

# **SITE INSPECTION REPORT FOR PER- AND POLYFLUOROALKYL SUBSTANCES AT FORMER FORT CHAFFEE, ARKANSAS**

*Prepared for:*



**ODCS, G-9, ISE BRAC**

**Final  
January 2024**

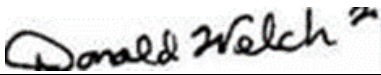
**SITE INSPECTION REPORT FOR PER- AND  
POLYFLUOROALKYL SUBSTANCES AT  
FORMER FORT CHAFFEE, ARKANSAS**

**Final**

*Prepared for:*  
**ODCS, G-9, ISE BRAC  
600 Army Pentagon  
Washington, DC 20310**

  
Kaleb Brumbaugh  
AAR – Project Manager

*Prepared by:*  
**ARS Aleut Remediation  
663 Emory Valley Rd  
Oak Ridge, TN 37830**

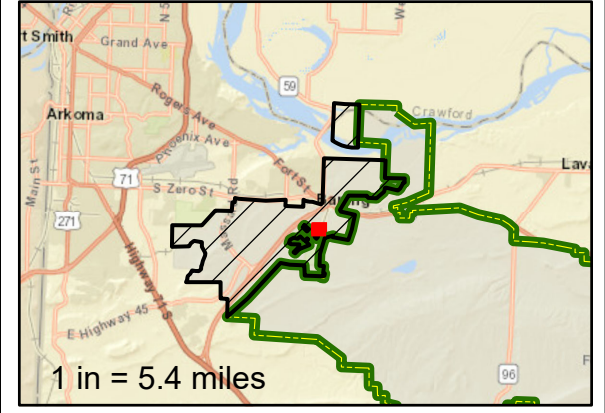
  
Don Welch  
AAR – Corporate Quality Manager

  
Blake Smotherman  
AAR – Deputy Director – Environmental Services Group

**Contract Number W912BV20D0037  
Delivery Order Number  
W912BV21F0060**

**January 2024**

## FIGURES



- Legend**
- Fort Chaffee Joint Maneuver Training Center - Transferred to the Arkansas Army National Guard (ARARNG)
  - BRAC Surplus Property
  - AOPI
  - Groundwater / Surface Soil (DPT)
  - Surface Soil (Hand Auger)
  - Surface Water Flow Direction
  - Groundwater Flow Direction (Regional)
  - Assumed Groundwater Flow Direction (Local)

Abbreviations:  
 AOPI = area of potential interest  
 Bldg = building  
 BRAC = Base Realignment and Closure  
 DPT = direct-push technology

Data Sources:  
 USGS, NHD Data, 2022  
 ESRI ArcGIS Online, Aerial Imagery

Coordinate System:  
 WGS 1984, UTM Zone 15 North

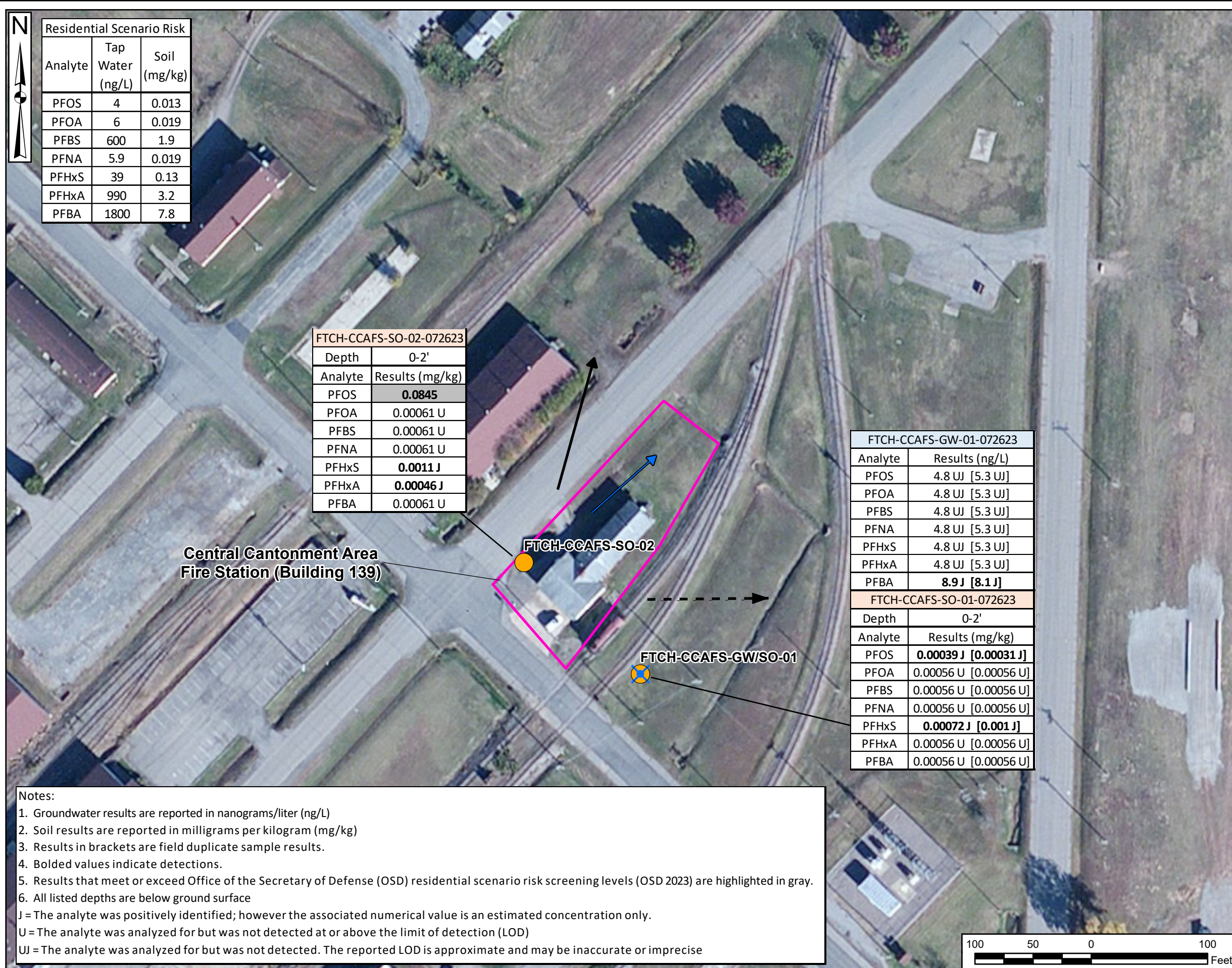
**Site Inspections (SI)  
 of Per- and Polyfluoroalkyl  
 Substances  
 (PFAS)**

Location: Fort Chaffee, Arkansas

**Figure 6-4: Central Cantonment Area  
 Fire Station (Building 139)  
 Sample Locations**

Drawn By:  
 K RESTER

PM:  
 M. FLETCHER



Residential Scenario Risk		
Analyte	Tap Water (ng/L)	Soil (mg/kg)
PFOS	4	0.013
PFOA	6	0.019
PFBS	600	1.9
PFNA	5.9	0.019
PFHxS	39	0.13
PFHxA	990	3.2
PFBA	1800	7.8

FTCH-CCAFS-SO-02-072623	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	<b>0.0845</b>
PFOA	0.00061 U
PFBS	0.00061 U
PFNA	0.00061 U
PFHxS	<b>0.0011 J</b>
PFHxA	<b>0.00046 J</b>
PFBA	0.00061 U

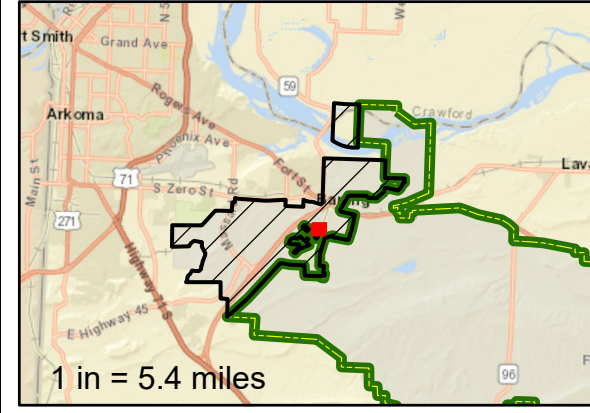
FTCH-CCAFS-GW-01-072623	
Analyte	Results (ng/L)
PFOS	4.8 UJ [5.3 UJ]
PFOA	4.8 UJ [5.3 UJ]
PFBS	4.8 UJ [5.3 UJ]
PFNA	4.8 UJ [5.3 UJ]
PFHxS	4.8 UJ [5.3 UJ]
PFHxA	4.8 UJ [5.3 UJ]
PFBA	<b>8.9 J [8.1 J]</b>

FTCH-CCAFS-SO-01-072623	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	<b>0.00039 J [0.00031 J]</b>
PFOA	0.00056 U [0.00056 U]
PFBS	0.00056 U [0.00056 U]
PFNA	0.00056 U [0.00056 U]
PFHxS	<b>0.00072 J [0.001 J]</b>
PFHxA	0.00056 U [0.00056 U]
PFBA	0.00056 U [0.00056 U]

**Notes:**

1. Groundwater results are reported in nanograms/liter (ng/L)
2. Soil results are reported in milligrams per kilogram (mg/kg)
3. Results in brackets are field duplicate sample results.
4. Bolded values indicate detections.
5. Results that meet or exceed Office of the Secretary of Defense (OSD) residential scenario risk screening levels (OSD 2023) are highlighted in gray.
6. All listed depths are below ground surface

J = The analyte was positively identified; however the associated numerical value is an estimated concentration only.  
 U = The analyte was analyzed for but was not detected at or above the limit of detection (LOD)  
 UJ = The analyte was analyzed for but was not detected. The reported LOD is approximate and may be inaccurate or imprecise



- Legend**
- Fort Chaffee Joint Maneuver Training Center - Transferred to the Arkansas Army National Guard (ARARNG)
  - BRAC Surplus Property
  - AOPI
  - Groundwater / Surface Soil (DPT)
  - Surface Soil (Hand Auger)
  - Surface Water Flow Direction
  - Groundwater Flow Direction (Regional)
  - - → Assumed Groundwater Flow Direction (Local)

**Abbreviations:**  
 AOPI = area of potential interest  
 Bldg = building  
 BRAC = Base Realignment and Closure  
 DPT = direct-push technology  
 PFBS = perfluorobutanesulfonic acid  
 PFHxS = perfluorohexane sulfonate  
 PFNA = perfluorononanoic acid  
 PFOA = perfluorooctanoic acid  
 PFOS = perfluorooctane sulfonate

**Data Sources:**  
 USGS, NHD Data, 2022  
 ESRI ArcGIS Online, Aerial Imagery

**Coordinate System:**  
 WGS 1984, UTM Zone 15 North

**Site Inspections (SI)  
of Per- and Polyfluoroalkyl  
Substances  
(PFAS)**

Location: Fort Chaffee, Arkansas

**Figure 6-5: Central Cantonment Area  
Fire Station (Building 139)  
Sample Results**

Drawn By: K RESTER	PM: M. FLETCHER
-----------------------	--------------------



**Legend**

- Fort Chaffee Joint Maneuver Training Center - Transferred to the Arkansas Army National Guard (ARARNG)
- BRAC Surplus Property
- AOPI
- Groundwater (DPT)
- Groundwater / Surface Soil (DPT)
- Surface Soil (Hand Auger)
- Surface Water Flow Direction
- Groundwater Flow Direction (Regional)
- Assumed Groundwater Flow Direction (Local)

Abbreviations:  
 AOPI = area of potential interest  
 Bldg = building  
 BRAC = Base Realignment and Closure  
 DPT = direct-push technology

Data Sources:  
 USGS, NHD Data, 2022  
 ESRI ArcGIS Online, Aerial Imagery

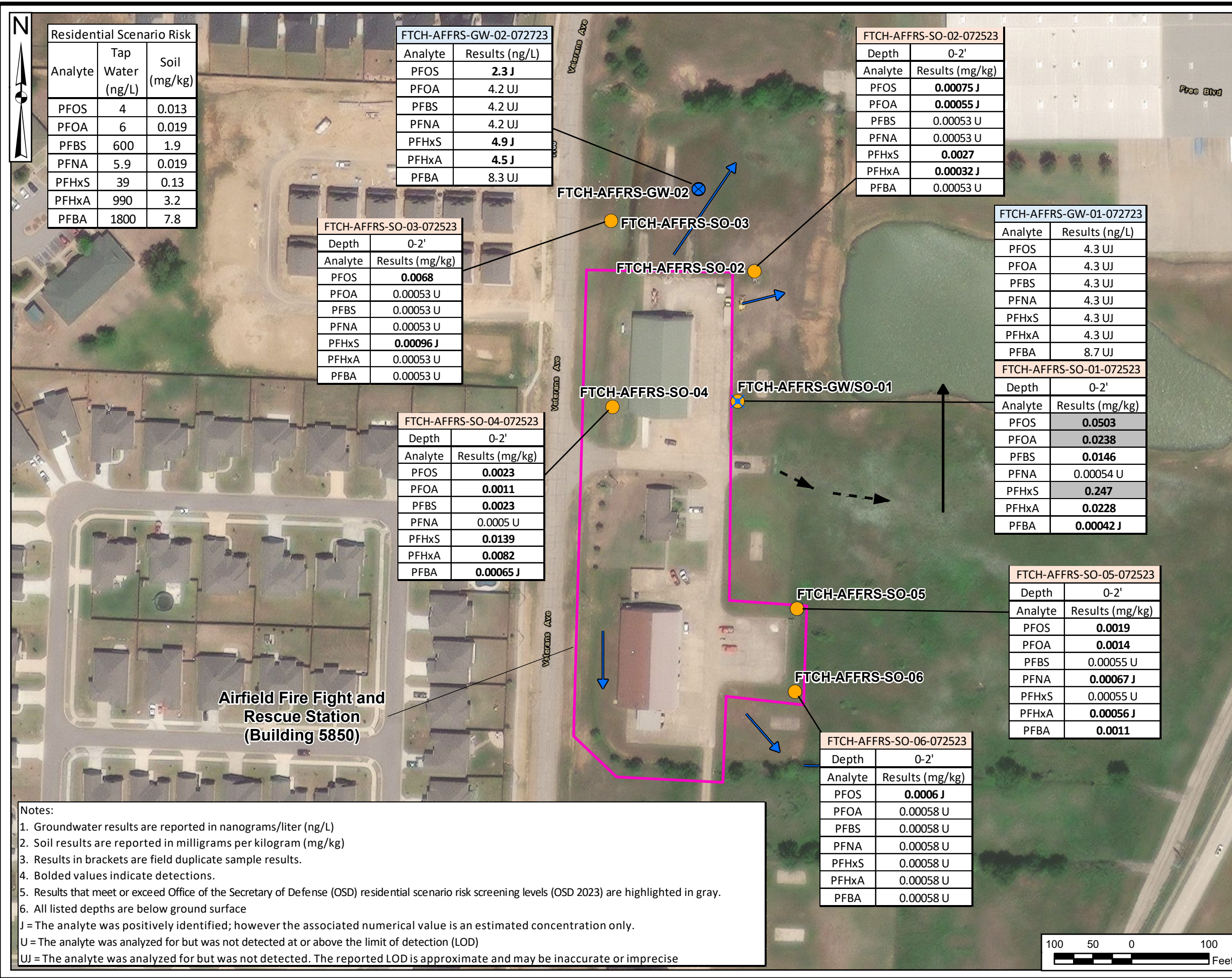
Coordinate System:  
 WGS 1984, UTM Zone 15 North

**Site Inspections (SI)  
 of Per- and Polyfluoroalkyl  
 Substances  
 (PFAS)**

Location: Fort Chaffee, Arkansas

**Figure 6-7: Airfield Fire Fight  
 and Rescue Station (Building 5850)  
 Sample Locations**

Drawn By: K RESTER	PM: M. FLETCHER
-----------------------	--------------------



Residential Scenario Risk		
Analyte	Tap Water (ng/L)	Soil (mg/kg)
PFOS	4	0.013
PFOA	6	0.019
PFBS	600	1.9
PFNA	5.9	0.019
PFHxS	39	0.13
PFHxA	990	3.2
PFBA	1800	7.8

FTCH-AFFRS-GW-02-072723	
Analyte	Results (ng/L)
PFOS	<b>2.3 J</b>
PFOA	4.2 UJ
PFBS	4.2 UJ
PFNA	4.2 UJ
PFHxS	<b>4.9 J</b>
PFHxA	<b>4.5 J</b>
PFBA	8.3 UJ

FTCH-AFFRS-SO-02-072523	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	<b>0.00075 J</b>
PFOA	<b>0.00055 J</b>
PFBS	0.00053 U
PFNA	0.00053 U
PFHxS	<b>0.0027</b>
PFHxA	<b>0.00032 J</b>
PFBA	0.00053 U

FTCH-AFFRS-SO-03-072523	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	<b>0.0068</b>
PFOA	0.00053 U
PFBS	0.00053 U
PFNA	0.00053 U
PFHxS	<b>0.00096 J</b>
PFHxA	0.00053 U
PFBA	0.00053 U

FTCH-AFFRS-GW-01-072723	
Analyte	Results (ng/L)
PFOS	4.3 UJ
PFOA	4.3 UJ
PFBS	4.3 UJ
PFNA	4.3 UJ
PFHxS	4.3 UJ
PFHxA	4.3 UJ
PFBA	8.7 UJ

FTCH-AFFRS-SO-01-072523	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	<b>0.0503</b>
PFOA	<b>0.0238</b>
PFBS	<b>0.0146</b>
PFNA	0.00054 U
PFHxS	<b>0.247</b>
PFHxA	<b>0.0228</b>
PFBA	<b>0.00042 J</b>

FTCH-AFFRS-SO-04-072523	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	<b>0.0023</b>
PFOA	<b>0.0011</b>
PFBS	<b>0.0023</b>
PFNA	0.0005 U
PFHxS	<b>0.0139</b>
PFHxA	<b>0.0082</b>
PFBA	<b>0.00065 J</b>

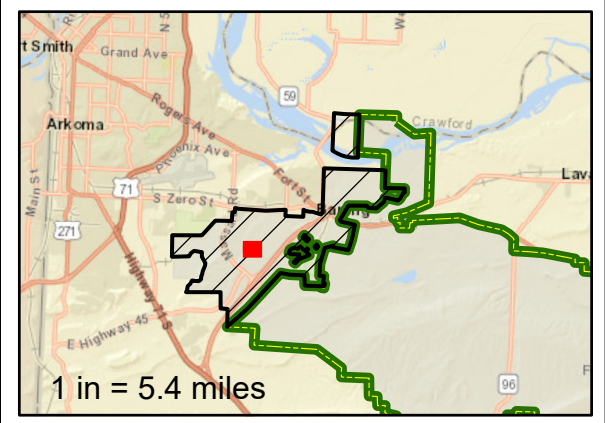
FTCH-AFFRS-SO-05-072523	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	<b>0.0019</b>
PFOA	<b>0.0014</b>
PFBS	0.00055 U
PFNA	<b>0.00067 J</b>
PFHxS	0.00055 U
PFHxA	<b>0.00056 J</b>
PFBA	<b>0.0011</b>

FTCH-AFFRS-SO-06-072523	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	<b>0.0006 J</b>
PFOA	0.00058 U
PFBS	0.00058 U
PFNA	0.00058 U
PFHxS	0.00058 U
PFHxA	0.00058 U
PFBA	0.00058 U

Notes:

- Groundwater results are reported in nanograms/liter (ng/L)
- Soil results are reported in milligrams per kilogram (mg/kg)
- Results in brackets are field duplicate sample results.
- Bolded values indicate detections.
- Results that meet or exceed Office of the Secretary of Defense (OSD) residential scenario risk screening levels (OSD 2023) are highlighted in gray.
- All listed depths are below ground surface

J = The analyte was positively identified; however the associated numerical value is an estimated concentration only.  
 U = The analyte was analyzed for but was not detected at or above the limit of detection (LOD)  
 UJ = The analyte was analyzed for but was not detected. The reported LOD is approximate and may be inaccurate or imprecise



**Legend**

- Fort Chaffee Joint Maneuver Training Center - Transferred to the Arkansas Army National Guard (ARARNG)
- BRAC Surplus Property
- AOPI
- ⊗ Groundwater (DPT)
- ⊗ Groundwater / Surface Soil (DPT)
- Surface Soil (Hand Auger)
- Surface Water Flow Direction
- Groundwater Flow Direction (Regional)
- - → Assumed Groundwater Flow Direction (Local)

Abbreviations:  
 AOPI = area of potential interest  
 Bldg = building  
 BRAC = Base Realignment and Closure  
 DPT = direct-push technology  
 PFBS = perfluorobutanesulfonic acid  
 PFHxS = perfluorohexane sulfonate  
 PFNA = perfluorononanoic acid  
 PFOA = perfluorooctanoic acid  
 PFOS = perfluorooctane sulfonate

Data Sources:  
 USGS, NHD Data, 2022  
 ESRI ArcGIS Online, Aerial Imagery

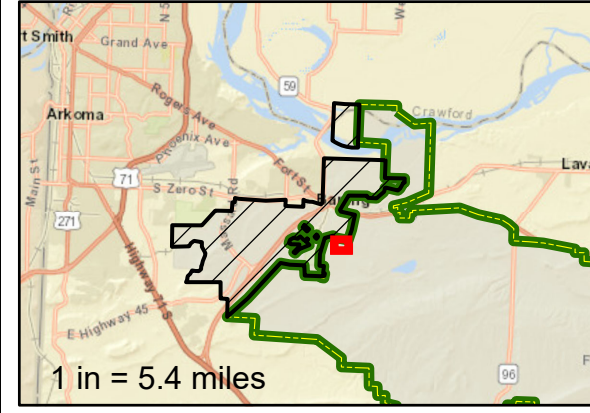
Coordinate System:  
 WGS 1984, UTM Zone 15 North

**Site Inspections (SI)  
of Per- and Polyfluoroalkyl  
Substances  
(PFAS)**

Location: Fort Chaffee, Arkansas

**Figure 6-8: Airfield Fire Fight  
and Rescue Station (Building 5850)  
Sample Results**

Drawn By: K RESTER      PM: M. FLETCHER



- Legend**
- Fort Chaffee Joint Maneuver Training Center - Transferred to the Arkansas Army National Guard (ARARNG)
  - BRAC Surplus Property
  - AOPI
  - Groundwater / Surface Soil (DPT)
  - Surface Soil (Hand Auger)
  - Surface Water Flow Direction
  - Groundwater Flow Direction (Regional)
  - Assumed Groundwater Flow Direction (Local)

Abbreviations:  
 AOPI = area of potential interest  
 Bldg = building  
 BRAC = Base Realignment and Closure  
 DPT = direct-push technology

Data Sources:  
 USGS, NHD Data, 2022  
 ESRI ArcGIS Online, Aerial Imagery

Coordinate System:  
 WGS 1984, UTM Zone 15 North

**Site Inspections (SI)  
 of Per- and Polyfluoroalkyl  
 Substances  
 (PFAS)**

Location: Fort Chaffee, Arkansas

**Figure 6-10:  
 Primary Fire Station and Heliport 2  
 Sample Locations**

Drawn By: K RESTER PM: M. FLETCHER