

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

*Prepared for:*



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

**Final  
January 2024**

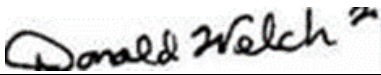
**SITE INSPECTION REPORT FOR PER- AND  
POLYFLUOROALKYL SUBSTANCES AT  
FORMER FORT CHAFFEE, ARKANSAS**

**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**

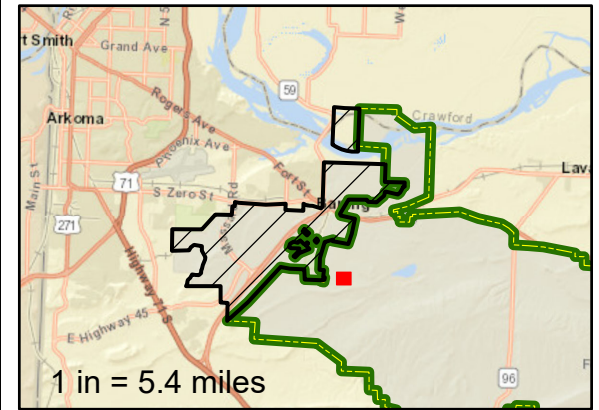
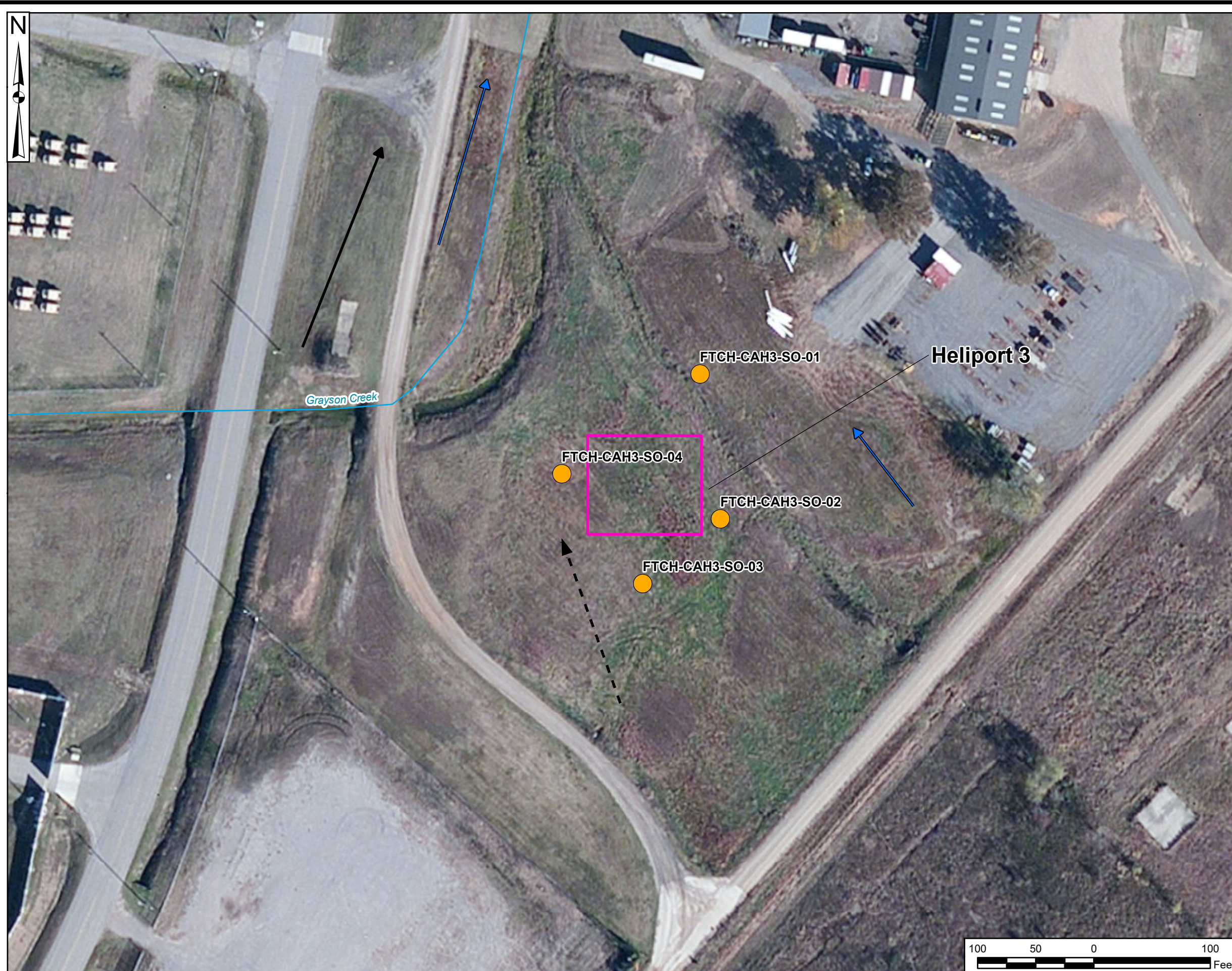
  
Don Welch  
AAR – Corporate Quality Manager

  
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
- River/Stream (Perennial)
- Stream (Intermittent)
- 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

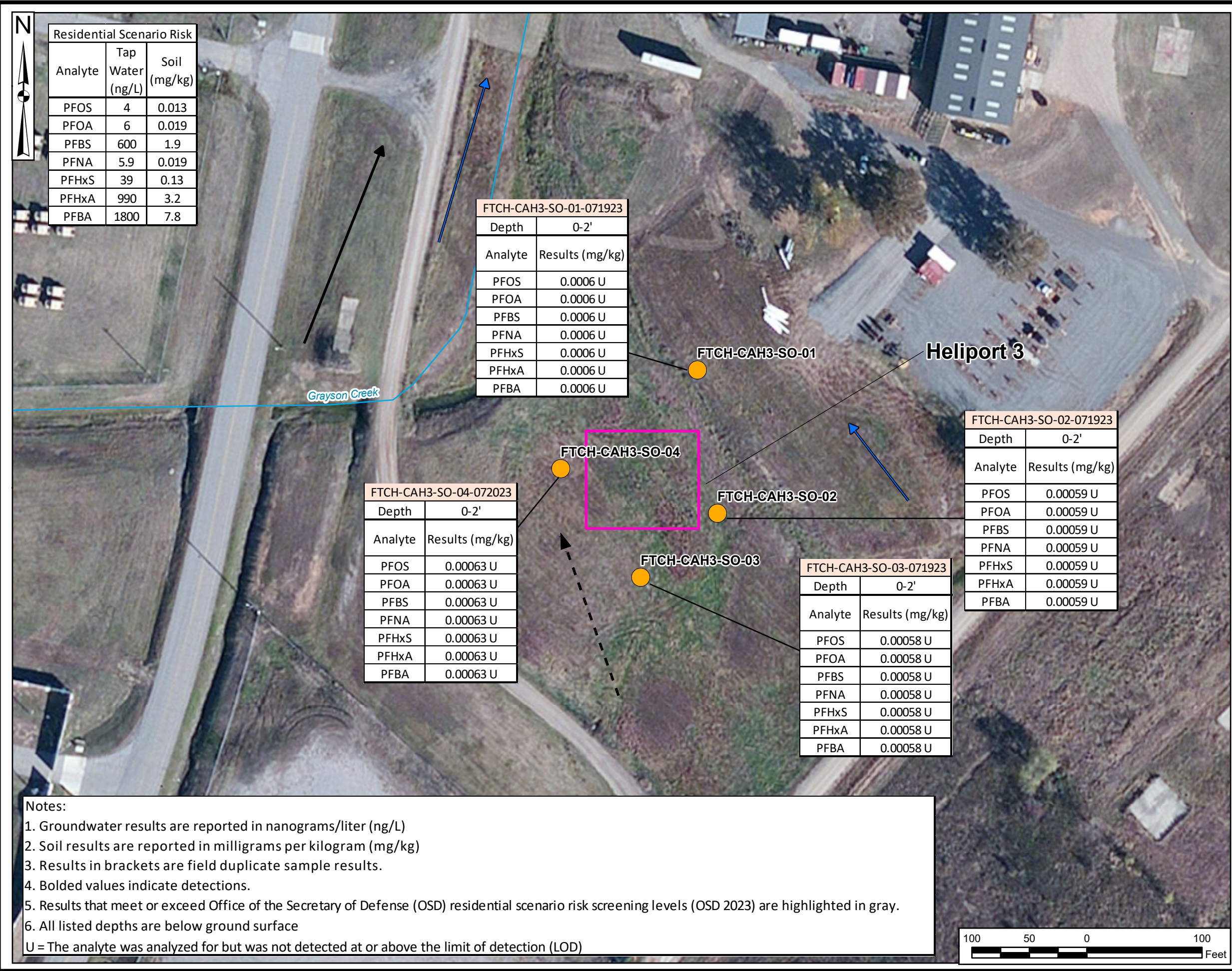
**Site Inspections (SI)  
 of Per- and Polyfluoroalkyl  
 Substances  
 (PFAS)**

Location: Fort Chaffee, Arkansas

**Figure 6-42:  
 Heliport 3  
 Sample Results**

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-CAH3-SO-01-071923	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	0.0006 U
PFOA	0.0006 U
PFBS	0.0006 U
PFNA	0.0006 U
PFHxS	0.0006 U
PFHxA	0.0006 U
PFBA	0.0006 U

FTCH-CAH3-SO-02-071923	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	0.00059 U
PFOA	0.00059 U
PFBS	0.00059 U
PFNA	0.00059 U
PFHxS	0.00059 U
PFHxA	0.00059 U
PFBA	0.00059 U

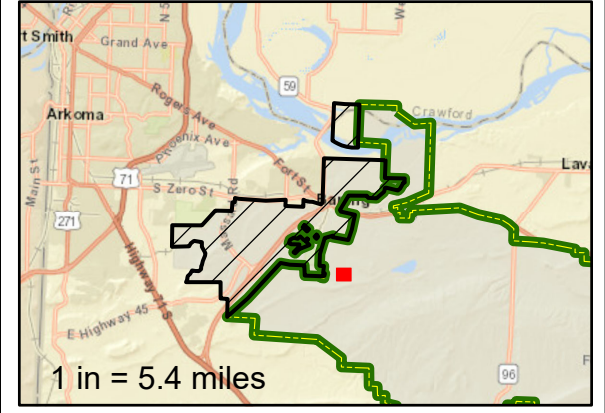
FTCH-CAH3-SO-04-072023	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	0.00063 U
PFOA	0.00063 U
PFBS	0.00063 U
PFNA	0.00063 U
PFHxS	0.00063 U
PFHxA	0.00063 U
PFBA	0.00063 U

FTCH-CAH3-SO-03-071923	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	0.00058 U
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:

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

U = The analyte was analyzed for but was not detected at or above the limit of detection (LOD)



**Legend**

- Fort Chaffee Joint Maneuver Training Center - Transferred to the Arkansas Army National Guard (ARARNG)
- BRAC Surplus Property
- AOPI
- Surface Soil (Hand Auger)
- River/Stream (Perennial)
- Stream (Intermittent)
- 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

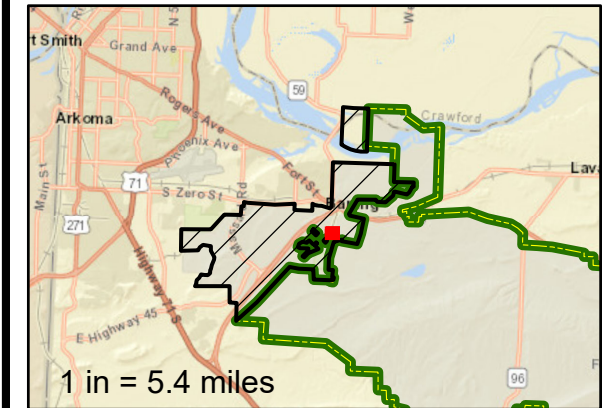
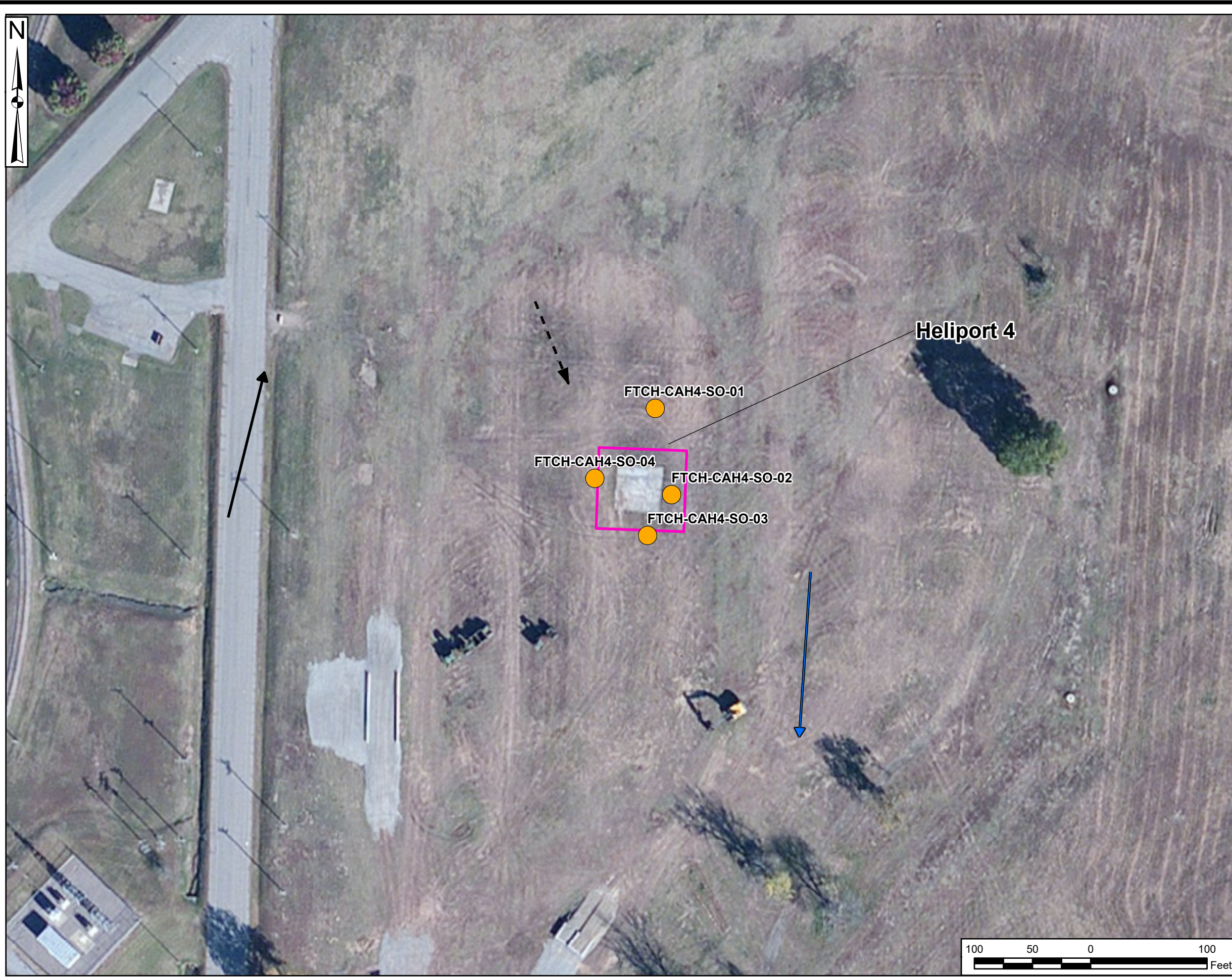
Data Sources:  
 USGS, NHD Data, 2022  
 ESRI ArcGIS Online, Aerial Imagery

Coordinate System:  
 WGS 1984, UTM Zone 15 North

**Site Inspections (SI)  
 of Per- and Polyfluoroalkyl  
 Substances  
 (PFAS)**  
 Location: Fort Chaffee, Arkansas

**Figure 6-43:  
 Heliport 3  
 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
- AOP1
- Surface Soil (Hand Auger)
- Surface Water Flow Direction
- Groundwater Flow Direction (Regional)
- Assumed Groundwater Flow Direction (Local)

**Abbreviations:**

- AOP1 = 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

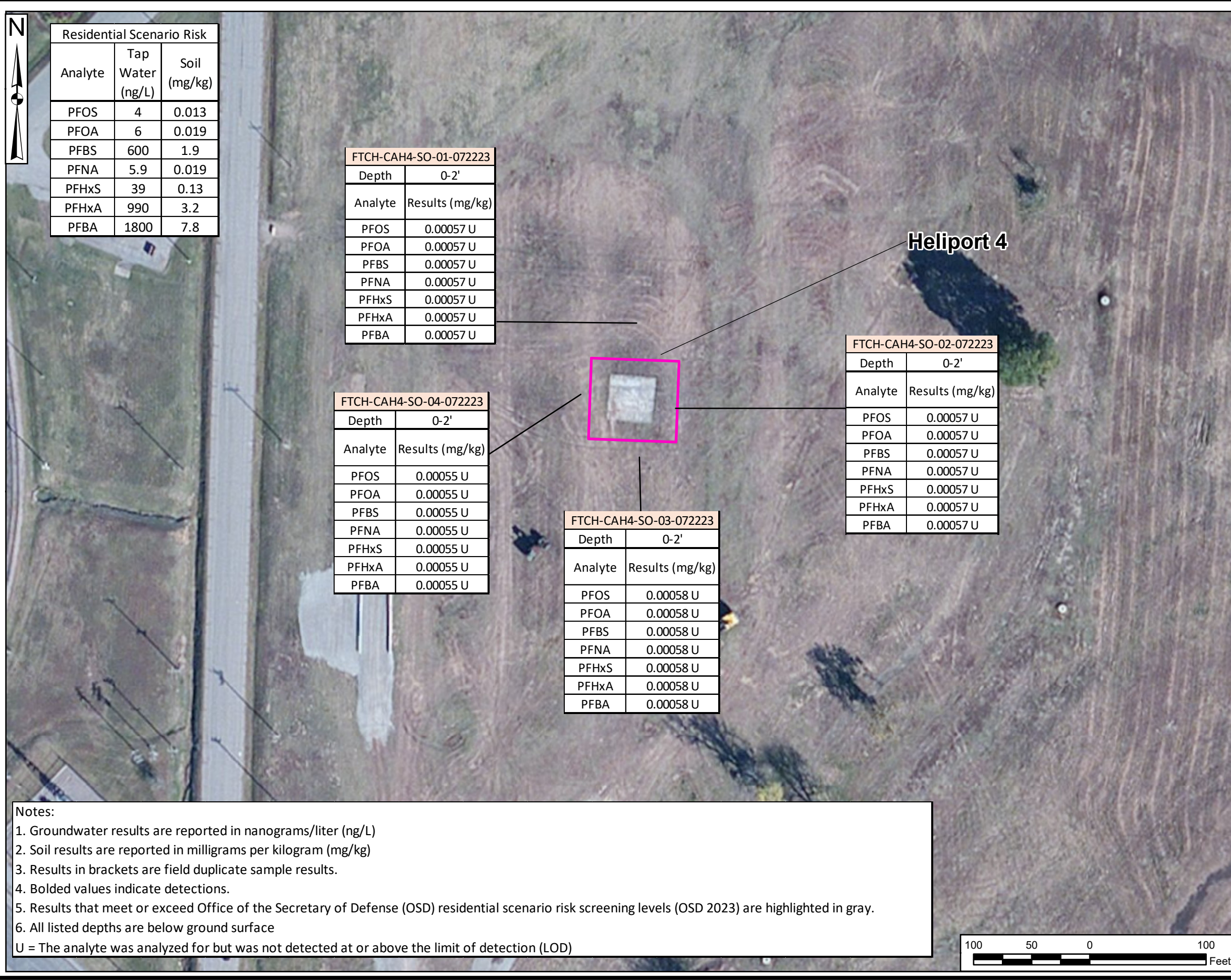
**Site Inspections (SI)  
of Per- and Polyfluoroalkyl  
Substances  
(PFAS)**

Location: Fort Chaffee, Arkansas

**Figure 6-45:  
Heliport 4  
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-CAH4-SO-01-072223	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	0.00057 U
PFOA	0.00057 U
PFBS	0.00057 U
PFNA	0.00057 U
PFHxS	0.00057 U
PFHxA	0.00057 U
PFBA	0.00057 U

FTCH-CAH4-SO-02-072223	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	0.00057 U
PFOA	0.00057 U
PFBS	0.00057 U
PFNA	0.00057 U
PFHxS	0.00057 U
PFHxA	0.00057 U
PFBA	0.00057 U

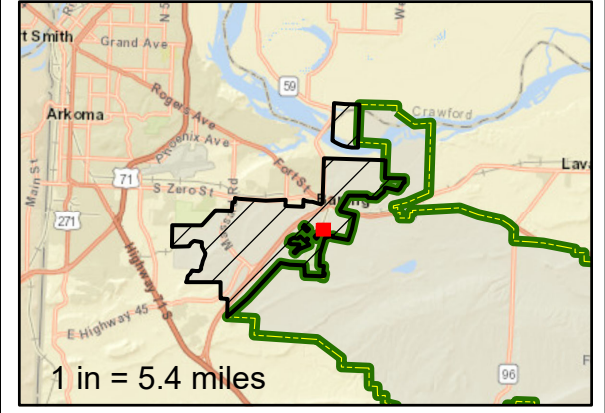
FTCH-CAH4-SO-04-072223	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	0.00055 U
PFOA	0.00055 U
PFBS	0.00055 U
PFNA	0.00055 U
PFHxS	0.00055 U
PFHxA	0.00055 U
PFBA	0.00055 U

FTCH-CAH4-SO-03-072223	
Depth	0-2'
Analyte	Results (mg/kg)
PFOS	0.00058 U
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:**

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

U = The analyte was analyzed for but was not detected at or above the limit of detection (LOD)



**Legend**

- Fort Chaffee Joint Maneuver Training Center - Transferred to the Arkansas Army National Guard (ARARNG)
- BRAC Surplus Property
- AOPI
- 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

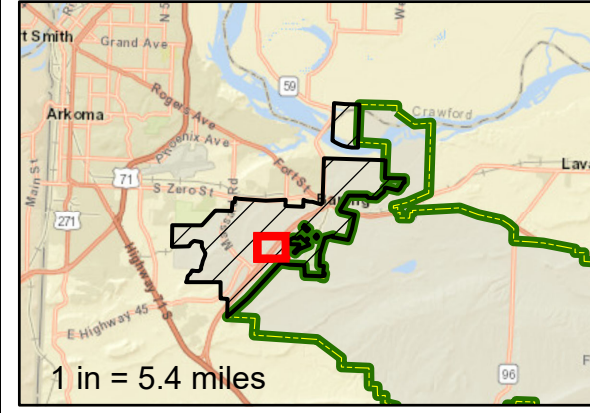
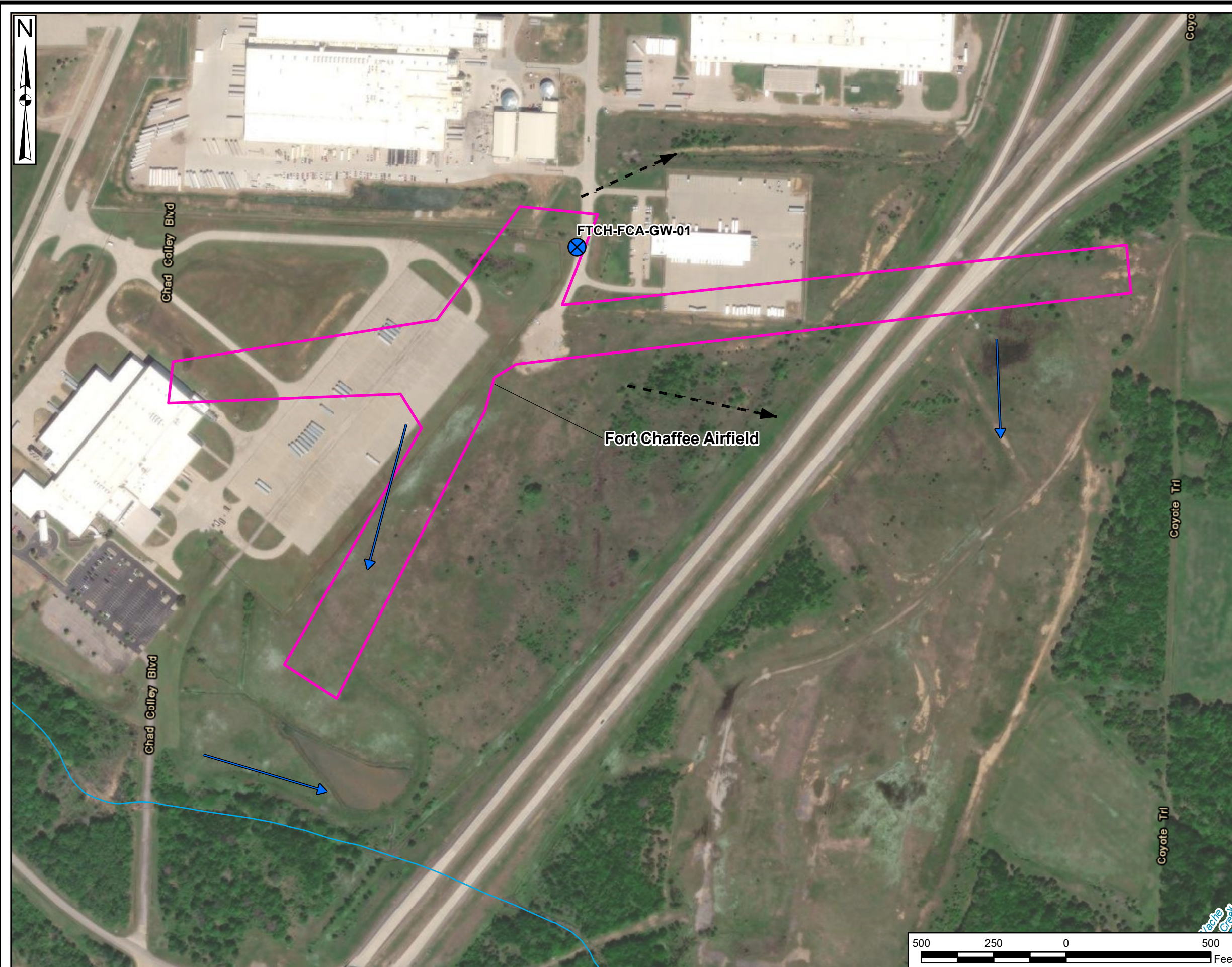
**Coordinate System:**  
 WGS 1984, UTM Zone 15 North

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

Location: Fort Chaffee, Arkansas

**Figure 6-46:  
 Heliport 4  
 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
  - Stream (Intermittent)
  - Groundwater (DPT)
  - Surface Water Flow Direction
  - 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

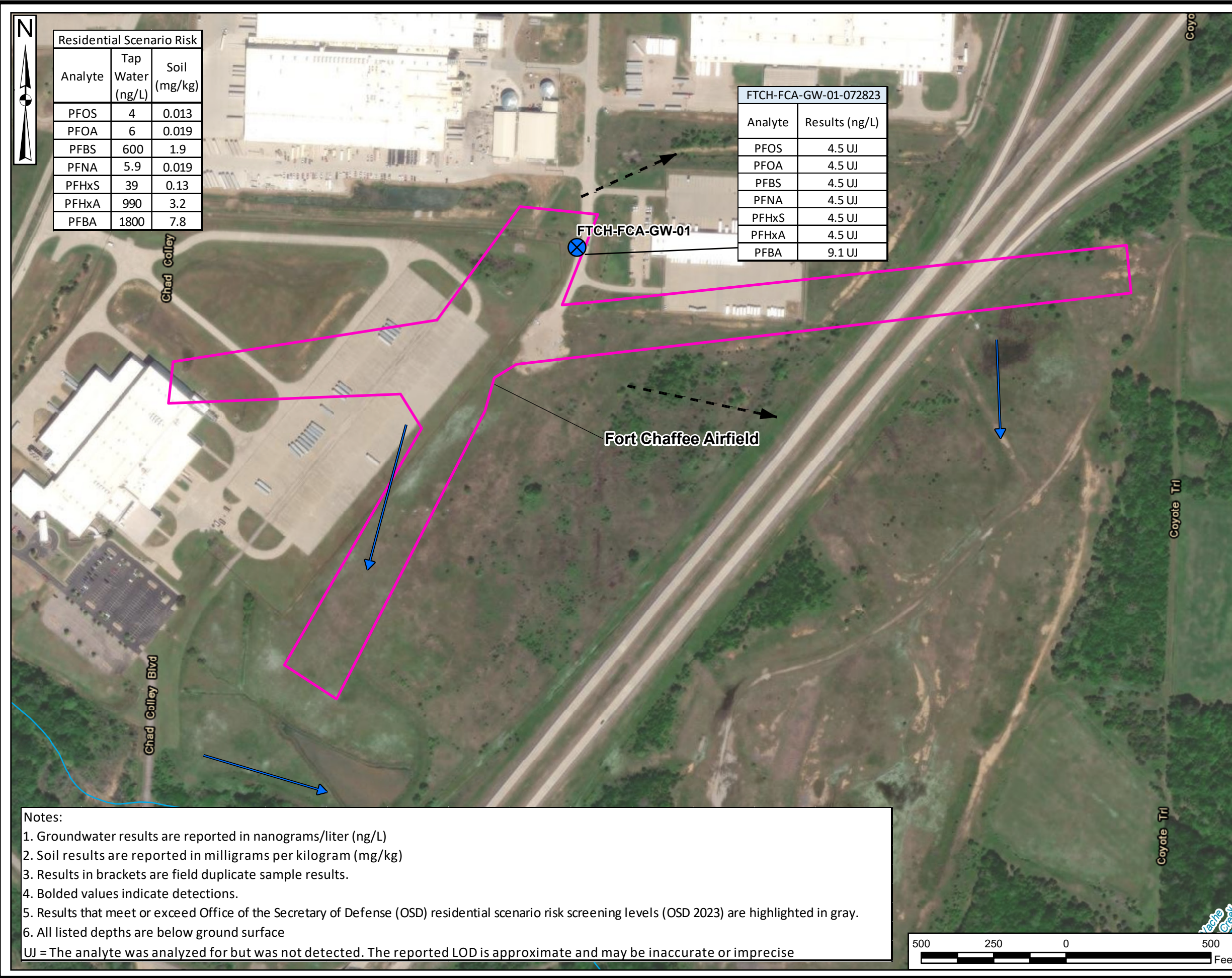
Site Inspections (SI)  
 of Per- and Polyfluoroalkyl  
 Substances  
 (PFAS)

Location: Fort Chaffee, Arkansas

Figure 6-48:  
 Fort Chaffee Airfield  
 Sample Location

Drawn By: K RESTER PM: M. FLETCHER





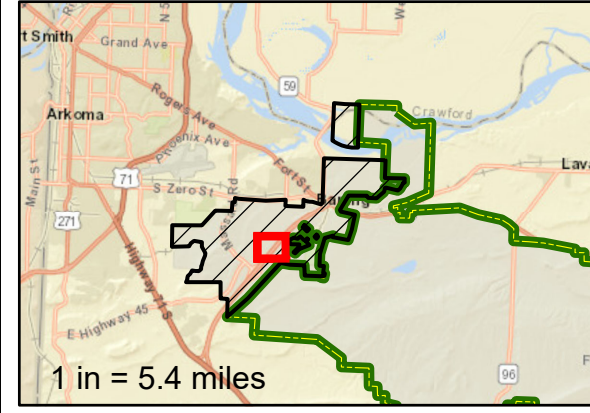
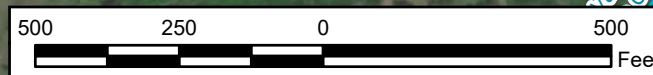
Residential Scenario Risk		
Analyte	Tap Water (ng/L)	Soil (mg/kg)
PFOS	4	0.013
PFOA	6	0.019
PFBS	600	1.9
PFNA	5.9	0.019
PFHxS	39	0.13
PFHxA	990	3.2
PFBA	1800	7.8

FTCH-FCA-GW-01-072823	
Analyte	Results (ng/L)
PFOS	4.5 UJ
PFOA	4.5 UJ
PFBS	4.5 UJ
PFNA	4.5 UJ
PFHxS	4.5 UJ
PFHxA	4.5 UJ
PFBA	9.1 UJ

**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

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
  - Stream (Intermittent)
  - Groundwater (DPT)
  - Surface Water Flow Direction
  - 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 6-49:  
 Fort Chaffee Airfield  
 Sample Results**

Drawn By: K RESTER PM: M. FLETCHER