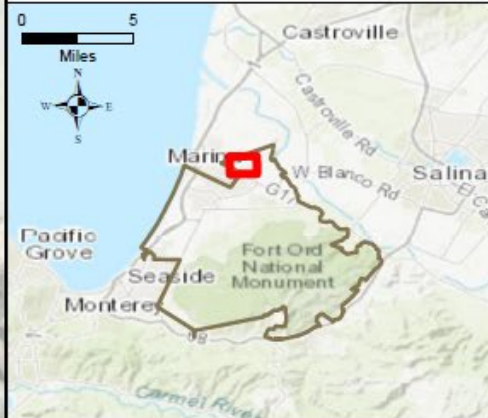
MW-BW-95-A	11/30/2022
PFOA	1.38
PFNA	0.00086 J
PFBS	0.26
PFHxS	2.77
PFOS	0.29

PFOA, PFHxS, PFOS exceed residential scenario tap water PSL/RSL

SB-FDA-01 (AQ)	DEPTH (ft)	9/21/2022
PFOA	68.8	0.143 J-
PFBS		0.0256 J-
PFHxS		0.171 J-
PFOS		0.13 J-

SB-FDA-01 (SO)	DEPTH (ft)	9/21/2022
PFOA	68.8	3.4
PFBS		0.45 J
PFHxS		3.6
PFOS		11.6

PFOA exceeds residential scenario tap water PSL/RSL



SAMPLING LOCATIONS AND ANALYTICAL RESULTS, A-AQUIFER FAAF FIRE DRILL AREA
 PFAS Site Inspection Narrative Report
 Former Fort Ord, California

