TETRA TECH

Per- and Polyfluoroalkyl Site Inspection

Cheatham Annex – NWS Yorktown

Jon Aglio

November 15, 2023

Site Background

- Building CAD 119–Fire Station No. 15 was built in 1943.
- Historically, AFFF was stored at the fire station and on the fire trucks. Storage of 45 gallons of AFFF was reported in the Navy's hazardous materials inventory for CAD 119.
- In 2016, all reserve inventory of AFFF concentrate stored at Building CAD 119 was removed from CAX and transported to Naval Station Norfolk, Virginia.
- Fire trucks with foam capabilities are the only locations where AFFF is currently stored at CAX.
- There is no record of PFAS release at CAD 119.

Site Background

Field Investigation Summary

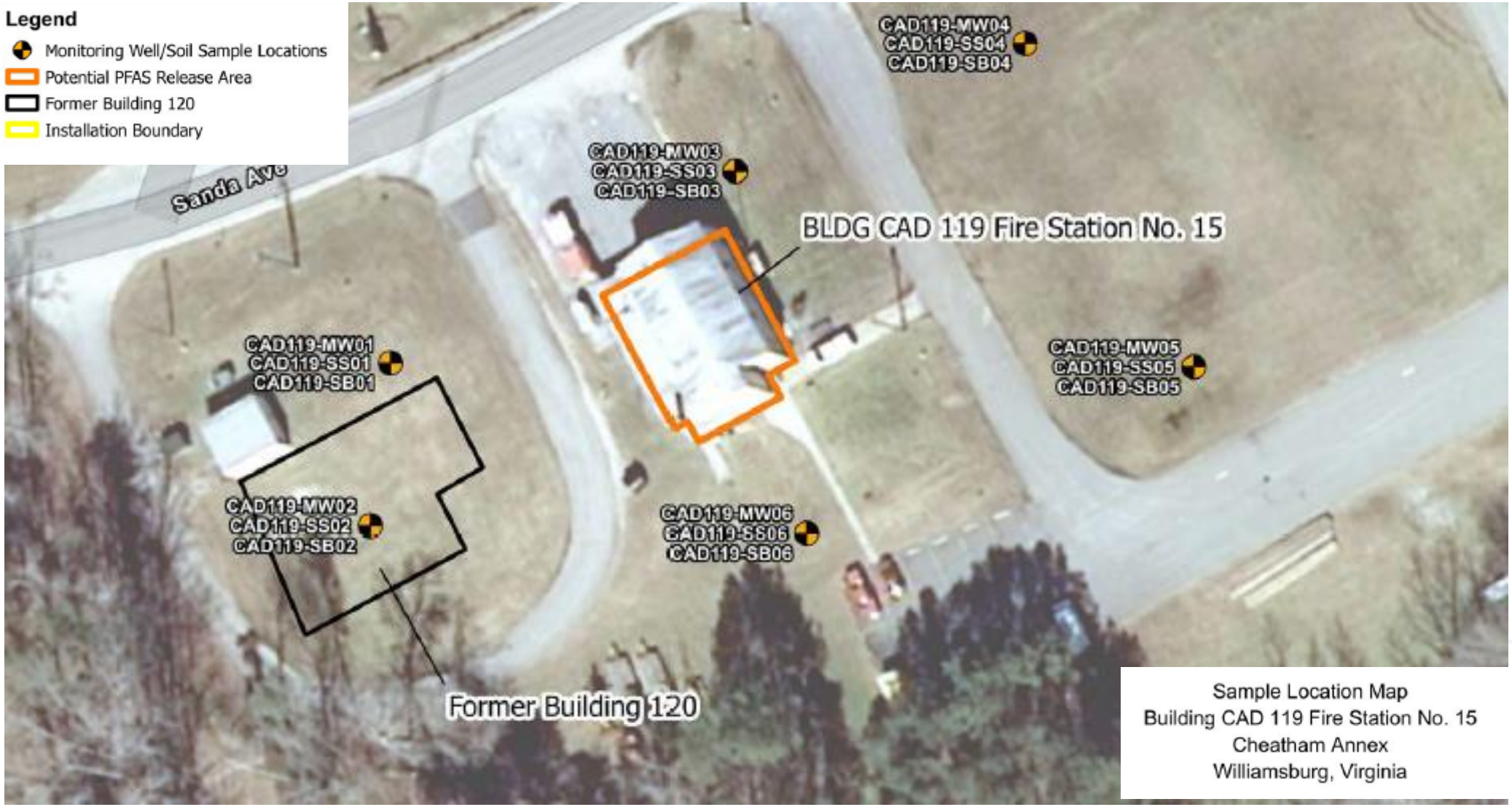
- 6 surface and 6 subsurface soil samples were collected at the potential PFAS release area.
  - Surface soil samples were collected from 0 to 2 feet bgs. Subsurface soil samples were collected from the 13- to 15-feet bgs depth interval, which was the 2-foot interval above the first water bearing zone.

- Soil samples were analyzed for the 18 PFAS compounds listed in the USEPA drinking water method (Method 537.1)

- Six new monitoring wells were installed the potential PFAS release area (CAD119-MW01 to CAD-119-MW06)
  - 5 wells installed to 25 feet and 1 well installed to 20 feet (CAD119-MW06)
  - The well screens consist of 10 feet of 2-inch inner diameter

- Groundwater samples were analyzed for the 18 PFAS compounds listed in the USEPA drinking water method (Method 537.1)

Field Investigation Summary



Screening Levels

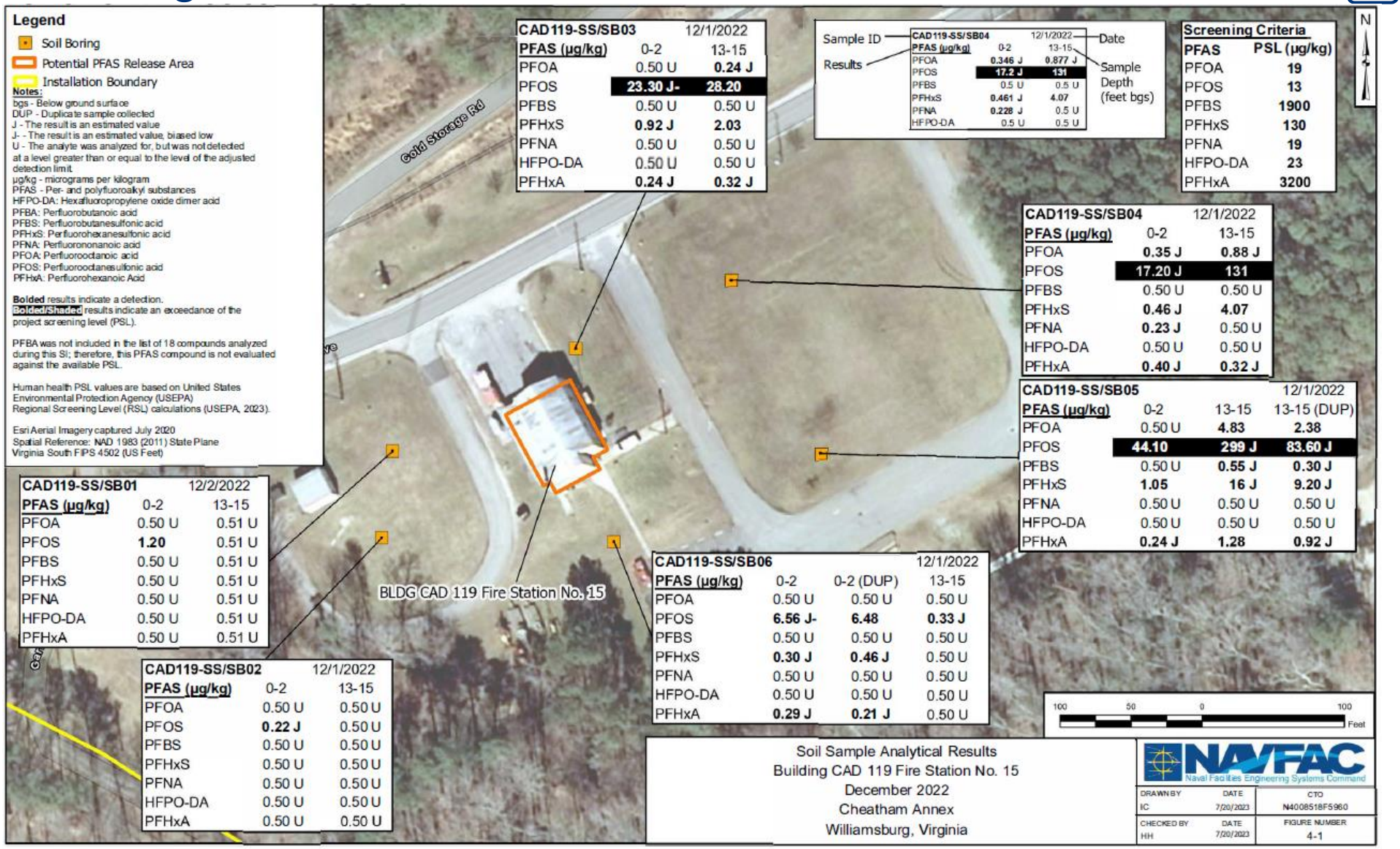
Analyte	Soil PSL (µg/kg)	Groundwater PSL (ng/L)
PFOA	19	6
PFOS	13	4
PFBS	1,900	600
PFHxS	130	39
PFNA	19	5.9
HFPO-DA	23	6
PFHxA	3,200	990

The available medium-specific PSLs used to screen PFAS concentrations detected during this SI, based on the risk-based RSLs at a hazard quotient of 0.1 are summarized below.

Field Investigation Results - Soil

- PFOA was detected in surface (one sample) and subsurface soil (three samples) at concentrations below the PSL of 19 µg/kg.
- PFOS was detected in surface (six samples and a duplicate) and subsurface soil (four samples and a duplicate).
    - Exceedances of the PFOS PSL (13 µg/kg) were at three of the soil sample locations with concentrations ranging from 17.2 µg/kg (CAD119-SS04) to 299 µg/kg (CAD119-SB05).
- PFBS was detected in one subsurface soil sample at a concentration below the PSL of 1,900 µg/kg.
- PFHxS was detected in surface (four samples and a duplicate) and subsurface soil (three samples) at concentrations below the PSL of 130 µg/kg.
- PFNA was detected in one surface soil sample at a concentration below the PSL of 19 µg/kg.
- PFHxA was detected in seven soil samples, but concentrations did not exceed the PSL of 3,200 µg/kg.
- HFPO-DA was not detected in any of the soil samples.

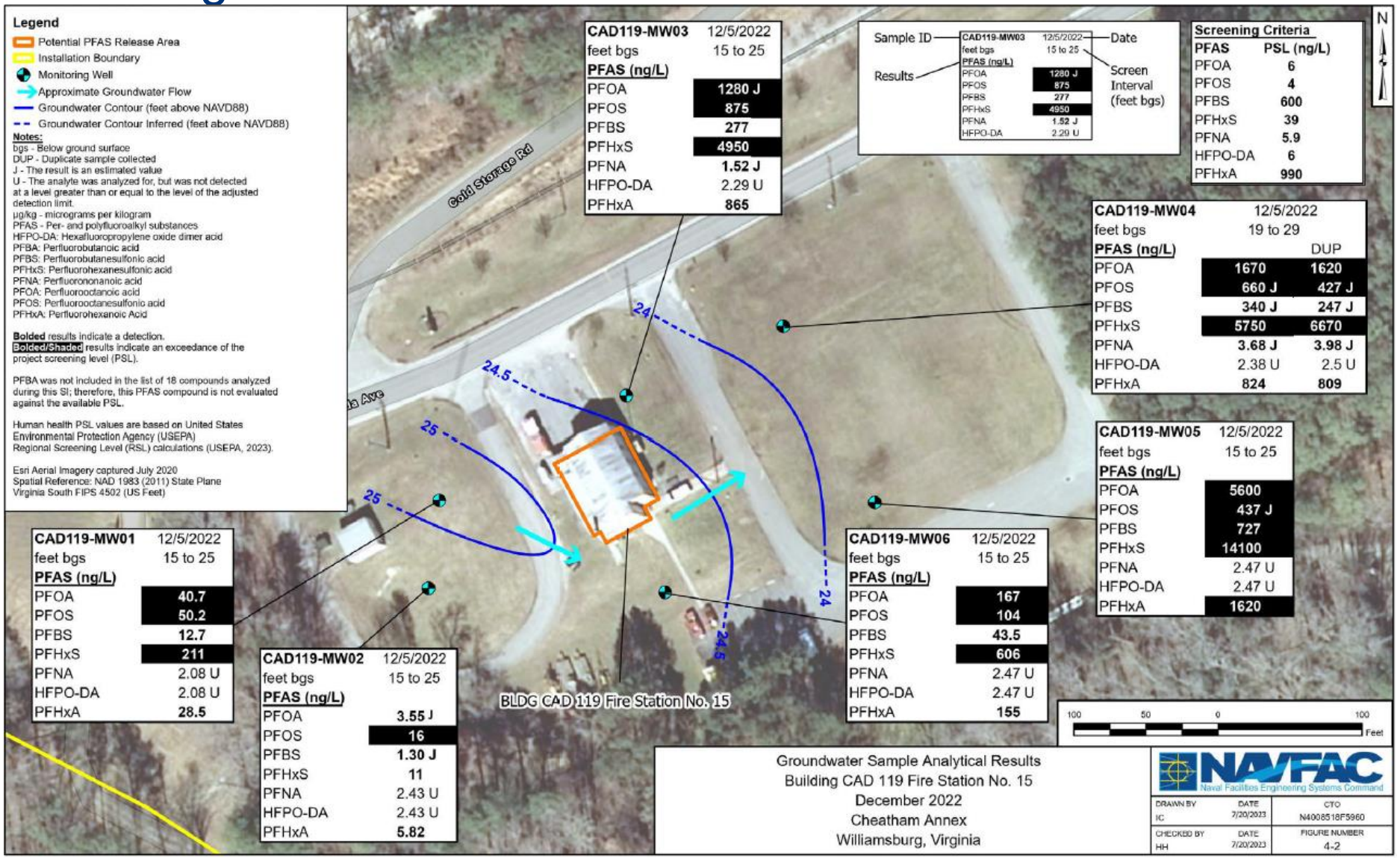
Field Investigation Results – Soil



Field Investigation Results - Groundwater

- PFOA exceeded the PSL of 6 ng/L at five of the six sample locations with concentrations ranging from 40.7 ng/L (CAD119-MW01) to 5,600 ng/L (CAD119-MW05).
- PFOS exceeded the PSL of 4 ng/L at all sample locations with concentrations ranging from 16 ng/L (CAD119-MW02) to 875 ng/L (CAD119-MW03).
- PFBS exceeded the PSL of 600 ng/L at one sample location with a concentration of 727 ng/L (CAD119-MW05).
- PFHxS exceeded the PSLs of 39 ng/L at 5 of the 6 sample locations with concentrations ranging from 211 ng/L (CAD119-MW01) to 14,100 ng/L (CAD119-MW05).
- PFHxA exceeded the PSL of 990 ng/L in one sample location (CAD119-MW05) with a concentration of 1,620 ng/L.
- PFNA was detected but did not exceed the PSL of 5.9 ng/L in any of the groundwater samples.
- HFPO-DA was not detected in any of the groundwater samples.

Field Investigation Results – Groundwater



Conclusions

RI is recommended

- Per the Decision Rule #1 if PFAS are present at levels greater than PSLs and the CSM indicates a significant site-related release in which unacceptable risks are probable, additional investigation will be recommended in the form of an RI.

Off-based drinking water investigation is not warranted

- Per Decision Rule #2 if the concentrations of applicable PFAS in groundwater are greater than the 2016 USEPA drinking water lifetime health advisories and refinement of groundwater flow confirms that the off-base drinking water wells are located in the downgradient direction, the Navy will evaluate whether an off-base drinking water investigation is warranted. There are no water supply wells located within 1 mile downgradient of CAD 119.