



Installation Restoration Program



Air Force Civil Engineer Center

Air Force Civil Engineer Center (AFCEC) Emerging Contaminants Update

Rose Forbes, AFCEC

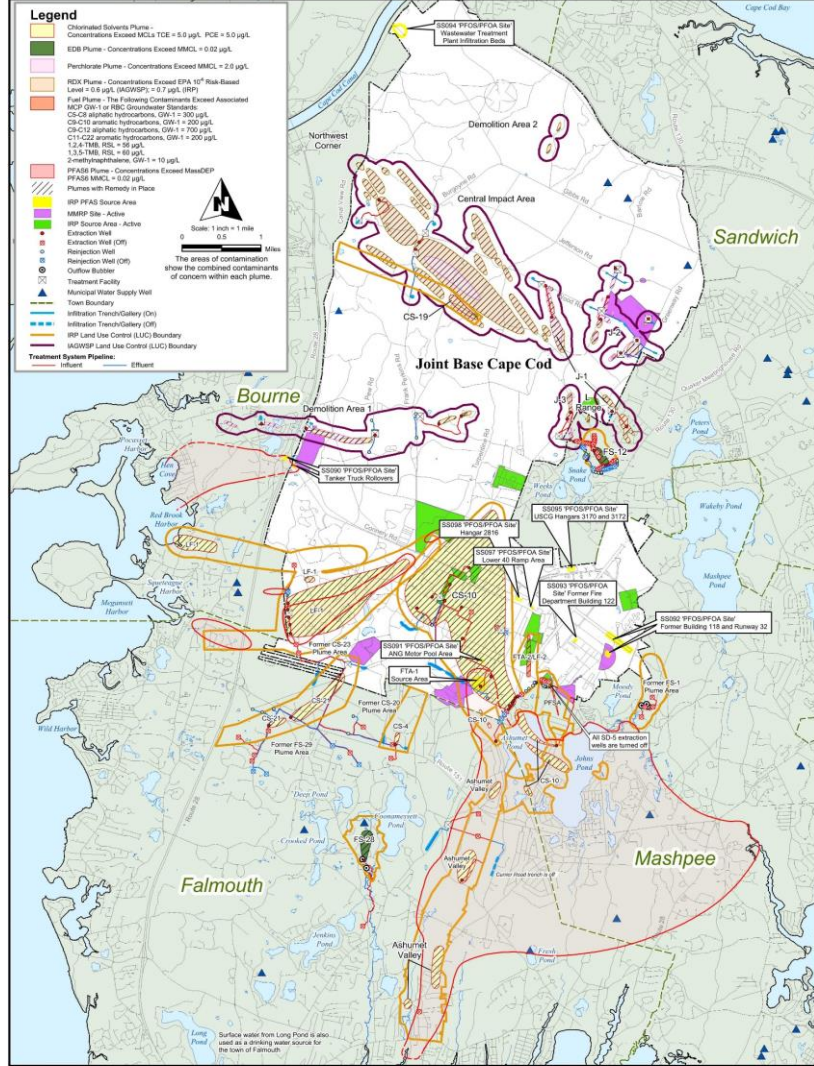
Mary O'Reilly, Jacobs

JBCC Cleanup Team Meeting

12 April 2023

Overview:

- Per- and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane Standards
- Response Actions
- Fire Training Area-1 (FTA-1) – Supplemental Remedial Investigation/Supplemental Feasibility Study (RI/FS) for 1,4-Dioxane and PFAS
- Tanker Truck Rollover Sites (TTRS) – RI/FS for PFAS
- Landfill-1 (LF-1) – Supplemental FS for 1,4-Dioxane and PFAS
- Flight Line Area Operable Unit – RI for PFAS



Contaminant of Concern (COC)	Type of Contaminant	Risk-Based Level
TCE = trichloroethene	solvent	MCL = 5 µg/L
PCE = perchloroethene	solvent	MCL = 5 µg/L
CO2 = carbon tetrachloride	solvent	MCL = 5 µg/L
EDB = ethylene dibromide	fuel-related compound	MMCL = 0.02 µg/L
hexachlorocyclopentadiene	fuel-related compound	MCL = 5 µg/L
VC = vinyl chloride	solvent	MCL = 2 µg/L
1,1,2,2-Tetra = 1,1,2,2-tetrachloroethane	solvent	GW-1 = 200 µg/L
1,4-DCB = 1,4-dichlorobenzene	solvent	MMCL = 2 µg/L
Mn = manganese	metal	EPA Health Advisory = 200 µg/L
barium	metal	MCL = 2 µg/L
lead	metal	15 µg/L (treatment technique action level for water distribution systems)
toluene	fuel-related compound	MCL = 1,000 µg/L
RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine	explosive	HA = 2 µg/L
		GW-1 = 1 µg/L
		10 ⁶ = 0.8 µg/L (IAGWSP) = 0.7 µg/L (IRP)
perchlorate	oxidizer	HA = 15 µg/L
		MMCL = 2 µg/L
CS-C8 aliphatic hydrocarbons	fuel-related compound	GW-1 = 300 µg/L
CS-C10 aliphatic hydrocarbons	fuel-related compound	GW-1 = 200 µg/L
CS-C12 aliphatic hydrocarbons	fuel-related compound	GW-1 = 700 µg/L
C1-C12 aromatic hydrocarbons	fuel-related compound	GW-1 = 200 µg/L
C1-C12 aromatic hydrocarbons	fuel-related compound	GW-1 = 200 µg/L
1,2,4-TMB	fuel-related compound	RSL = 55 µg/L
1,3,5-TMB	fuel-related compound	RSL = 10 µg/L
2-methylnaphthalene	fuel-related compound	GW-1 = 15 µg/L
1,4-dioxane	solvent	RSL = 0.48 µg/L

Joint Base Cape Cod Groundwater Plume Map, and IRP and IAGWSP LUC Areas

Issued July 2022

Note: MCL – Maximum Contaminant Level
 MMCL – Massachusetts Maximum Contaminant Level
 HA – Federal Health Advisory
 PFAS – Per- and Polyfluorinated Substances
 GW-1 – State default cleanup value to be used in lieu of site-specific risk-based level
 10⁶ – EPA level resulting in an excess cancer risk of one in a million
 RG – Site Specific Risk Based Remediation Goal
 RSL – Regional Screening Level

PFAS and 1,4-Dioxane Criteria for Drinking Water:

- May 2016 - EPA issued final Lifetime Drinking Water Health Advisory 2016 (HA) values for Perfluorooctane Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) of 70 nanograms per liter (ng/L) (0.07 micrograms per liter [$\mu\text{g/L}$]) for each and combined.
- Oct 2020 - MassDEP issued a Massachusetts Maximum Contaminant Level (MMCL) drinking water standard of 20 ng/L (0.02 $\mu\text{g/L}$) for the sum of six PFAS (PFAS6) compounds: PFOS, PFOA, Perfluorononanoic Acid (PFNA), Perfluorohexane Sulfonic Acid (PFHxS), Perfluoroheptanoic Acid (PFHpA), and Perfluorodecanoic Acid (PFDA).
- May 2022 - EPA published updates to its Regional Screening Levels (RSLs) which include five PFAS.
- Jun 2022 - EPA issued Interim Updated Drinking Water HAs for PFOS and PFOA and Final HAs for Perfluorobutane Sulfonic Acid (PFBS) and Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) (referred to as GenX); EPA noted that Superfund sites should use updated RSLs since Interim HAs are still undergoing EPA Science Advisory Board review.
- Mar 2023 – EPA announces proposed Maximum Contaminant Levels (MCLs) of 4 ng/L (0.004 $\mu\text{g/L}$) for PFOS and for PFOA and a Hazard Index based MCL of 1 for PFHxS, PFNA, PFBS, and GenX.
- EPA RSL of 460 ng/L (0.46 $\mu\text{g/L}$) for 1,4-dioxane.

1 μg = 1000 ng; multiply the $\mu\text{g/L}$ concentrations by 1,000 to convert the concentrations to ng/L.

PFAS and 1,4-dioxane concentrations in this presentation are in both $\mu\text{g/L}$ and ng/L.

EPA RSLs for PFAS - HQ = 0.1

		New PFOS	Old PFOS	New PFOA	Old PFOA	New PFNA	New PFHxS	New GenX	PFBS (no change)
Resident (ingestion + dermal)	Groundwater (µg/L)	0.00401	0.04	0.00602	0.04	0.00589	0.0394	0.00602	0.601
	Groundwater (ng/L)	4.01	40	6.02	40	5.89	39.4	6.02	601
Resident (ingestion + dermal)	Soil (µg/kg)	12.6	126	19	126	19	126	23.5	1,900
	Soil (ng/kg)	12600	126000	19000	126000	19000	126,000	23500	1900000
Recreator (Swimmer) (ingestion + dermal)	Surface Water (µg/L)	0.038	0.38	0.057	0.38	0.0521	0.352	0.057	5.69
	Surface Water (ng/L)	38	380	57	380	52.1	352	57	5690
Recreator (Swimmer) (ingestion + dermal)	Sediment (µg/kg)	73.7	737	111	737	111	737	137	11,100
	Sediment (ng/kg)	73700	737000	111000	737000	111000	737000	137000	11100000

Notes:

Screening Values for resident potable use of groundwater, resident contact with soil, and recreator contact with sediment and surface water are based on an HQ of 0.1 and CR of 1E-06 and were obtained from EPA's RSL table or generated using the EPA RSL calculator (https://epaprgs.onrl.gov/cgi-bin/chemicals/csl_search).

Shaded values are the updated May 2022 RSL values.

Key:

CR = Cancer Risk
 EPA = U.S. Environmental Protection Agency
 GenX = HFPO-DA
 HQ = Hazard Quotient
 JBCC = Joint Base Cape Cod
 ng/kg = nanogram per kilogram
 ng/L = nanogram per liter
 PFAS = Per- and Polyfluoroalkyl Substances
 PFBS = Perfluorobutane Sulfonic Acid

PFHxS = Perfluorohexane Sulfonic Acid
 PFNA = Perfluorononanoic Acid
 PFOA = Perfluorooctanoic Acid
 PFOS = Perfluorooctane Sulfonic Acid
 RSL = EPA Regional Screening Level
 µg/kg = microgram per kilogram
 µg/L = microgram per liter

Response Actions (related to public/community water supply wells):

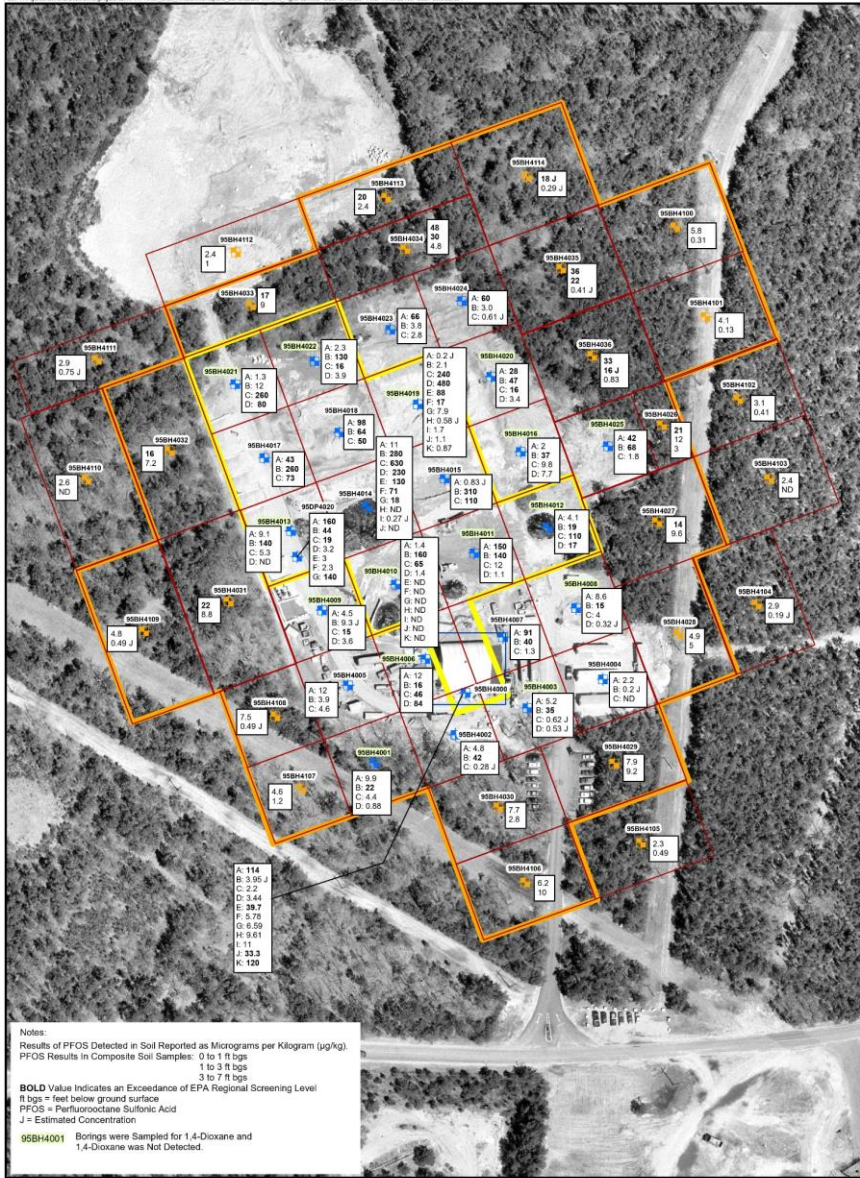
- Eight public/community water supply wells sampled by AFCEC; two had PFOS+PFOA concentrations greater than the 2016 HA.
 - Mashpee Village Public Water Supply Well (PWSW) was shut down in Feb 2017; AFCEC/USACE installed a wellhead treatment system to remove PFOS/PFOA which began operation on 14 Feb 2020.
 - Community Water Supply Well for a neighborhood in Mashpee was disconnected and 93 residences were connected to municipal water supply in 2018.
- Two Mashpee PWSWs, Turner Road wells #2 and #5, have PFAS6 concentrations greater than the MMCL but below the 2016 HA; both wells have been taken offline (Feb 2019 and Jul 2020).
 - AFCEC is installing wellhead treatment on the two Mashpee PWSWs; scheduled for completion in Spring 2023.
- The Falmouth Fresh Pond PWSW had PFAS6 concentrations greater than the MMCL but below the 2016 HA in May 2019; the well was taken offline in Apr 2017 for perchlorate.
 - AFCEC completed installation of wellhead treatment on the Falmouth PWSW and it was restarted on 16 Jun 2022.

Response Actions (related to private wells):

- 123 private residential drinking water wells were sampled in Mashpee, Falmouth, and Bourne since 2015.
 - AFCEC connected 15 residences to municipal water between 2017 and 2019 due to an exceedance of the 2016 HA.
- In Jan 2022, AFCEC JBCC obtained approval from the Air Force to provide response actions to residences that had private wells with PFAS6 concentrations greater than the MMCL but below the 2016 HA and took over bottled water delivery from MassDEP for 10 residences.
 - AFCEC connected eight of these residences to municipal water supply in May 2022.
 - Two residences continue to receive bottled water because municipal water service is either not available or PFAS6 concentrations are expected to decrease below the MMCL.
- AFCEC completed installation of a water main and connected seven residences in Bourne in Jan 2022.
- Since sampling for PFAS began in 2015, 13 residential point-of-entry filtration systems were installed by AFCEC.
 - Four were removed when connections to municipal water were completed.
 - Nine are no longer maintained by AFCEC because concentrations either decreased below the MMCL or connections to municipal water were completed; these systems have been turned over to the property owners.

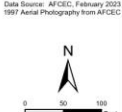
FTA-1 Supplemental RI:

- The Supplemental RI field program was completed between 2015 and 2021 and included groundwater, soil, surface water, sediment, private well, public water supply well, and treatment system sampling.
- Previously referred to as Ashumet Valley, source areas include the former FTA-1 and former base Sewage Treatment Plant (STP); application of aqueous film-forming foam (AFFF) during fire training activities at FTA-1 is the primary source for the PFAS contamination.
- The *Draft Supplemental Remedial Investigation Report for 1,4-Dioxane and Per- and Polyfluoroalkyl Substances at Fire Training Area-1* was submitted to the agencies for review on 29 Apr 2022.
 - Received EPA comments on 28 Jun 2022 requesting the Supplemental RI data be reassessed against the May 2022 RSLs and groundwater be sampled for GenX.
 - Received MassDEP comments on 29 Jul 2022 including a request for further delineation of the extent of soil contamination at the FTA-1 source area.
 - Completed additional sampling and reassessment of data, addressed comments and submitted a response to comments letter (RCL) and a Revised Draft Supplemental RI Report to the agencies on 10 Mar 2023; comments or concurrence is due on 10 Apr 2023.



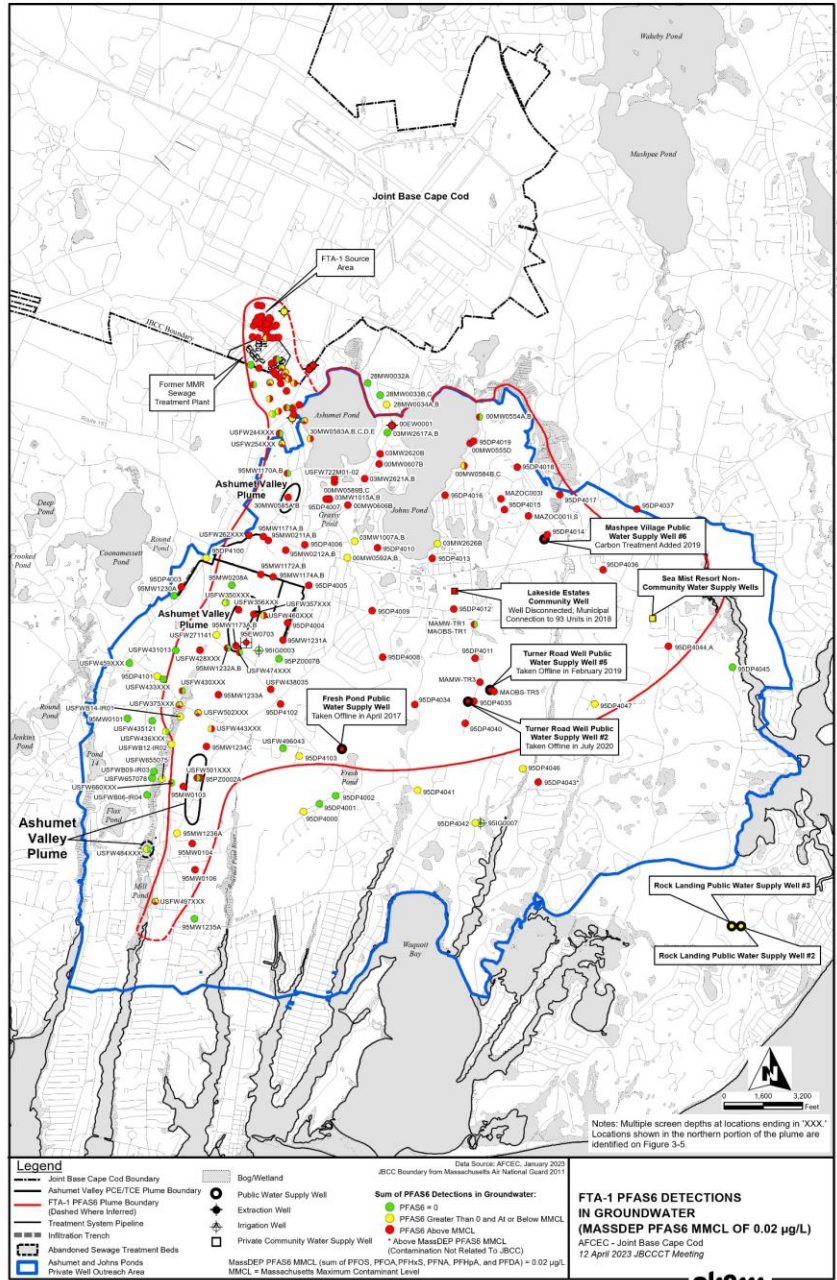
Notes:
 Results of PFOS Detected in Soil Reported as Micrograms per Kilogram ($\mu\text{g}/\text{kg}$).
 PFOS Results in Composite Soil Samples: 0 to 1 ft bgs
 1 to 3 ft bgs
 3 to 7 ft bgs
BOLD Value Indicates an Exceedance of EPA Regional Screening Level
 ft bgs = feet below ground surface
 PFOS = Perfluorooctane Sulfonic Acid
 J = Estimated Concentration
95BH4001 Borings were Sampled for 1,4-Dioxane and 1,4-Dioxane was Not Detected.

- Legend**
- Soil Boring
 - Composite Soil Sample
 - Thermal Treatment Unit Fire Area
 - Soil Sampling Grid
 - Area Above the Soil-to-Water Leaching Value of 4 $\mu\text{g}/\text{kg}$ for PFOS
 - Area Above 100 $\mu\text{g}/\text{kg}$ for PFOS



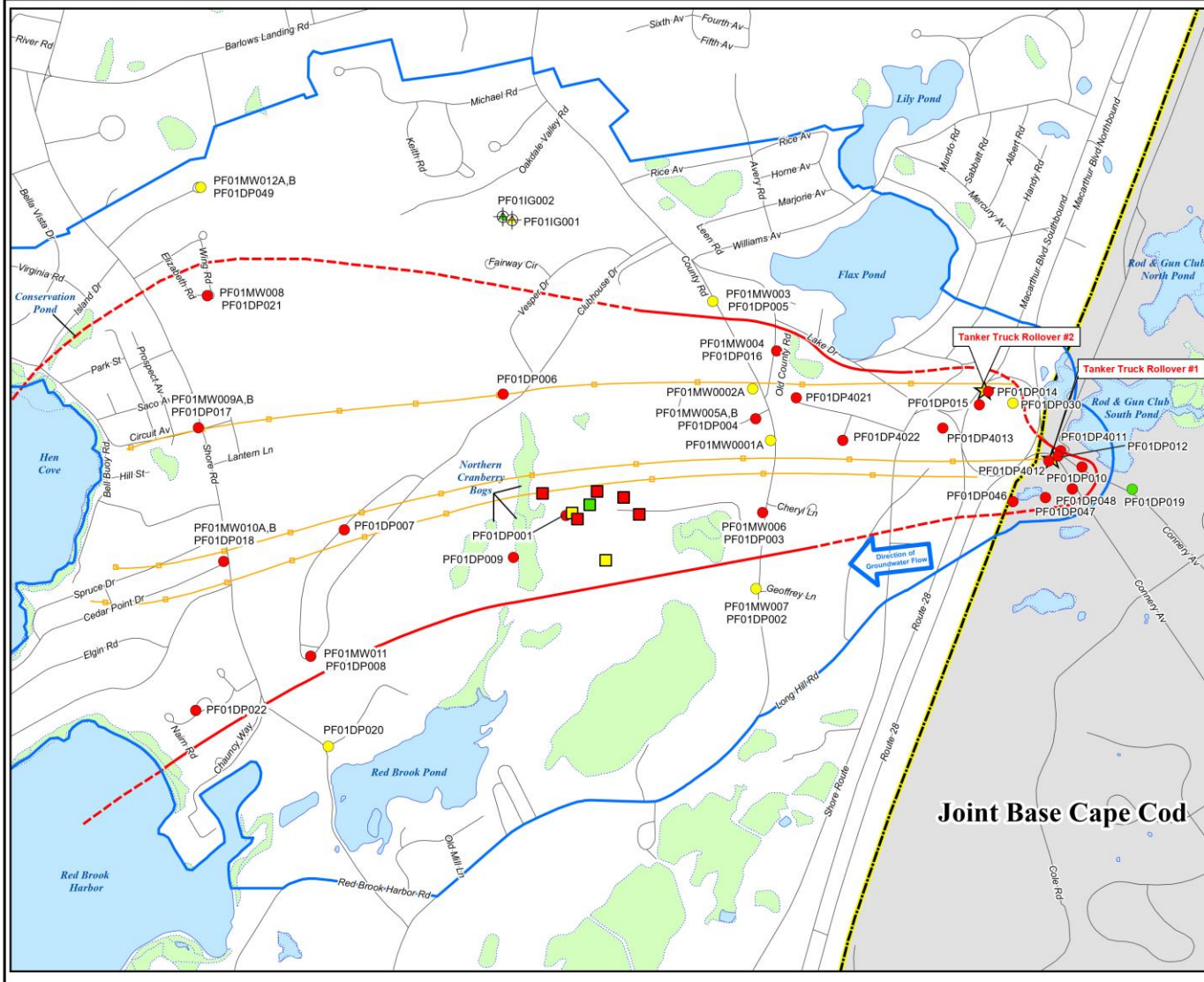
F1A-1 SOIL SAMPLING LOCATIONS AND PFOS RESULTS IN SOIL
 AFCEC - Joint Base Cape Cod
 12 April 2023 JBC/CT Meeting





TTRS RI/FS Summary:

- The RI field program was completed between 2018 and 2021 and included groundwater, soil, surface water, sediment, shellfish tissue, and private well sampling.
- The source of the PFAS contamination was the application of AFFF as part of an emergency response to two tanker truck rollovers at or near the Route 28 traffic rotary in 1997 and 2000.
- The *Draft RI Report* was submitted to the agencies on 07 Mar 2022; comments were received in Apr 2022 and the RCL was submitted on 23 May 2022.
 - Received additional EPA comments on 14 Jun 2022 requesting the RI data be reassessed against the May 2022 RSLs and groundwater be sampled for GenX.
 - Additional comments were also received from MassDEP on 22 Jun 2022.
 - Addressed comments and submitted an RCL2 and a *Revised Draft RI Report* to the agencies on 20 Jan 2023; received EPA comments on 24 Feb 2023 and MassDEP comments on 17 Mar 2023; resolution meeting was held on 15 Mar 2023.
- The *Draft Feasibility Study Report* was submitted to the agencies on 16 Mar 2023; agency comments or concurrence is due on 01 May 2023.
 - Soil/Source Area Alternatives include: no action, capping, removal with off-site disposal, and an insitu barrier (i.e., colloidal carbon).
 - Groundwater Alternatives include: no action, monitored natural attenuation (MNA) and land use controls (LUCs), pump and treat with MNA and LUCs.



Legend

- Outreach Area
- ★ Tanker Truck Rollover Site
- Joint Base Cape Cod Boundary
- Particle Track With 1-Year Time Markers
- TTRS PFAS6 Plume Boundary (Dashed Where Inferred)
- ⊕ Irrigation Well

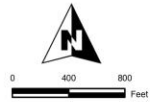
Sum of PFAS6 Detections in Private Wells (Latest Available Result)

- PFAS6 = 0
- PFAS6 Greater Than 0 and At or Below MMCL
- PFAS6 Above MMCL

Sum of PFAS6 Detections in Groundwater

- PFAS6 = 0
- PFAS6 Greater Than 0 and At or Below MMCL
- PFAS6 Above MMCL

MassDEP PFAS6 MMCL (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA, and PFDA) = 0.02 µg/L
 MMCL = Massachusetts Maximum Contaminant Level



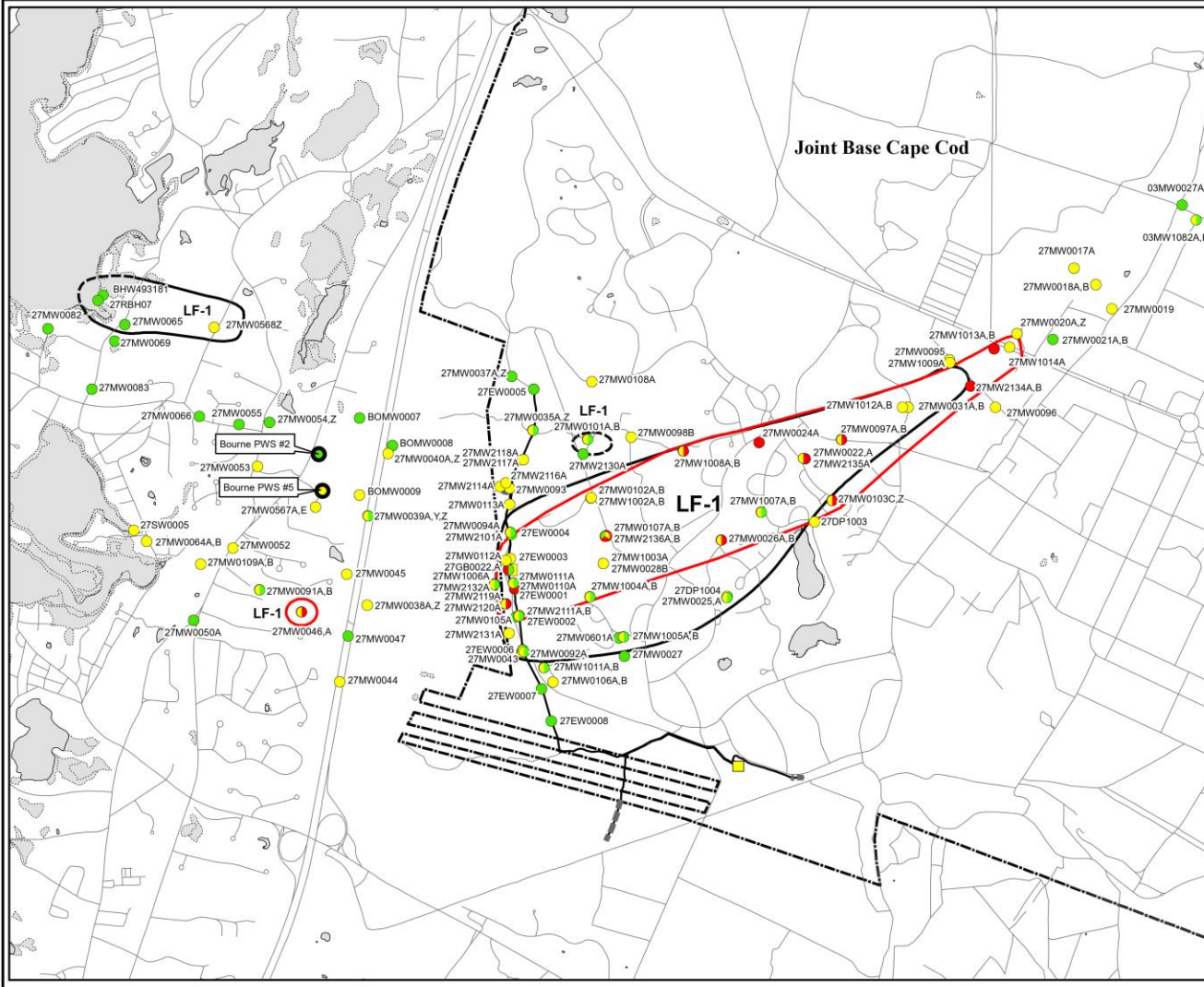
Data Source: AFCEC, April 2023
 JBCC Boundary from Massachusetts Air National Guard 2011

TANKER TRUCK ROLLOVER SITES PFAS6 DETECTIONS IN GROUNDWATER
 AFCEC - Joint Base Cape Cod
 12 April 2023 JBCCCT Meeting



LF-1 Supplemental FS:

- A Supplemental FS was prepared at LF-1 to evaluate remedial alternatives for groundwater for 1,4-dioxane and PFAS.
- Three alternatives were evaluated for PFAS and 1,4-dioxane: no additional action, existing remedial system with MNA and LUCs, and existing system supplemented by two additional extraction wells in the main body of the plume with MNA and LUCs.
- The *Draft Supplemental FS Report* was submitted to the agencies on 12 Jan 2022, comments were received, and the RCL was submitted on 11 May 2022.
 - Received additional EPA comments on 14 Jun 2022 requesting LF-1 data be reassessed against the new RSLs and groundwater be sampled for GenX.
 - Additional comments were also received from MassDEP on 08 Jul 2022.
 - Held resolution meetings with the agencies, addressed comments and submitted a memorandum of resolution (MOR) and a *Draft Final Supplemental FS Report* on 04 Jan 2023;
 - Received additional comments from the agencies in Feb 2023 and an MOR2 was submitted on 30 Mar 2023.

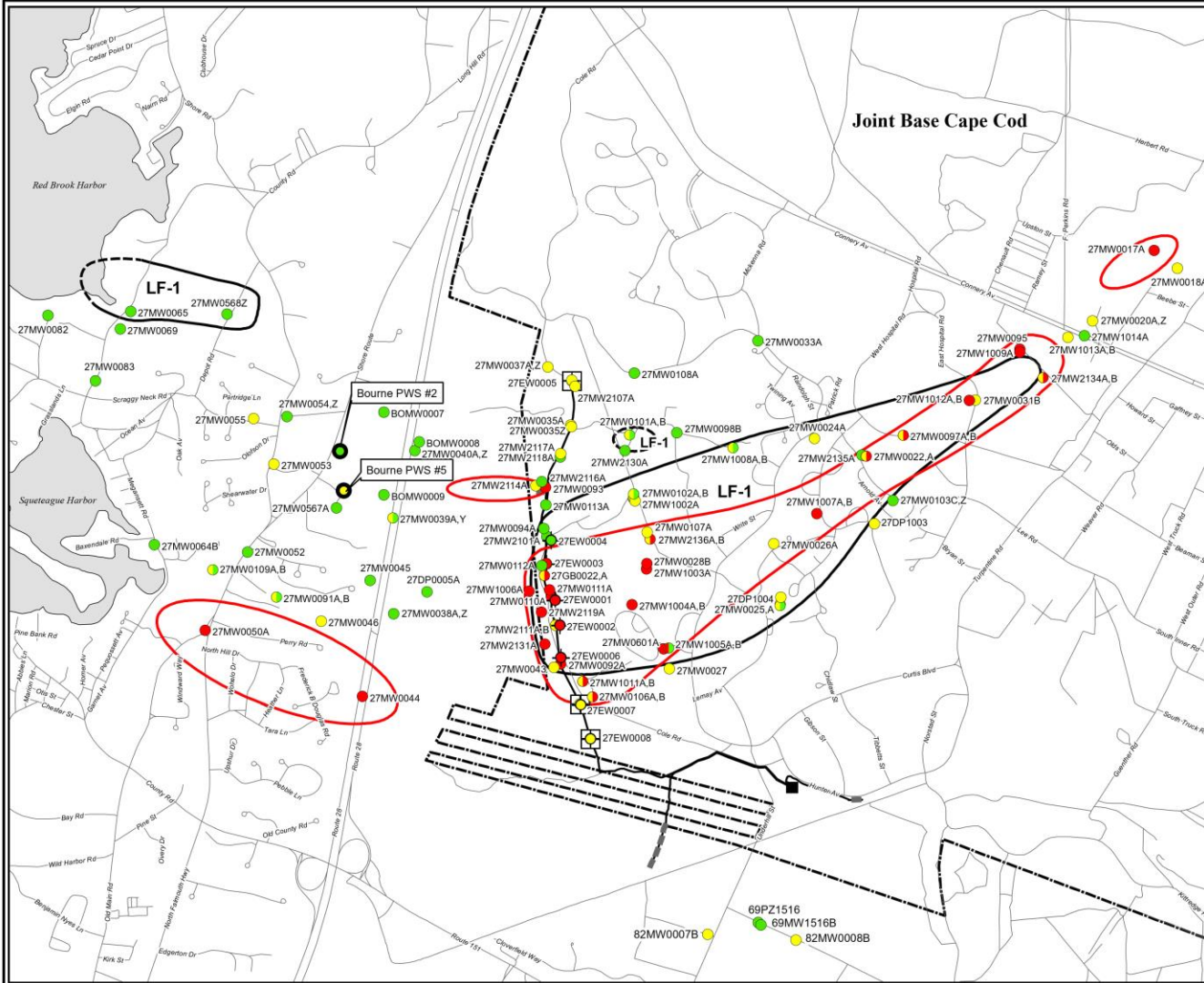


- Legend**
- Joint Base Cape Cod Boundary
 - LF-1 VOC Plume Boundary (Dashed Where Inferred)
 - 1,4-Dioxane Plume Boundary
 - Infiltration Trench/Gallery
 - Treatment System Pipeline
 - Treatment Facility
 - Bog/Wetland
 - ◆ Extraction Well (On)
 - Public Water Supply Well

- 1,4-Dioxane Detections in Groundwater:**
- No Detections
 - Detection Below or at EPA RG
 - Detection Above EPA RG
- 1,4-Dioxane EPA Site-Specific Risk Based Remediation Goal (RG) = 0.46 µg/L

**LF-1 1,4-DIOXANE
DETECTIONS IN GROUNDWATER**
 AFCEC - Joint Base Cape Cod
 12 April 2023 JBCC Meeting





- Legend**
- Joint Base Cape Cod Boundary
 - - - LF-1 VOC Plume Boundary (Dashed Where Inferred)
 - LF-1 PFAS6 Plume Boundary
 - Infiltration Trench/Gallery
 - Treatment System Pipeline
 - Treatment Facility
 - Bog/Wetland
 - ◆ Extraction Well (On)
 - ◆ Extraction Well (Off)
 - Public Water Supply Well

- Sum of PFAS6 Detections in Groundwater:**
- PFAS6 = 0
 - PFAS6 Greater Than 0 and At or Below MMCL
 - PFAS6 Above MMCL
- MassDEP PFAS6 MMCL (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA, and PFDA) = 0.02 µg/L
 MMCL = Massachusetts Maximum Contaminant Level

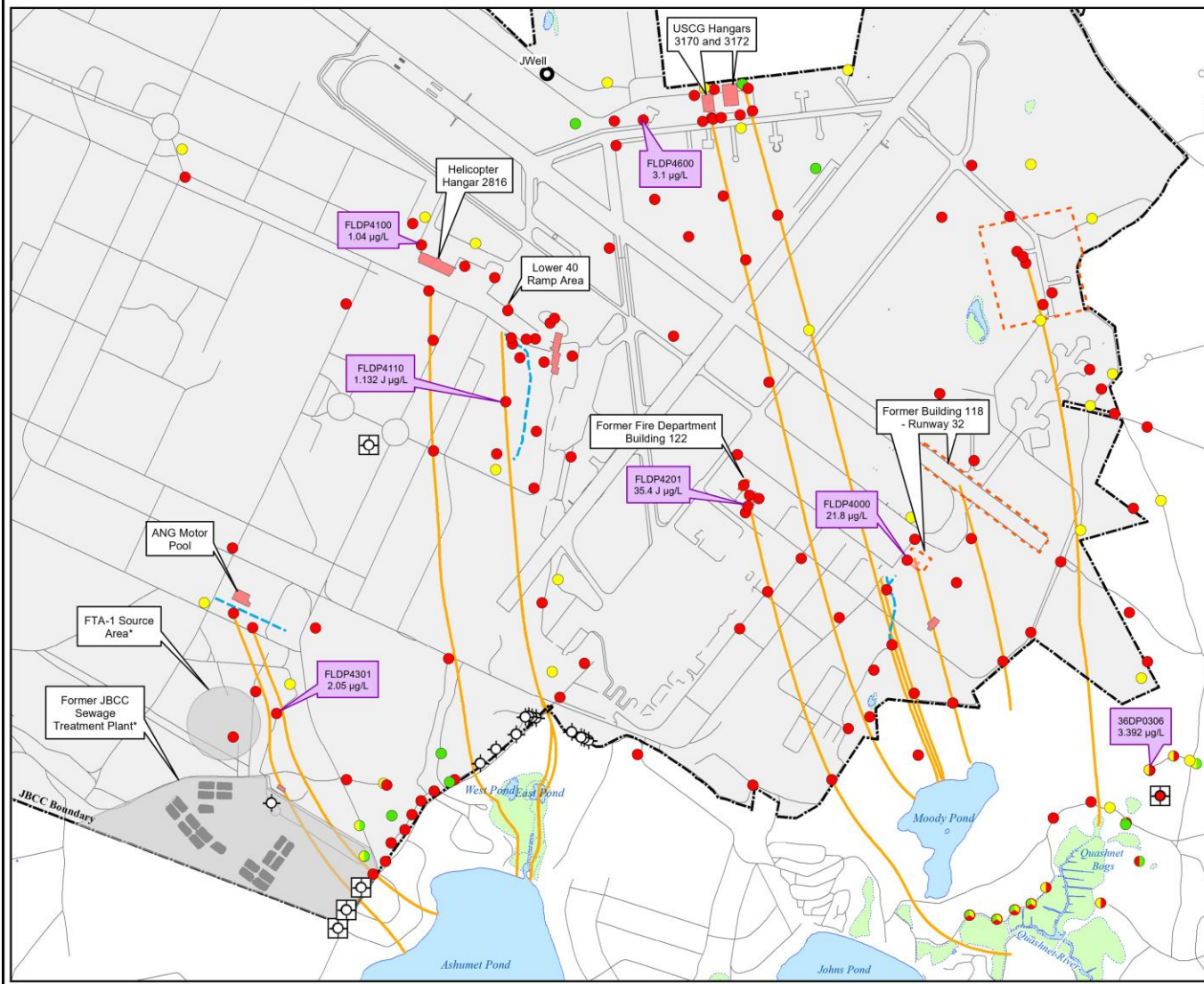
Note: Samples collected prior to January 2021 did not include PFDA in the PFAS analyte list.

LF-1 PFAS6 DETECTIONS IN GROUNDWATER
 AFCEC - Joint Base Cape Cod
 12 April 2023 JBCCT Meeting



Flight Line Area RI:

- An RI is in process at six Flight Line Area sites collectively referred to as the Flight Line Area Operable Unit; field program includes groundwater, soil, surface water, and sediment sampling.
 - Air National Guard Motor Pool
 - Former Building 118 - Runway 32
 - Former Fire Department Building 122
 - Coast Guard Hangars 3170 and 3172
 - Lower 40 Ramp Area
 - Army Helicopter Hangar 2816
- *Final Remedial Investigation Work Plan for Per- and Polyfluoroalkyl Substances at the Flight Line Operable Unit, Joint Base Cape Cod, MA* was submitted to agencies on 17 Oct 2022.
- *Draft Interim LUCs letter for the Wastewater Treatment Plant (WWTP) Infiltration Bed Site* is in preparation.
 - PFAS detected at the WWTP infiltration beds are primarily related to discharges to the sewer lines serving the Lower 40 Ramp Area and the Former Fire Department Building 122 and will be associated with these two sites.
 - Interim LUCs will be implemented at the WWTP infiltration beds to prevent exposure to the PFAS contaminated groundwater and the WWTP site will be administratively closed.



Legend

- Groundwater Model Particle Track
- Storm Drainage Ditch
- Approximate Site Boundary
- Joint Base Cape Cod Boundary
- Existing Structure
- Former Structure
- Abandoned Cranberry Bog/Wetland
- Abandoned Sewage Treatment Beds
- Public Water Supply Well
- Extraction Well (Off)
- ReInjection Well (On)
- ReInjection Well (Off)

3.1 µg/L Highest PFOS + PFOA Concentration in Groundwater (µg/L) Detected During SI/Expanded SI

Sum of PFAS6 Detections in Groundwater From Flight Line Area Site Inspections:

- PFAS6 = 0
- PFAS6 Greater Than 0 and At or Below MMCL
- PFAS6 Above MMCL

MassDEP PFAS6 MMCL (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA, and PFDA) = 0.02 µg/L

MMCL = Massachusetts Maximum Contaminant Level

*Sites Being Investigated Under the FTA-1 Remedial Investigation



Data Source: AFCEC, April 2023
JBCC Boundary from Massachusetts Air National Guard 2011

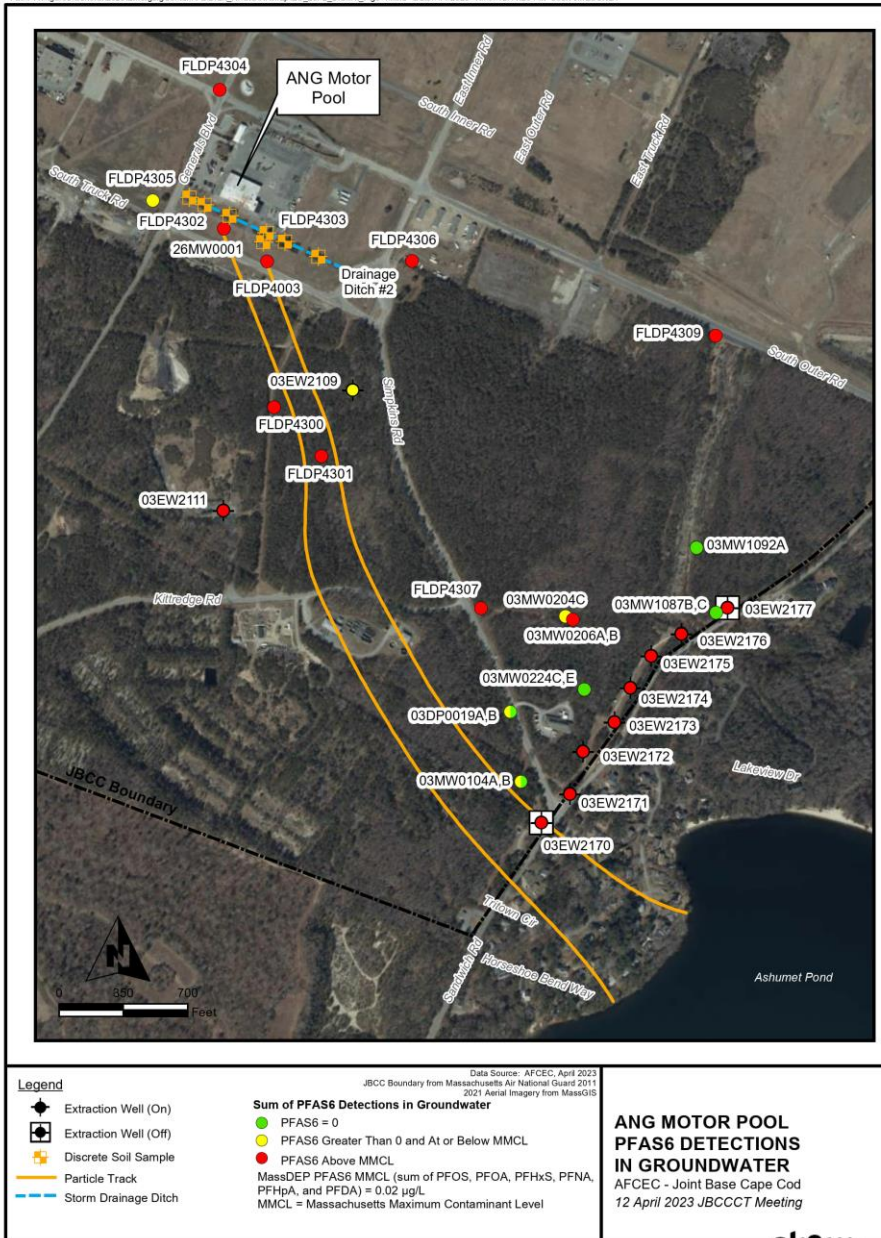
FLIGHT LINE OPERABLE UNIT SITES

AFCEC - Joint Base Cape Cod
12 April 2023 JBCCCT Meeting



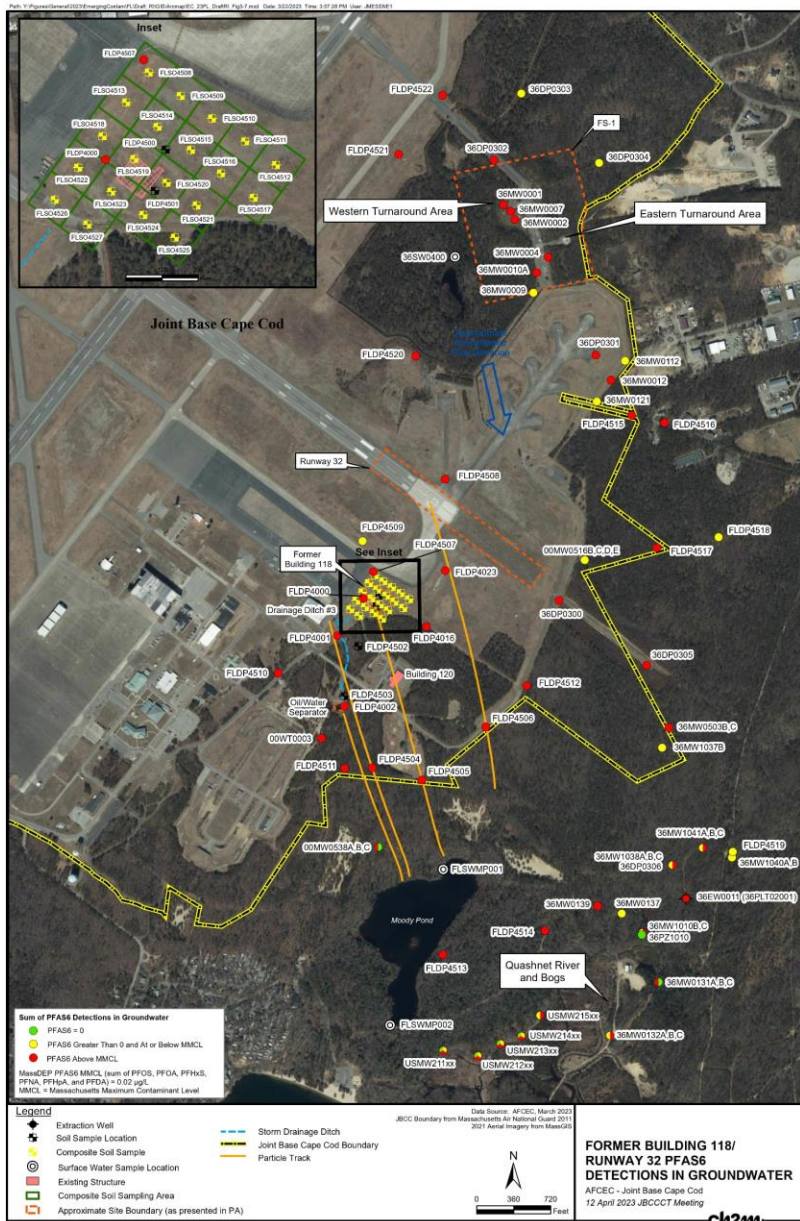
Flight Line Operable Unit RI - ANG Motor Pool:

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- Jet propulsion-4 fuel spilled from a 5,000-gallon refueler truck at the Vehicle Maintenance Building in 1984 and AFFF was used as a response action.
- Collected groundwater samples from eight borings, ten extraction wells, and 13 monitoring wells; highest PFAS concentration is 2,658 ng/L (2.658 µg/L) in boring FLDP4301 which is located to the south and downgradient of the source area.
- PFAS contamination extends to the base boundary and the Chemical Spill-10 Sandwich Road extraction fence.
- Collected soil samples from seven borings; PFOS is the predominant PFAS, and highest PFOS soil concentration is 410 µg/kg in boring FLDP4303 located near the outfall pipe at the eastern end of the trench.

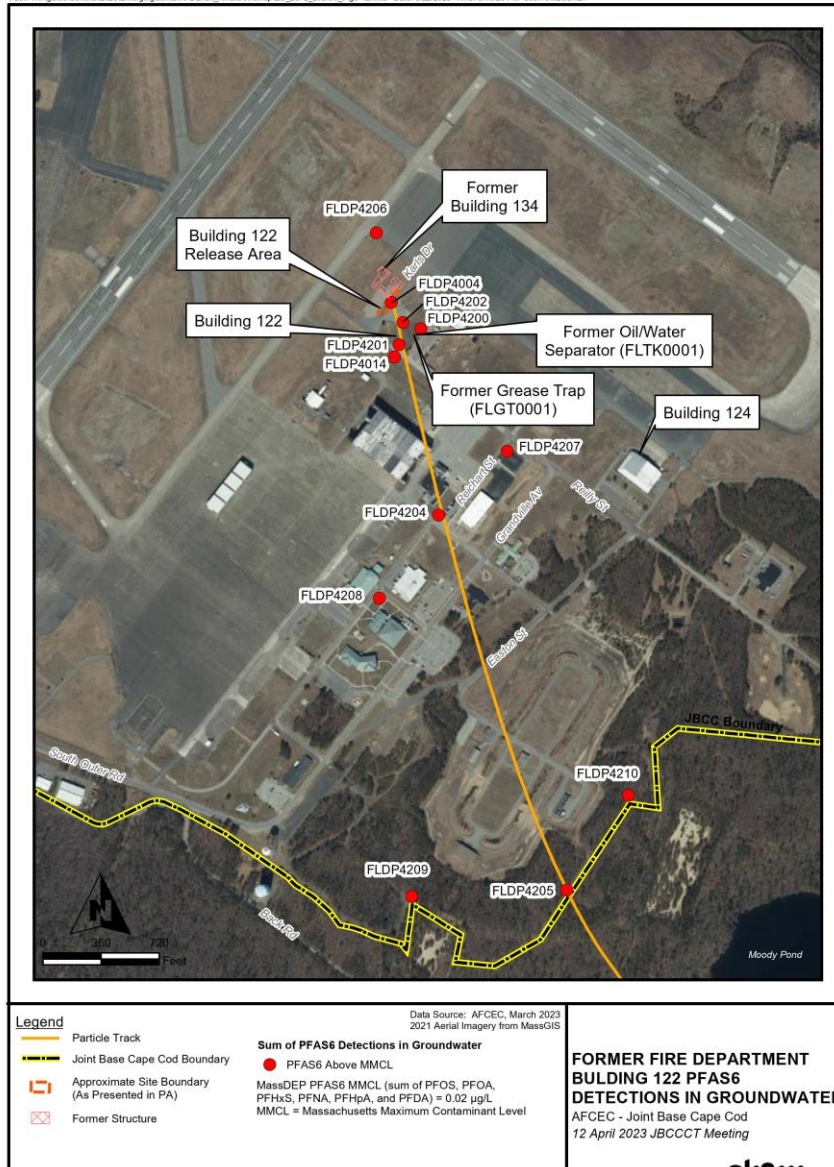
Flight Line Area Operable Unit RI - Former Building 118 and Runway 32:



- Time and distance testing was conducted annually for 10 years, and area was used to flush hoses containing residual AFFF after responding to emergencies; area has been expanded to include PFAS contamination to the east.
- Collected groundwater samples from 39 monitoring wells and 33 borings to date, highest PFAS6 groundwater concentration is 24,230J ng/L (24.23J µg/L) at source area boring FLDP4000; groundwater contamination extends past the base boundary.
- Surface water samples were collected from Moody Pond, a pond to the north, and the Quashnet River and former bogs; PFOS is the predominant PFAS, and highest PFOS concentration is 320 ng/L (0.32 µg/L) in a sample from the Quashnet River.
- Soil samples were collected from ten borings and 20 grid cells across the source area; PFOS is the predominant PFAS, and highest PFOS soil concentration to date is 140,000 ng/kg (140 µg/kg) at boring FLSO4533 which is located along the western boundary of the source area.

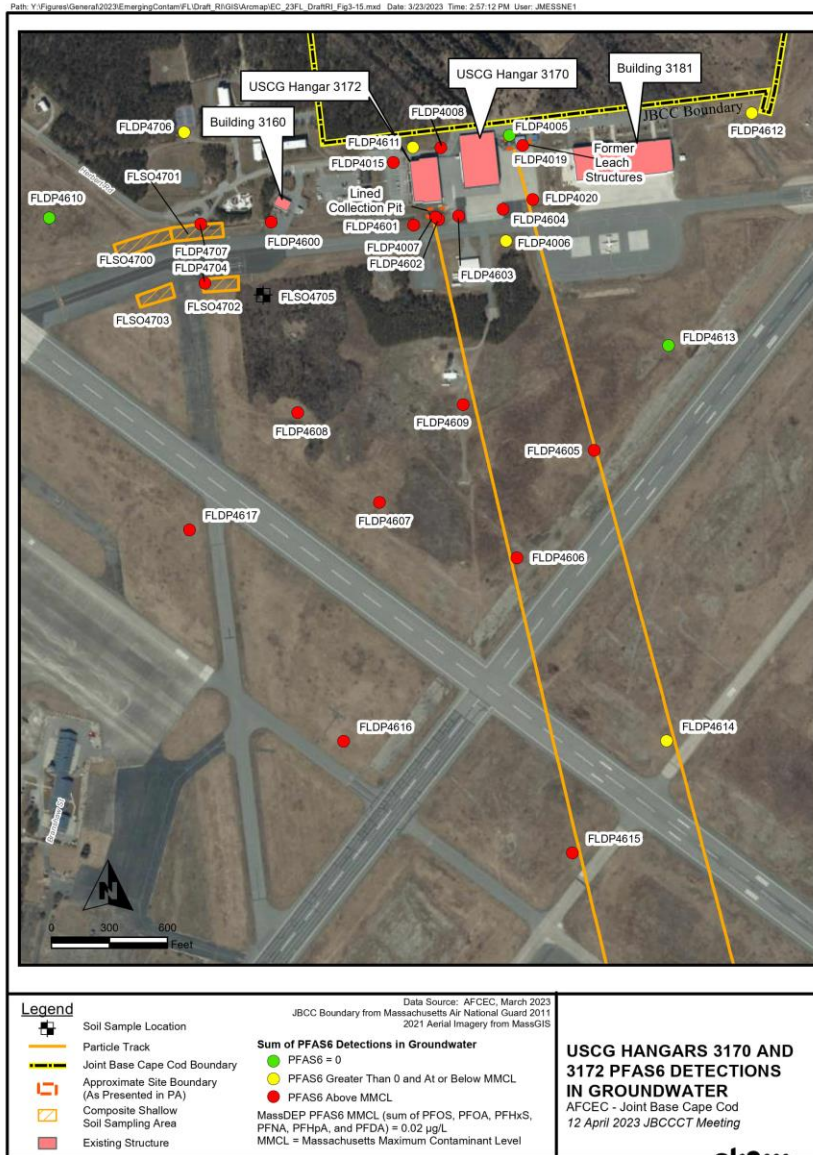
Flight Line Area Operable Unit RI - Former Building 122:

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- Previous Fire Department - AFFF stored in vehicles and some accidental AFFF releases occurred during training.
- Collected groundwater samples from 12 groundwater borings; highest PFAS6 groundwater concentration is 41,360 J ng/L (41.36 J µg/L) in source area boring FLDP4201; groundwater contamination extends to the base boundary.
- Soil samples were collected at 10 source area borings; PFOS is the predominant PFAS, and highest PFOS soil concentration to date is 330,000 ng/kg (330 µg/kg) at FLDP4202.
- PFAS are also present in asphalt samples; concrete and sediment from inside drains, and in water samples from the grease trap and oil/water separator.

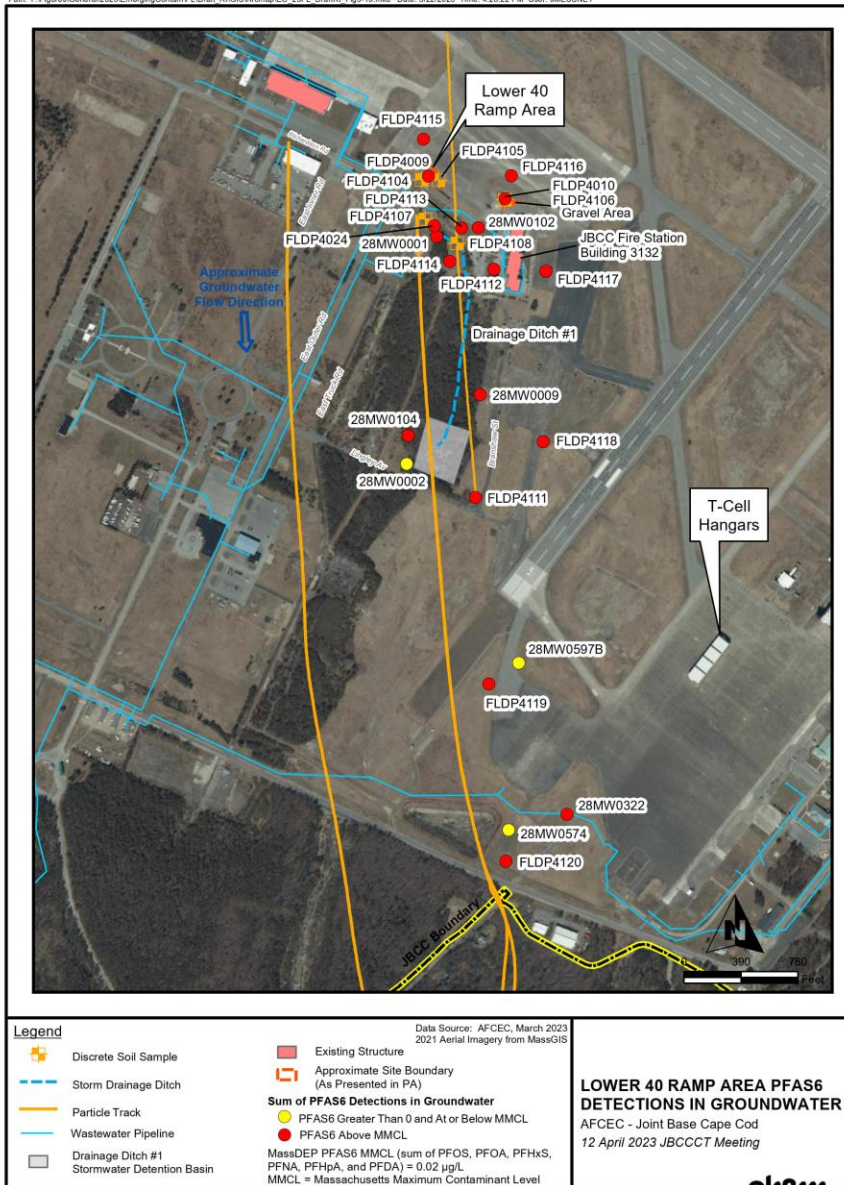
Flight Line Operable Unit RI - USCG Hangars 3170 and 3172 :



- AFFF was stored at the Hangars and was released during fire suppression system testing and other accidental releases occurred.
- The field program was expanded to include Building 3160 and the West Delta Hot Fuel Spot Training Area, located just to the west of the hangars.
- Collected groundwater samples from 28 groundwater borings; highest PFAS6 groundwater concentration is 49,970 J ng/L (49.97 J µg/L) in source area boring FLDP4602.
- Soil samples were collected from six borings and four composite sampling grid cells; PFOS is the predominant PFAS, and highest PFOS soil concentration is 6,700 ng/kg (6.7 µg/kg) at FLSO4701.
- Asphalt samples were collected from two borings; no PFAS were detected.

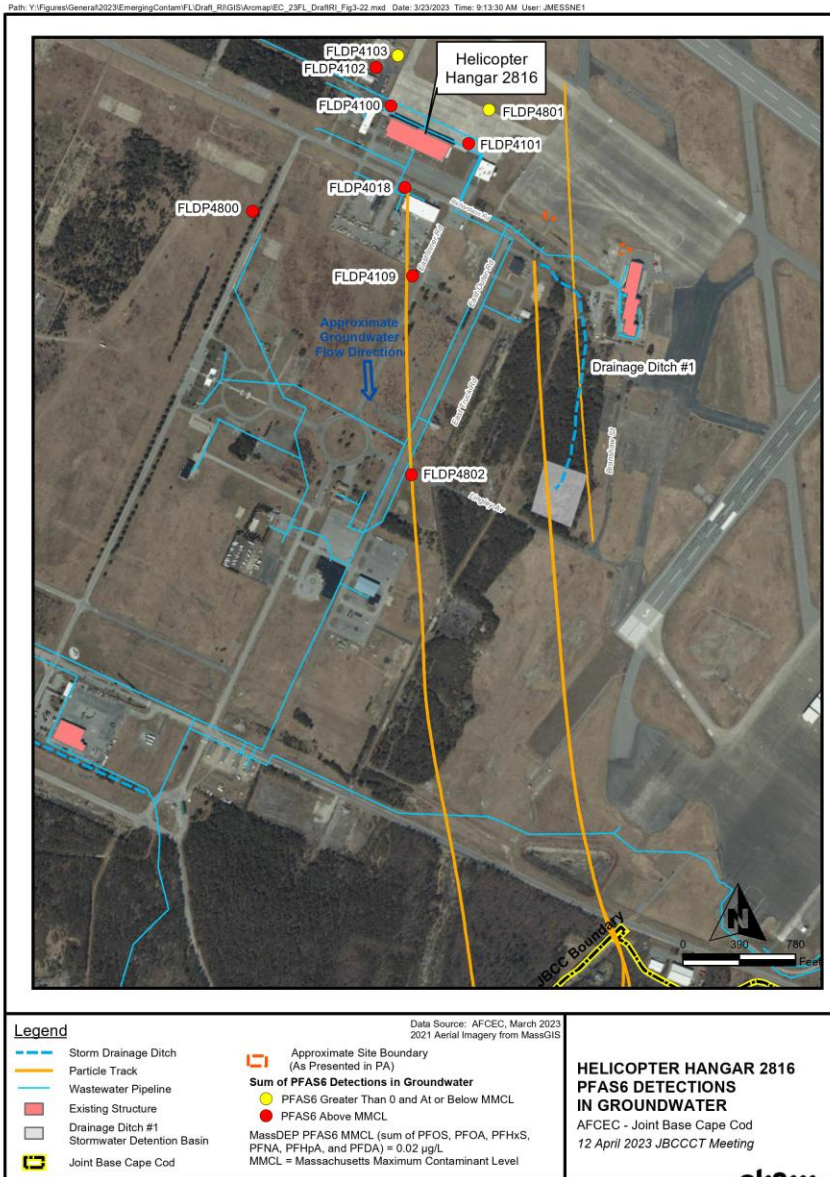
Flight Line Area Operable Unit RI - Lower 40 Ramp Area:

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- AFFF was stored at the current Fire Station area; was used to flush hoses containing residual AFFF after responding to emergencies; and accidental releases of AFFF occurred during training at Lower 40 Ramp Area.
- Collected groundwater samples from six monitoring wells and 14 borings; highest PFAS6 groundwater concentration is 17.27 µg/L (17,270 ng/L) in boring FLDP4117, located to the east of the Fire Station; groundwater contamination extends to the base boundary.
- Surface water samples were collected from East and West Pond; PFOS is the predominant PFAS, and highest PFOS concentration is 220 ng/L (0.22 µg/L) in a sample from East Pond.
- Soil samples were collected at five source area borings; PFOS is the predominant PFAS, and highest PFOS soil concentration is 70,000 ng/kg (70 µg/kg) at FLDP4108, located near the outfall pipe in Drainage Ditch #1.

Flight Line Area Operable Unit RI - Army Helicopter Hangar 2816:



- AFFF was stored outside of the hangar but was not used and there are no documented AFFF releases at this hangar.
- Collected groundwater samples from nine borings; highest PFAS6 groundwater concentration is 1,270 ng/L (1.271 µg/L) in source area boring FLDP4100.
- Soil samples were collected at four source area borings; PFOS is the predominant PFAS, and highest PFOS soil concentration is 510 ng/kg (0.51 J µg/kg) at FLDP4102.

Path Forward:

- Continue private well sampling program and provide bottled water to residences with concentrations above the PFAS6 MMCL.
- Complete installation of wellhead treatment on the two Mashpee Turner Road PWSWs.
- Receive agency comments on the *Revised Draft Supplemental Remedial Investigation Report for 1,4-Dioxane and PFAS at Fire Training Area-1, Joint Base Cape Cod, MA.*
- Resolve agency comments on the *Draft Remedial Investigation Report for PFAS at Tanker Truck Rollover Sites, Joint Base Cape Cod, MA* and submit final report.
- Receive agency comments on the *Draft Feasibility Study Report for PFAS at Tanker Truck Rollover Sites, Joint Base Cape Cod, MA.*
- Resolve agency comments on the *Draft Final Supplemental Feasibility Study Report for 1,4-Dioxane and PFAS at Landfill-1* and submit final report.
- Prepare and submit the *Draft Supplemental Feasibility Study Report for PFAS at Fire Training Area-1, Joint Base Cape Cod, MA.*
- Continue the Flight Line Area Operable Unit RI field program.
- Submit the *Draft Interim LUCs letter for the WWTP Infiltration Bed Site* to the agencies.
- Present updates to the agencies at Technical Update Meetings and to the public at future JBCC Cleanup Team Meetings.