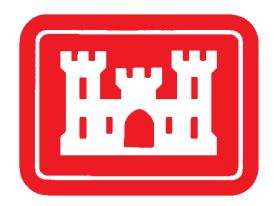
# Final Site Investigation Report

Defense Logistics Agency Property, Environmental Consulting Services at Area 4, Fort McCoy, WI Fort McCoy, Monroe, Wisconsin Contract No: W9128F22F0074

**July 2023** 

U.S. Army Corps of Engineers, Omaha District 1616 Capital Ave #3300 Omaha, NE, 68102



U.S. Army Corps of Engineers – Omaha D Fort McCoy Defense Logistics Agency Pro	
Area #4 Fort McCoy, Monroe County, Wisconsin Groundwater Investigation Report	
Groundwater investigation Report	
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#### **EXECUTIVE SUMMARY**

A previous investigation was conducted in September, 2020 by Leisnoi-KEMRON 8A JV (LKJV) Environmental Services at the Defense Logistics Agency (DLA) property (Areas #1 through #5) in which soil and groundwater samples were collected and analyzed for VOCs, SVOCs, RCRA Metals, and PCBs. Analytical results from the unfiltered groundwater samples collected in Area #4 (Site) indicated exceedances of the Wisconsin Department of Natural Resources (WDNR) Enforcement Standard (ES) and Preventative Action Limit (PAL) for arsenic, chromium, and lead.

In accordance with the Performance Work Statement (USACE, 2023), Sustainment and Restoration Services (SRS) conducted a supplemental groundwater investigation at the Site. The groundwater investigation consisted of advancement of soil borings and installation of temporary groundwater monitoring wells for field-filtered groundwater grab sample collection.

From 22 May 2023 to 24 May 2023, Probe Technologies Incorporated (PTI), under the direction of SRS, advanced twenty soil borings to depths of 12 to 20 feet below ground surface (bgs). Soil cores were logged by field personnel and each boring was converted to a temporary groundwater monitoring well. Fifteen temporary groundwater monitoring wells were installed at the Site of which five were installed south of the Site to represent upgradient conditions. A field-filtered grab groundwater sample was collected from each temporary monitoring well and shipped to the laboratory for analysis of arsenic, cadmium, chromium, and lead.

Arsenic was detected in one groundwater grab sample at a concentration of 1.62  $\mu$ g/L below the WDNR ES of 10  $\mu$ g/L, but exceeding the PAL of 1.0  $\mu$ g/L. Other GW samples collected from similar depths at the Site did not exceed the WDNR ES or the PAL.

The soil and groundwater data collected from the previous investigation for Areas #1, #2, #3, and #5 and the new groundwater results acquired by SRS for Area #4 will be provided to WDNR in a closure request. SRS has prepared a Case Closure Form (Form 4400-202) to WDNR for review. This Case Closure will contain an exemption for groundwater for the PAL exceedance.

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SRS – May 2023 W9128F22F0074 Version: Final

#### U.S. Army Corps of Engineers – Omaha District Fort McCoy Defense Logistics Agency Property Area #4

Fort McCoy, Monroe County, Wisconsin Groundwater Investigation Report

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U.S. Army Corps of Engineers – Omaha District Fort McCoy Defense Logistics Agency Property

Area #4

Fort McCoy, Monroe County, Wisconsin Groundwater Investigation Report

#### ACRONYMS AND ABBREVIATIONS

bgs below ground surface

ft feet

ES Enforcement Standard
DLA Defense Logistics Agency
DPT Direct Push Technology
ES Enforcement Standard
GPR Ground penetrating radar
IDW Investigation-derived waste

LKJV Leisnoi-KEMRON 8A JV Environmental Services

mg/kg milligrams per kilograms

OES Oneida Environmental Services

PAL Preventable Action Limits
PCBs Polychlorinated Biphenyls
PID photoionization detector

PTI Probe Technologies Incorporated

PVC Polyvinyl chloride

PWS Performance Work Statement

QA Quality assurance

QAPP Quality Assurance Project Plan

QC Quality control

RCRA Resource Conservation and Recovery Act

RFP Request for Proposal

SOP Standard operating procedure

SRS Sustainment and Restoration Services, LLC

SVOC semi volatile organic compound

UFP-QAPP Uniform Federal Policy – Quality Assurance Project Plan

USACE U.S. Army Corps of Engineers
USCS Unified Soil Classification System

USEPA United States Environmental Protection Agency

VOC volatile organic compound

WDNR Wisconsin Department of Natural Resources

WMP Waste Management Plan

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#### 1.0 BACKGROUND INFORMATION

#### 1.1 LOCATION AND SITE CONSTRAINTS

Fort McCoy is a U.S. Army facility located on 60,000 acres in Monroe County, Wisconsin as depicted in Figure 1. Fort McCoy was first established as Camp McCoy in the early 1900s and became Fort McCoy in 1974 where the primary focus had been training. However, Camp McCoy served as a temporary internment and prisoner of war camp during WW II. The present mission of Fort McCoy is that of a Total Force Training Center. Fort McCoy is located in west central Wisconsin. The closest major city (La Crosse) is approximately 30 miles west of Fort McCoy. DLA has historically used the Site at Fort McCoy as a storage facility and scrapyard operation.

#### 1.2 PROJECT DESCRIPTION

Pursuant to the Contract #W9128F22F0074, Sustainment and Restoration Services, LLC (SRS) on behalf of the United States Army Corps of Engineers (USACE) Omaha District has prepared this Site Investigation Report to document concentrations of specified metals in the groundwater for DLA property Area #4 (Site) located at Fort McCoy, in Monroe County, Wisconsin. The Site consists of a telephone line easement path bound by Tarr Creek to the north and DLA property Area #5 to the south. A Site Map depicting the site location, the general layout of the Site, and sampling locations is included as **Figure 1**.

This groundwater investigation for Area #4 is a continuation of a previous investigation conducted by a previous consultant, LKJV Environmental Services. On 14 September 2020, LKJV mobilized to Fort McCoy and conducted collection and analysis of 123 soil samples and 18 groundwater samples from installed borings at all areas of the site. The samples were transported to the laboratory and were analyzed for: volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), Resource Conservation and Recovery Act (RCRA) Metals, and Polychlorinated Biphenyls (PCBs) utilizing the appropriate United Stated Environmental Protection Agency (USEPA) analytical methods. Groundwater sample results from Area #4 indicated exceedances of arsenic, chromium, and lead above the Wisconsin Department of Natural Resources (WDNR) Enforcement Standards (ES) and the Preventative Action Limits (PAL) or only above the PAL. It was inferred that the exceedances may have been attributed to samples with high turbidity being analyzed. The USACE Omaha District later concluded that the area should be resampled using field filtration methods to lower the turbidity of analyzed samples, therefore producing a more accurate representation of dissolved metals in the groundwater. The USACE Omaha district then issued a new Request for Proposal (RFP) dated 18 November 2021, SRS was awarded the contract on 25 April 2022. The work described in this Site Investigation Report was performed in accordance with the previously submitted and approved Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP).

In accordance with the revised PWS dated January 2023 (USACE, 2023), the objectives of this contract were to:

- Establish background metals concentrations in groundwater for arsenic, cadmium, chromium, and lead.
- Re-collect groundwater samples from the locations identified with metals contamination.

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#### 2.0 WORK SCOPE

#### 2.1 FIELD TASKS

#### 2.1.1 Site Clearing and Utility Locate

Before the installation of all temporary monitoring wells, Oneida Environmental Services (OES) marked the soil boring/temporary monitoring well locations with a Treble GPS unit using location data acquired from previous consultant's report for the Site. If a location was offset due to refusal, SRS personnel recorded the distance and direction of the offset in a field book. Soil boring/temporary monitoring well location data is included as **Appendix F**.

Prior to beginning drilling operations, a private utility locate was completed by a subcontractor, Probe Technologies Incorporated (PTI), and Wisconsin Diggers Hotline (811) was also notified to perform a public utility locate. Field personnel from SRS began the investigation by walking the Site to see if the previously surveyed areas needed to be offset for drill rig access. No clearance of vegetation was needed at Area #4 to access the soil boring locations. Before drilling began, PTI, the drilling subcontractor, cleared each boring of subsurface utilities using a stainless-steel hand-auger up to 5 feet below ground surface (bgs). The utility locations were marked by Wisconsin Diggers Hotline (811) and confirmed by ground penetrating radar (GPR) utilized by Subsurface Radar Solutions (a subcontractor to PTI). No State of Wisconsin or local permits were necessary for this investigation.

#### 2.1.2 Groundwater Investigation

Soil borings were advanced at the Site using a Direct Push Technology (DPT) drilling rig operated by PTI. The soil borings were advanced along the southern boundary of Tarr creek which was accessed via an unpaved road east of the Site.

Fifteen soil borings were advanced to depths of 12 feet to 20 feet bgs until one to two feet below the water table was reached. Five background locations (BS01, BS02, BS03, BS04, and BS05) were also advanced to depths of approximately 12 feet bgs until the water table was exceeded one to two feet bgs. Each soil boring was logged using the ASTM D2487-17e1 and Unified Soil Classification System (USCS) by an onsite SRS project geologist. Geologic boring logs that include temporary well construction information, soil characterization, and groundwater data are included as **Appendix C**.

Each soil boring installed (i.e., SB/TW01, SB/TW02, SB/TW03, SB/TW04, SB/TW05, SB/TW06, SB/TW07, SB/TW08, SB/TW09, SB/TW10, SB/TW11, SB/TW12, SB/TW13, SB/TW14, SB/TW15, BS01, BS02, BS03, BS04, and BS05) was converted into temporary groundwater monitoring wells, shown on **Figure 1**.

The temporary monitoring wells were installed to depths ranging from 12 to 20 feet bgs, with a screened interval of 10 feet that bracketed the water table. The temporary monitoring wells were constructed with 10 feet sections of 1-inch schedule 40 PVC casings with factory slotted screens. Groundwater grab sampling techniques in conjunction with 0.45-micron field filters were employed to sample the temporary monitoring wells using a peristaltic pump. Groundwater was pumped up the temporary monitoring well from the subsurface using LDPE tubing with a peristaltic pump and through a 0.45-micron field filter located after the pump. Groundwater was collected in laboratory supplied containers immediately after the field filter. All collected sampling purge water was disposed of on the ground adjacent to the temporary monitoring well location. Temporary monitoring wells were installed with a stick-up completion to facilitate removal once the groundwater sample was collected.

Groundwater grab sampling activities were conducted in accordance with the standard operating procedures (SOPs) found in Appendix C of the UFP-QAPP (SRS, 2023). Field forms for the sampling event along with the corresponding field calibration logs are included as **Appendix E**. The groundwater samples were submitted to Pace Analytical for analysis of metals for arsenic, cadmium, chromium, and lead by DOD methods 6020. QA/QC samples were collected for the same analysis. QA/QC samples collected for groundwater included field duplicates, MS/MSDs, equipment blank, and a field blank.

One equipment blank sample (EB-01-052423) was collected from water level indicator used for depth to groundwater measurements in the temporary groundwater monitoring wells. The water level indicator was decontaminated in accordance with the SOPs presented in Appendix C of the UFP-QAPP (SRS, 2023). Vendor-supplied deionized water was poured over the decontaminated water level indicator and captured in a laboratory-supplied container. The sample was submitted to Pace Analytical for analysis of metals for arsenic, cadmium, chromium, and lead by DOD methods 6020.

#### 2.1.3 Well Abandonment

After sampling was complete, PTI decommissioned the temporary groundwater monitoring wells by filling the borings with bentonite pellets then backfilling to ground surface with the soil recovered from the DPT sleeves during drilling.

#### 2.1.4 IDW Management

Soil investigation derived waste (IDW) that could not be returned to the borings was spread throughout the vegetated area to match the condition of the surrounding area. Groundwater IDW was returned to the surrounding area during sampling with permission from Fort McCoy personnel.

#### 3.0 ANALYTICAL RESULTS

Analytical laboratory reports from Pace Analytical and are included as **Appendix F**, summarized in **Table 1**, and shown on **Figure 2**.

#### 3.1 GROUNDWATER ANALYTICAL RESULTS

Of the twenty groundwater grab samples collected south of Tarr creek and along the southern railroad tracks, only one sample (SB-TW-11-GW-052223) exceeded the PAL for arsenic but not the WDNR ES. The sample result was  $1.62 \mu g/L$  and the PAL for arsenic is  $1.0 \mu g/L$ .

Lead was detected in the equipment blank sample (EB-01-052423) at a concentration of 55.4  $\mu$ g/L that exceeded the PAL of 1.5  $\mu$ g/L and the WDNR ES of 15  $\mu$ g/L; however, no WDNR ES or PAL lead exceedances were detected in other samples collected at the Site. This indicates that the water level meter did not affect other samples collected. SRS investigated the potential cause of the exceedance; however it appears to be anomalous and its cause is unknown. A figure summarizing the analytical results at each sample location is included as **Figure 2**.

#### 4.0 CONCLUSIONS

Analytical results concluded that of the 15 groundwater samples collected, one sample (SB-TW-11-GW-052223) had a slight exceedance over the PAL for arsenic but not the WDNR ES for arsenic. The sample result was 1.62  $\mu$ g/L and the PAL for arsenic is 1.0  $\mu$ g/L. All 5 background samples had zero detections for metal concentrations. This indicates that the detections are residual; the remaining residual concentrations will likely degrade naturally.

SRS has prepared and submitted a Case Closure Form (Form 4400-202) to WDNR for review. This Case Closure will summarize soil and groundwater analytical data from DLA Property Areas #1 through #5. A groundwater closure exemption was requested since only one arsenic PAL exceedance was reported at one location and no WDNR exceedances were reported. When approved the DLA Property will return to the control of the installation after the Case Closure with WDNR and Environmental Condition Property investigation by USACE.

#### 5.0 REFERENCES

- Defense Logistics Agency Property, Environmental Consulting Services at Fort McCoy, WI. USACE. 2021. Performance Work Statement (PWS). Contract No. W9128F18D0054
- Defense Logistics Agency Property, Environmental Consulting Services at Fort McCoy, WI. USACE. 2023. Performance Work Statement (PWS) Contract Modification. Contract No. W9128F22F0074 (g6ct9mew23442)
- Leisnoi-KEMRON 8A JV (LKJV). 2021. Completion Report for Fort McCoy Environmental Investigation Services for the Transfer of The Defense Logistics Agency (DLA) Property.
- SRS. 2023. Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) for Fort McCoy Defense Logistics Agency Property Groundwater Investigation. March 2023.
- Wisconsin Department of Natural Resources (WDNR). Table I Drinking Water & Groundwater Quality Health Standards/Advisory Levels. Web: <a href="https://dnr.wisconsin.gov/sites/default/files/topic/DrinkingWater/HALtable.pdf">https://dnr.wisconsin.gov/sites/default/files/topic/DrinkingWater/HALtable.pdf</a>
- WDNR. Public Health Groundwater Quality Standards. Web: <a href="https://dnr.wisconsin.gov/topic/Groundwater/CurrentStandards.html">https://dnr.wisconsin.gov/topic/Groundwater/CurrentStandards.html</a>
- USGS. Alderwood Lake Quandrangle. 2022.

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# **TABLES**

# Table 1 Groundwater Analytical Results Fort McCoy Groundwater Investigation

Sample ID				SB-TW-01- GW-052323	SB-TW-02- GW-052323	SB-TW-03- GW-052323	SB-TW-04- GW-052323	SB-TW-05- GW-052323	SB-TW-06- GW-052323	SB-TW-07- GW-052323	SB-TW-08- GW-052323	SB-TW-09- GW-052323
Sampling Date			mpling Date	23-May-23								
Analyte (ug/L)	Matrix	WDNR ES (ug/L)	PAL (ug/L)									
Arsenic	AQ	10	1	0.439 J	0.310 J	0.402 J	0.210 J	0.328 J	0.500 U	0.251 J	0.334 J	0.365 J
Cadmium	AQ	5	0.5	0.500 U								
Chromium*	AQ	100	10	15.0 U								
Lead	AQ	15	1.5	1.50 U								

#### Notes:

PAL - Preventative Action Limit

WDNR - Wisconsin Dept of Natural Resources

ES - Enforcement Standard

LOD - Limit of Detection

Results above the PAL appear in **bold** font Results above the WDNR ES appear shaded

ug/L - Micrograms per liter

DUP - Field duplicate

J - The reported result is an estimated value.

U - Not detected above the LOD

Table 1
Groundwater Analytical Results
Fort McCoy Groundwater Investigation

Sample ID			SB-TW-10- GW-052223	SB-TW-11- GW-052223	SB-TW-12- GW-052223	SB-TW-13- GW-052223	SB-TW-13-DUP- GW-052223	SB-TW-14- GW-052223	SB-TW-15- GW-052223	EB-01- 052423	FB-01-052423	
Sampling Date			22-May-23	22-May-23	22-May-23	22-May-23	22-May-23	22-May-23	22-May-23	24-May-23	24-May-23	
Analyte (ug/L)	Matrix	WDNR ES (ug/L)	PAL (ug/L)									
Arsenic	AQ	10	1	0.555 J	1.62	0.298 J	0.900	0.866	0.560 J	0.397 J	0.500 U	0.500 U
Cadmium	AQ	5	0.5	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chromium*	AQ	100	10	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U
Lead	AQ	15	1.5	1.07 J	1.50 U	1.50 U	0.521 J	1.50 U	1.50 U	1.50 U	55.4	1.50 U

#### Notes:

PAL - Preventative Action Limit

WDNR - Wisconsin Dept of Natural Resources

ES - Enforcement Standard

LOD - Limit of Detection

Results above the PAL appear in **bold** font Results above the WDNR ES appear shaded

ug/L - Micrograms per liter

DUP - Field duplicate

J - The reported result is an estimated value.

U - Not detected above the LOD

# Table 1 Groundwater Analytical Results Fort McCoy Groundwater Investigation

			Sample ID	BS-01-GW- 052423	BS-02-GW- 052423	BS-03-GW- 052423	BS-04-GW- 052423	BS-04-DUP- GW-052423	BS-05-GW- 052423
		Sai	mpling Date	24-May-23	24-May-23	24-May-23	24-May-23	24-May-23	24-May-23
Analyte (ug/L)	Matrix	WDNR ES (ug/L)	PAL (ug/L)						
Arsenic	AQ	10	1	0.356 J	0.337 J	0.209 J	0.281 J	0.351 J	0.599 J
Cadmium	AQ	5	0.5	0.500 U	0.500 U				
Chromium*	AQ	100	10	15.0 U	15.0 U				
Lead	AQ	15	1.5	0.731 J	1.50 U	1.50 U	0.550 J	1.50 U	1.50 U

#### Notes:

PAL - Preventative Action Limit

WDNR - Wisconsin Dept of Natural Resources

ES - Enforcement Standard

LOD - Limit of Detection

Results above the PAL appear in **bold** font Results above the WDNR ES appear shaded

ug/L - Micrograms per liter

DUP - Field duplicate

J - The reported result is an estimated value.

U - Not detected above the LOD

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## **FIGURES**



# Legend

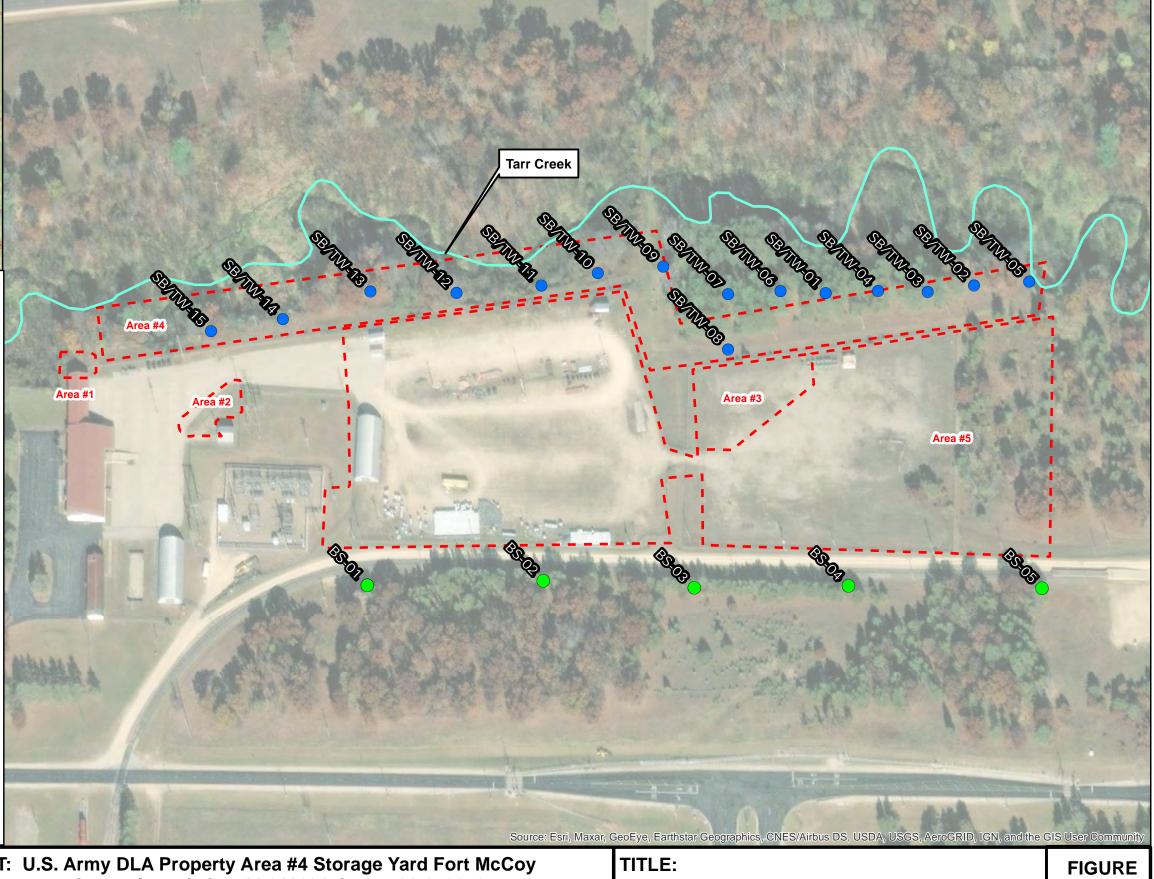
- Background Sample Location (BS)
- Soil Boring (SB) / Temporary Wells (TW)

Tarr Creek

Area Boundary



0 60120 480





PROJECT: U.S. Army DLA Property Area #4 Storage Yard Fort McCoy Approximately Lat:44.011631, Long:-90.679379 Fort McCoy, Monroe County, Wisconsin **Contract No: W9128F18D0054** 

6-27-2023

DATE DRAWN:

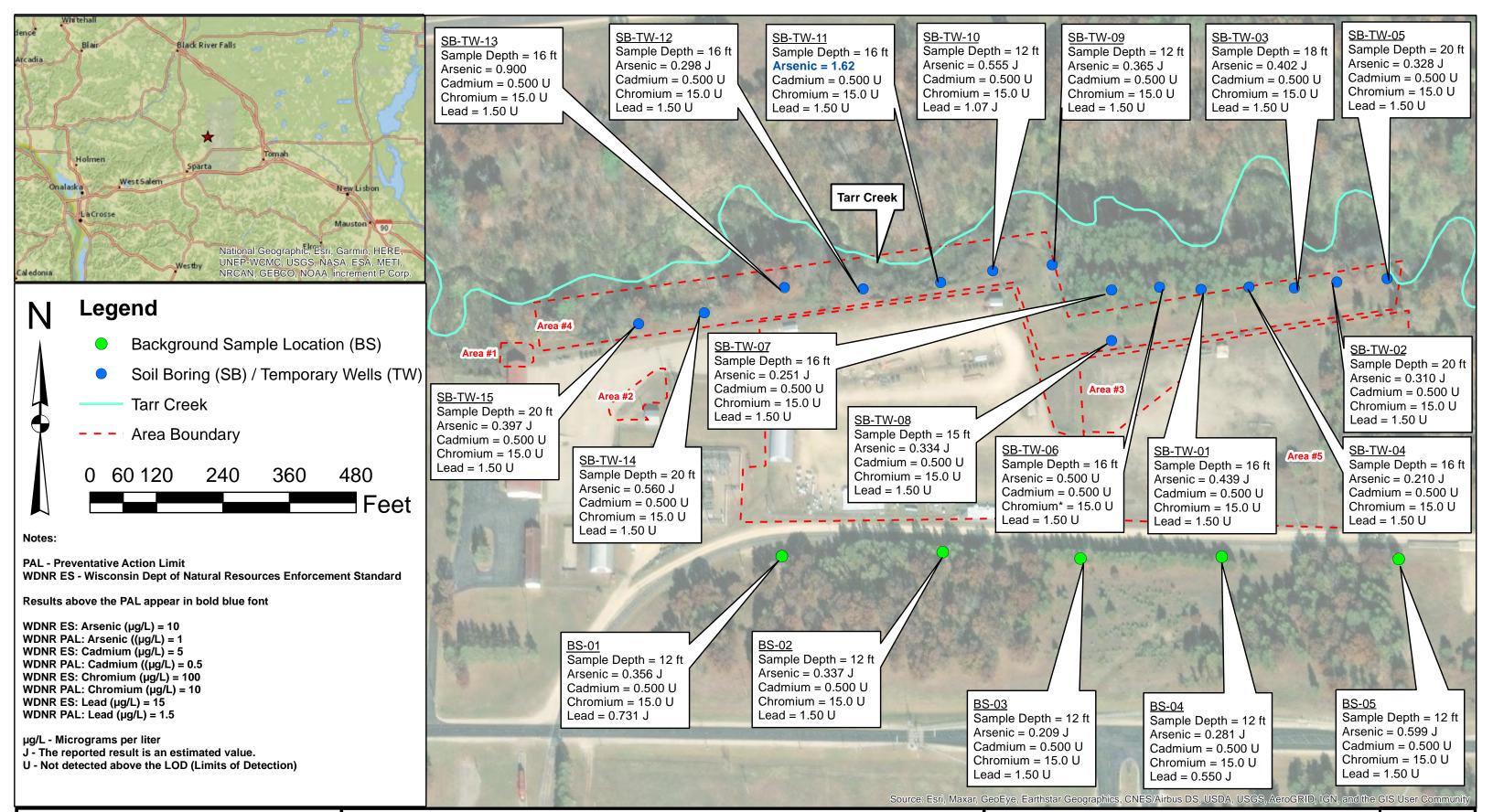
SCALE:

**As Shown** 

**DRAWN BY: CHECKED BY:** SS

**SAMPLE LOCATION MAP** 

JHH





PROJECT: U.S. Army DLA Property Area #4 Storage Yard Fort McCoy Approximately Lat:44.011631, Long:-90.679379 Fort McCoy, Monroe County, Wisconsin Contract No: W9128F18D0054

**DATE DRAWN:** 

6-29-2023

SCALE:

As Shown

DRAWN BY:

TITLE:

**CHECKED BY:** 

SS

**JHH** 

**SAMPLE & DATA LOCATION MAP** 

**FIGURE** 

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# APPENDIX A PHOTOGRAPHIC LOG

**Contract No: W9128F22F0074** 

## Official Photograph No. 1

**Location:** South 8<sup>th</sup> Ave

**Date:** May 23, 2023

**Photographer:** Sam Santoso

**Subject:** View of property

from road.



## Official Photograph No. 2

**Location:** BS-02

**Date:** May 24, 2023

**Photographer:** Sam Santoso

**Subject:** View of property.



## **Contract No: W9128F22F0074**

Official Photograph No. 3

**Location:** SB/TW-01

**Date:** May 23, 2023

**Photographer:** Sam Santoso

**Subject:** View of SB/TW-01

prior to investigation

activities.



## Official Photograph No. 4

**Location:** SB/TW-01

**Date:** May 24, 2023

Photographer: Jack Heltzer

**Subject:** View of SB/TW-01 post investigation activities.



**Contract No: W9128F22F0074** 

Official Photograph No. 5

**Location:** SB/TW-02

**Date:** May 23, 2023

**Photographer:** Sam Santoso

**Subject:** View of SB/TW-02

prior to investigation

activities.



## Official Photograph No. 6

**Location:** SB/TW-02

**Date:** May 24, 2023

Photographer: Jack Heltzer

**Subject:** View of SB/TW-02 post investigation activities.



**Contract No: W9128F22F0074** 

## Official Photograph No. 7

**Location:** SB/TW-02

**Date:** May 23, 2023

**Photographer:** Sam Santoso

**Subject:** View of SB/TW-02

soils.



## Official Photograph No. 8

**Location:** SB/TW-03

**Date:** May 24, 2023

**Photographer:** Jack Heltzer

**Subject:** View of SB/TW-03 post investigation activities.



**Contract No: W9128F22F0074** 

#### Official Photograph No. 9

**Location:** SB/TW-04

**Date:** May 24, 2023

**Photographer:** Jack Heltzer

**Subject:** View of SB/TW-04 post investigation activities.



## Official Photograph No. 10

**Location:** SB/TW-05

**Date:** May 24, 2023

**Photographer:** Jack Heltzer

**Subject:** View of SB/TW-05 post investigation activities.



## **Contract No: W9128F22F0074**

Official Photograph No. 11

**Location:** SB/TW-06

**Date:** May 24, 2023

Photographer: Jack Heltzer

**Subject:** View of SB/TW-06 post investigation activities.



## Official Photograph No. 12

**Location:** SB/TW-07

**Date:** May 24, 2023

**Photographer:** Jack Heltzer

**Subject:** View of SB/TW-07 post investigation activities.



**Contract No: W9128F22F0074** 

Official Photograph No. 13

**Location:** SB/TW-08

**Date:** May 28, 2023

**Photographer:** Sam Santoso

**Subject:** View of SB/TW-08

during investigation activities.



## Official Photograph No. 14

**Location:** SB/TW-08

**Date:** May 24, 2023

**Photographer:** Jack Heltzer

**Subject:** View of SB/TW-08 post investigation activities.



**Contract No: W9128F22F0074** 

#### Official Photograph No. 15

Location: SB/TW-09 Date: May 24, 2023

Photographer: Jack Heltzer

**Subject:** View of SB/TW-09 post investigation activities.



## Official Photograph No. 16

**Location:** SB/TW-10

**Date:** May 23, 2023

**Photographer:** Sam Santoso

**Subject:** View of SB/TW-10

prior to investigation

activities.



**Contract No: W9128F22F0074** 

## Official Photograph No. 17

**Location:** SB/TW-10

**Date:** May 24, 2023

Photographer: Jack Heltzer

**Subject:** View of SB/TW-10 post investigation activities.



## Official Photograph No. 18

**Location:** SB/TW-11

**Date:** May 23, 2023

**Photographer:** Sam Santoso

**Subject:** View of SB/TW-11 prior to investigation

activities.



**Contract No: W9128F22F0074** 

#### Official Photograph No. 19

 $\textbf{Location:} \ SB/TW\text{-}11$ 

**Date:** May 24, 2023

Photographer: Jack Heltzer

**Subject:** View of SB/TW-11 post investigation activities.



## Official Photograph No. 20

**Location:** SB/TW-12

**Date:** May 24, 2023

**Photographer:** Jack Heltzer

**Subject:** View of SB/TW-12 post investigation activities.



# **Contract No: W9128F22F0074**

Official Photograph No. 21

**Location:** SB/TW-13

**Date:** May 24, 2023

Photographer: Jack Heltzer

**Subject:** View of SB/TW-13 post investigation activities.



Official Photograph No. 22

Location: SB/TW-14

**Date:** May 24, 2023

**Photographer:** Jack Heltzer

**Subject:** View of SB/TW-14 post investigation activities.



### **Fort McCoy**

**Contract No: W9128F22F0074** 

### Official Photograph No. 23

**Location:** SB/TW-15

**Date:** May 24, 2023

Photographer: Jack Heltzer

**Subject:** View of SB/TW-15 post investigation activities.



### Official Photograph No. 24

**Location:** BS-01

**Date:** May 24, 2023

**Photographer:** Sam Santoso

**Subject:** View of BS-01 post investigation activities.



### **Fort McCoy**

**Contract No: W9128F22F0074** 

### Official Photograph No. 25

**Location:** BS-02

**Date:** May 24, 2023

**Photographer:** Sam Santoso

**Subject:** View of BS-02 prior to investigation activities.



### Official Photograph No. 26

**Location:** BS-03

**Date:** May 24, 2023

**Photographer:** Sam Santoso

**Subject:** View of BS-03 prior to investigation activities.



### **Fort McCoy**

**Contract No: W9128F22F0074** 

Official Photograph No. 27

**Location:** BS-05

**Date:** May 24, 2023

Photographer: Jack Heltzer

**Subject:** View of BS-05 post

investigation activities.



### Official Photograph No. 28

**Location:** SB/TW-08

**Date:** May 23, 2023

Photographer: Jack Heltzer

**Subject:** View of SB/TW-08-GW sample being field

filtered.



U.S. Army Corps of Engineers – Omaha District Fort McCoy Defense Logistics Agency Property Area 4 Fort McCoy, Monroe, Wisconsin Groundwater Investigation Report

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U.S. Army Corps of Engineers – Omaha District Fort McCoy Defense Logistics Agency Property Area 4 Fort McCoy, Monroe, Wisconsin Groundwater Investigation Report

### **APPENDIX B**

# DAILY REPORTS AND SIGNED HEALTH AND SAFETY/QC DOCUMENTATION

### DAILY FIELD RECORD



Destanta	ask Number: S2022014			Date: 05/22,	123			
Project Name	e: Fort McCoy - GW Inve	stigatio	n	Field Activity: D		Porto (HI) Gra	h Sandy	
Location: Fort McCoy, Monroe County, Wiscon		onsin	Weather: 51° - 80					
PERSONNE	runie			Company	1,1	Time	Time Out	
SAM S	entuso		SRS			0800	1715	
Jack Heltzer			SRS			0800	1715	
PERSONAL	SAFETY CHECKLIST							
	I-toed Boots	×	Hard Ha	at		Tyvek Coveralls		
	e Gloves	×	Safety C	Glasses		1/2-Face Respira	itor	
DRUM I.D	DESCRIPTION	ON OF	CONTENT	S AND QUANTITY		LOCATION		
							_	
TIME			DESCRIP	TION OF WA				
TIME	1	1.		TION OF WORK PE		D		
0800	Arrive on s	ite-	Jack	H & Com	2			
0810	Go through	site	Jack Safe	H & San S	S 1 P / A H	A's about	Project	
0810	Go through Scope out bo	site	Jack Safe /boring	H & San S +4, APP/SSH beations near	S IP/AH	A's about	Project	
0800 0810 0820	Scope out bo Train tracks	site rings are	Jack Safe / boring ACTI	H & San S ty, APP/SSH becations near	S IP/AH Tarr	A's about		
0800 0810 0820	Go through Scope out bo Train tracks Probe Technolog arrive on site	site orings are gres (	Jack Safe Soring ACTI Dan Be throug	H & San S ty , APP/SSH becations near VE. May imparadorf & Eric Pla h AHA'S safe	S IP/AH Tarr ct site trante) &	Creek. Work. Matt Savino (	GPR)	
0800 0810 0820 0900	Go through Scope out bo Train tracks Probe Technolog arrive on site	site orings are gres (	Jack Safe Soring ACTI Dan Be throug	H & San S ty , APP/SSH becations near VE. May imparadorf & Eric Pla h AHA'S safe	S IP/AH Tarr ct site trante) &	Creek. Work. Matt Savino (	GPR)	
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# DAILY SAFETY TAILGATE MEETING FORM FORT McCOY, MONROE COUNTY, WISCONSIN

Safety responsibilities and communication protocols  Site Layout: work zones, emergency equipment, sanitation, staging area, Personal protective equipment required  Requirements for equipment and tool inspections, operations, use Exposure to hazardous substances and control measures  General safe work practices, housekeeping Emergency action plan and procedures, evacuation First Aid and Emergency Response procedures  Hospital and Urgent Care Locations:  Tomah Health - Sol Gopher Are Tomb, WI S  HASP Sections, Safety Plans, AHAs reviewed: Yes, Shift reviewed.  Other hazards and hazard controls to review (Note below)  Inned Work Tasks and Safety Items Discussed:  Work grass And; animal hazards (i.e. stakes, trobs)  MIS trips, stips; Far protection; Hart hat; from the same stage of the same stage	RSONNEL: communication protocols mergency equipment, sanitation, staging area, parking ment required ent and tool inspections, operations, use estances and control measures es, housekeeping di procedures, evacuation esponse procedures cocations: SOI Gopher Ave Tomb, WI 5466 C ens, AHAS et & reviewed. controls to review (Note below)  Discussed:  Discuss	Safety responsibilities and communication protocols  Site Layout: work zones, emergency equipment, sanitation, staging area, parking  Personal protective equipment required  Requirements for equipment and tool inspections, operations, use  Exposure to hazardous substances and control measures  General safe work practices, housekeeping  Emergency action plan and procedures, evacuation  First Aid and Emergency Response procedures  Hospital and Urgent Care Locations:  Tomah Hoalth - 501 Copher Ave Torah, WI 5466 C  HASP Sections, Safety Plans, AHAs  reviewed: "Yes, 3 AHA's reviewed."  Other hazards and hazard controls to review (Note below)  Inned Work Tasks and Safety Items Discussed:  Jord Grass Aidy; animal hazards (i.e. snakes, trohs, spiders)  Alls trips, stops; Ear protection; hard hat; tron/railread	e:	5/22/23
Safety responsibilities and communication protocols  Site Layout: work zones, emergency equipment, sanitation, staging area, Personal protective equipment required Requirements for equipment and tool inspections, operations, use Exposure to hazardous substances and control measures General safe work practices, housekeeping Emergency action plan and procedures, evacuation First Aid and Emergency Response procedures Hospital and Urgent Care Locations: Tomah Hoalth - Sol Gopher Are Tomah, WI S HASP Sections, Safety Plans, AHAs reviewed: Yes SAHA's reviewed. Other hazards and hazard controls to review (Note below)  Inned Work Tasks and Safety Items Discussed:  North aras And Safety Items Discussed:	ment required  ment required  ment and tool inspections, operations, use  ment stances and control measures  ment procedures, evacuation  mesponse procedures  mocations:  Sol Gopher Ave Tomb, WI 5466 G  mas, AHAs  mas, AHAs  mas HA'S reviewed.  controls to review (Note below)  Discussed:  mas ( hazards (i.e. snakes, trahs, spiders))  mas protection; Hard hat; train / rail res	Safety responsibilities and communication protocols  Site Layout: work zones, emergency equipment, sanitation, staging area, parking Personal protective equipment required Requirements for equipment and tool inspections, operations, use Exposure to hazardous substances and control measures General safe work practices, housekeeping Emergency action plan and procedures, evacuation First Aid and Emergency Response procedures Hospital and Urgent Care Locations:  Tomah Hoalth Sol Gopher Are Tomah, WI 54660  HASP Sections, Safety Plans, AHAs reviewed: Yes, 3 AHA's reviewed.  Other hazards and hazard controls to review (Note below)  nned Work Tasks and Safety Items Discussed:  Jorda Grass Audy; animal hazards (16. Snakes, Archs, Spiders)  His Arips, Sups; Ear protection; Hand hat; from Income	Э:	5/22/23 Son Santoso
Safety responsibilities and communication protocols  Site Layout: work zones, emergency equipment, sanitation, staging area, Personal protective equipment required  Requirements for equipment and tool inspections, operations, use Exposure to hazardous substances and control measures  General safe work practices, housekeeping Emergency action plan and procedures, evacuation First Aid and Emergency Response procedures  Hospital and Urgent Care Locations:  Tomah Hoalth - Sol Gopher Are Tomah, WI S  HASP Sections, Safety Plans, AHAs reviewed: Yes SAHA'S reviewed.  Other hazards and hazard controls to review (Note below)  Inned Work Tasks and Safety Items Discussed:  Jork aras Hody; animal hazards (i.e. Snakes, troks)  MIS trips, steps; Ear profection; hard hat; tra	nent required  ent and tool inspections, operations, use istances and control measures is, housekeeping diprocedures, evacuation esponse procedures cocations:  SOI Gopher Ave Tomb, WI 5466 G  ins, AHAs  It is reviewed.  controls to review (Note below)  Discussed:  Insel hazards (i.e. snakes, trahs, spiders)  protection; hard hat; transfructions	Safety responsibilities and communication protocols  Site Layout: work zones, emergency equipment, sanitation, staging area, parking  Personal protective equipment required  Requirements for equipment and tool inspections, operations, use  Exposure to hazardous substances and control measures  General safe work practices, housekeeping  Emergency action plan and procedures, evacuation  First Aid and Emergency Response procedures  Hospital and Urgent Care Locations:  Tomah Hoalth Sol Gopher Are Tomah, WI 54660  HASP Sections, Safety Plans, AHAs reviewed: Yes Shalt's reviewed.  Other hazards and hazard controls to review (Note below)  Inned Work Tasks and Safety Items Discussed:  Jorda Grass Hidg; animal hazards (18. Snakes, Frahs, Spiders)  MIS Frips, Sups; Far protection; Hand hat; frahs/relients	/IS TO	RE DISCUSSED WITH SITE PERSONNEL:
Site Layout: work zones, emergency equipment, sanitation, staging area, Personal protective equipment required Requirements for equipment and tool inspections, operations, use Exposure to hazardous substances and control measures General safe work practices, housekeeping Emergency action plan and procedures, evacuation First Aid and Emergency Response procedures Hospital and Urgent Care Locations: Tomah Hoselth - 501 Gopher Ave Tomah, WI S HASP Sections, Safety Plans, AHAs reviewed: Yes S AHA'S reviewed. Other hazards and hazard controls to review (Note below)  Inned Work Tasks and Safety Items Discussed:  Och aras And; animal hazards (i.e. snakes, trobs)  Ils trips, steps; Ear protection; hard hat; tra	nergency equipment, sanitation, staging area, parking nent required ent and tool inspections, operations, use instances and control measures is, housekeeping if procedures, evacuation response procedures in cocations:  501 Gopher Ave Toron, WI 54666 ins, AHAS  145 reviewed.  controls to review (Note below)  Discussed:  110(1) hazards (10. Snakes, trobs, spiders)  111 protection; hard hat; train (rail real protection)	Site Layout: work zones, emergency equipment, sanitation, staging area, parking Personal protective equipment required Requirements for equipment and tool inspections, operations, use Exposure to hazardous substances and control measures General safe work practices, housekeeping Emergency action plan and procedures, evacuation First Aid and Emergency Response procedures Hospital and Urgent Care Locations:  Tomah Hoalth - 501 Gopher Are Tomah, WI 54660 HASP Sections, Safety Plans, AHAs reviewed: Yes, SAHA'S reviewed. Other hazards and hazard controls to review (Note below)  oned Work Tasks and Safety Items Discussed:  North areas Hidy; animal hazards (i.e. snakes, trohs, spiders)  lls trips, sups; Ear protection; Hand hat; train /rwl.rem		
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Exposure to hazardous substances and control measures  General safe work practices, housekeeping  Emergency action plan and procedures, evacuation  First Aid and Emergency Response procedures  Hospital and Urgent Care Locations:  Tomah Hoalth - 501 Gopher Ave Tomah, WI S  HASP Sections, Safety Plans, AHAs  reviewed: Yes, 3 AHA's reviewed.  Other hazards and hazard controls to review (Note below)  mined Work Tasks and Safety Items Discussed:  Noch areas Aidy; animal hazards (i.e. snakes, Archs)  Ils Arips, sups; Ear protection; hard hat; transcores	istances and control measures is, housekeeping diprocedures, evacuation esponse procedures cocations: SOI Gopher Ave Tonch, WI 54666 ins, AHAS HA'S reviewed.  controls to review (Note below)  Discussed:  inc( hazards (ie. snakes, trans, spiders) protection; hard hat; trans/rulros	Exposure to hazardous substances and control measures  General safe work practices, housekeeping  Emergency action plan and procedures, evacuation  First Aid and Emergency Response procedures  Hospital and Urgent Care Locations:  Tomah Health - 501 Gopher Are Tomah, WI 54660  HASP Sections, Safety Plans, AHAs reviewed:  Other hazards and hazard controls to review (Note below)  More Tasks and Safety Items Discussed:  Order aras Hedy; animal hazards (i.e. snakes, frohs, spiders)  Alls trips, stips; Far protection; Hard hat; from Iral controls  First Aid and Emergency Response Procedures, was a controls to the spide of the s		
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First Aid and Emergency Response procedures  Hospital and Urgent Care Locations:  Tomah Hoalth - 501 Gopher Are Tomah, WI S  HASP Sections, Safety Plans, AHAs reviewed: Yes, 3 AHA'S reviewed.  Other hazards and hazard controls to review (Note below)  Inned Work Tasks and Safety Items Discussed:  Work grass Aidy; animal hazards (ie. snakes, trobs)  Ils trips, sups; Far protection; hard hat; transcores	esponse procedures  cocations:  SOI Gopher Ave Tonah, WI 54660  ns, AHAS  It's reviewed.  controls to review (Note below)  Discussed:  na( hyzards (ie. snakes, trahs, spiders)  protection; hard hat; train/ralrea	First Aid and Emergency Response procedures  Hospital and Urgent Care Locations:  Tomah Hoalth - 501 Gophar Ave Tomah, WI 54666  HASP Sections, Safety Plans, AHAs reviewed: Yes, 3 AHA's reviewed.  Other hazards and hazard controls to review (Note below)  Anned Work Tasks and Safety Items Discussed:  Order aras Andy; animal hazards (i.e. snakes, trobs, spiders)  Ils trips, steps; Far protection; Hard hat; train/rullera		
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			ack	



# DAILY SAFETY TAILGATE MEETING FORM FORT McCOY, MONROE COUNTY, WISCONSIN

The following personnel were present for discussion of the topics listed above and have read and understand the applicable contents of the Accident Prevention Plan.

NAME	SIGNATURE	COMPANY	DATE ()5/22/23
Jack Heltzer		SKS	05/22/23
Era Plante	En Ple	Probe Technologies	05/21/123
Matt Savino	Mat Do	SRS	5/22-23
DAN BENDORF	June Zou P	PRIST	5/22
Jack Heltzu		SLS	5/22
	Do	an 7	



### DAILY WORKER SIGN-IN LOG FORT McCOY, MONROE COUNTY, WISCONSIN

SRS Site Supervisor or Site Safety and Health Officer (SSHO) will have site personnel sign in and sign out when working at the site each day.

		ty and Health Officer (SSHO) will have	Work Area and Task(s) at the Site	Level of Protection	Time IN	Time
Date	SAM SANTOSO	SRS	atside	D	0800	1715
5/22		Probe	outside	D	0900	1716
5/22	Eric Plante	Technologic s	outside	D	0900	1200
5/22	Matt Savino	SRS		P	6900	1710
1/20	DAN BENZIF	PROJE TELHNOLIES	OUTHOL'	12	20.	171
1		SRS	Outside	P	0800	1
122	Jack Heltzer	JA				
-+						
+						
			-			

B1	G EQUIPMENT			
. N bor:	Contractor/Subcontractor:	5		
Contract Name and Number:				
Fort McCoy DLA Property / 520 22614	Location: U.S. Army Area #4 Stora	o Ya	rd	
Sovernment Inspector.	U.S. Army Area # 7 570	,		
NIA	Date: 5122/23			
Contractor Inspector:	31201)			
Dan Bendorf				
- in ment name and number.			N-	N/A
Geoprobe GOZZOT		Yes	No	14//
	and for drilling equipment		V	
Is a copy of the operation and maintenance mainte	anual for drining 5457			-
available? (18.H.02)	and electrical hazards and			
available? (18.H.02)  2. Has a survey been conducted to identify overhalped and their locations identify	ified in the site layout plan?	X		
potential ground nazarus and their reserve				
(18.H.03) 3. Does the hazard analysis contain copies of Sa	fety Data Sheets for all drilling			×
3. Does the hazard analysis contain copies of Sa	noty Data s			
fluids available? (18.H.04a)	the operation inspection, and	1		
4. Have all members of the drilling crew been tra	s and procedures to be used; and	X		
maintenance of the equipment, the odies	ts? (18.H.05a)			
			X	
5. Does the drilling equipment have two easily at devices (one for the operator and one for the help	per)? (18.H.06)	×		
		~		
" an an alactrical proximity was	Illig device at a		X	
7. Is there a spotter or an electrical proximity safe distances from power lines are maintained?	(18.H.07b)			
<ul> <li>8. Before moving earth drilling equipment, has the provided in the provided particularly overheads.</li> </ul>	ne travel route been surveyed for	X		
8. Before moving earth drilling equipment, has to overhead and terrain hazards, particularly overhead and terrain hazards.	ead electrical hazards? (18.H.00a)			X
ctable manner Willi	dippling in necessary.			-
Is equipment set-up in a stable matter,  10. Are outriggers being used in accordance with  11. Are outriggers being used in accordance with  12. Are outriggers being used in accordance with	h the manufacturer's	X		
. Libited from WOOF	ing loose clothing, jewelry, or	X		
equipment which might become caught in moving	g macrimiter) · (	V		
to the state of the control dust ( 10.1	1. 1 1.1)	X		
13 Are augers cleaned only when the rotating in	nechanism is in neutral and the	X		
· -t				
	nployee contact with auger. (guard	X		1
the augor: barricade around the perimete	of the augus, clouds of the			
activated by a presence-sensing device). 18.H.1				

This checklist is based on EM 385-1-1, dated 30 November 2014. Use of this checklist is optional.

#### DAILY FIELD RECORD Page 1 of Project and Task Number: \$2022014 Date: 05/23/23 Field Activity: DPT; GW Gab Sampling Project Name: Fort McCoy - GW Investigation Location: Fort McCoy, Monroe County, Wisconsin Weather: 580 3 (525-816); Sunny; 30,11 49; 3mpl word PERSONNEL: Time Name Company Out SAM SANTUSO SRS 0730 1515 Jack Heltzer SRS 0730 1515 PERSONAL SAFETY CHECKLIST Steel-toed Boots Hard Hat Tyvek Coveralls Nitrile Gloves × Safety Glasses 1/2-Face Respirator DRUM I.D. **DESCRIPTION OF CONTENTS AND QUANTITY** LOCATION TIME **DESCRIPTION OF WORK PERFORMED** 6730 Arrive or site w/ Jack H, Dan Begin drilling SB/TW-09; Collect Scaple at 0830 0800 Begin drilling SBITW-08; Collect sample at 0905 0840 Begindrilling SB/TW-07; Culloct sample +MS/MSA at 0950 0926 Begin dulling SB/TW-06; Collect sample at 1030 1000 Begin drilling SB/TW-01; Collect comple at 1115 1035 Lunch break -1115 Stat SB/TW-04, Collect Somple at 1230. 210 Start SBITW-03; Collect Sample at 1312. 1240 Start SB/TW-172: (Some backfill 1-3' some @41); supleat 1355 1320 Start SBITW-05; Collect sample 9+ 1455. 1400 Stant to denobilize and set up on background sampling 1500 1515 All personnel leave ste.



# DAILY SAFETY TAILGATE MEETING FORM FORT McCOY, MONROE COUNTY, WISCONSIN

Date:	05/23/23
SSHO:	SAN SANTOSO
ITEMS TO	BE DISCUSSED WITH SITE PERSONNEL:
-	
	Safety responsibilities and communication protocols
	Site Layout: work zones, emergency equipment, sanitation, staging area, parking
	Personal protective equipment required
_&_	Requirements for equipment and tool inspections, operations, use
	Exposure to hazardous substances and control measures
×	General safe work practices, housekeeping
	Emergency action plan and procedures, evacuation
	First Aid and Emergency Response procedures
	Hospital and Urgent Care Locations:
	Tomah Houlth - 501 Gopher Ave Tomah , WI 54660
<u> </u>	HASP Sections, Safety Plans, AHAs
	reviewed: yes - Restanted AHA'S
	Other hazards and hazard controls to review (Note below)
Planned V	Vork Tasks and Safety Items Discussed:
Vana .	a to see that a Containing well-desired to totally to
Keep G	work areas tidy, no found ticks yesterday but still be
6	& check, slips trips andfalls, Ear protection, hand
qware	a citch, stips majorily, Ear protection, hand
la le	and clear communication
1475	we Clar Communication



# DAILY SAFETY TAILGATE MEETING FORM FORT McCOY, MONROE COUNTY, WISCONSIN

The following personnel were present for discussion of the topics listed above and have read and understand the applicable contents of the Accident Prevention Plan.

NAME	SIGNATURE	COMPANY	DATE
SAM SANTOSO	8	SRS	05/23/23
Jack Heitzer	22	SKS	05/23/23
DAN BENDORF	A /	PRUBE TLLH	5/23/23
Eric Plante	En Peter	Probe Tech	5/23/23
		147	
Parameter was	and the state of		
Mary cur			
- 1. 12.			
	Marie III		
		22	

DRILLING E	QUIPMENT			
Contract Name and Number: 5202214	Contractor/Subcontractor:			
FORT MCloy DLA PROPORTY	PSUBE TEXHNOLOGIC	3		
Government Inspector:	Location:			
NA	US ARMY DEUS 9 ST	ORAGO	YAR	1)
Contractor Inspector:	Us Almy Date: 5 23 (23			
DAN BENOORF	31 2103			
Equipment name and number:				
beoperse 16620 DT		Yes	No	N/A
1 les convertible apprenties and maintanance many	al for drilling aguinment	103		1975
Is a copy of the operation and maintenance manuavailable? (18.H.02)			X	
Has a survey been conducted to identify overhead potential ground hazards and their locations identified (18.H.03)		X		
Does the hazard analysis contain copies of Safety fluids available? (18.H.04a)	y Data Sheets for all drilling			X
4. Have all members of the drilling crew been trainer maintenance of the equipment; the safety features a overhead electrical lines and underground hazards?	nd procedures to be used; and	X		
5. Does the drilling equipment have two easily accest devices (one for the operator and one for the helper)			X	
6. Is the equipment posted with a warning of electric	al hazards? (18.H.07a)	A		
7. Is there a spotter or an electrical proximity warning safe distances from power lines are maintained? (18			×	
8. Before moving earth drilling equipment, has the troverhead and terrain hazards, particularly overhead	avel route been surveyed for electrical hazards? (18.H.08a)	X		
9. Is equipment set-up in a stable manner, with cribl				X
10. Are outriggers being used in accordance with th recommendations? (18.H.09.b)	e manufacturer's	Y		
Are drill crew members prohibited from wearing equipment which might become caught in moving m	loose clothing, jewelry, or achinery? (18.H.11.b)	X		
12. Are steps being taken to control dust? (18.H.11		×		
13. Are augers cleaned only when the rotating mechanger is stopped? (18.H.11.j)		×		
14. Means shall be provided to guard against emploaround the auger; barricade around the perimeter of activated by a presence-sensing device). 18.H.11.I	yee contact with auger. (guard the auger; electronic brake	K		
Comments:				

This checklist is based on EM 385-1-1, dated 30 November 2014. Use of this checklist is optional.



# DAILY HEALTH AND SAFETY INSPECTION CHECKLIST FORT McCOY, MONROE COUNTY, WISCONSIN

The Site Safety and Health Officer (SSHO) will perform a safety inspection with this checklist for each day that work tasks are performed at the site. If this checklist is not used, the SSHO will document safety activities on an equivalent report form or daily log that include the contents of this checklist.

Checklist Items	Description
1. What safety tasks were performed today? Identify one or more of the following areas and specify and describe the task(s).  a. Safety plan review and training b. Tools, equipment, PPE, work site inspection  c. Implementation of safety procedures and controls	B.) Working around a rig to be safe, communicate clearly needs each group has ad to work around/wait if necessory.
What safety topics (e.g., newly encountered hazards) were discussed and addressed today?	Wearing gloves different to the lash at hand ie.) cut resistent if working on rig and sharps
3. What safety deficiencies, including near misses or accidents, were observed today? What were the corrective actions? Note the times when deficiencies were observed and when corrections were made or are scheduled to be completed.	No noted near misses, deficiences, or accidents
4. What other safety issues or findings were observed today?	All personel were long parts, had hets, high visibility clothing
5. Miscellaneous notes	No fund trans yesterday, but still be aware.
Inspection Performed By:	SAM SANTOSO
Date of Inspection:	05/23/23



# DAILY SAFETY TAILGATE MEETING FORM FORT McCOY, MONROE COUNTY, WISCONSIN

Date:	5/24/23
SSHO:	SAM SANTOSO
ITEMS TO	BE DISCUSSED WITH SITE PERSONNEL:
	Safety responsibilities and communication protocols
_ ×	Site Layout: work zones, emergency equipment, sanitation, staging area, parking
×	Personal protective equipment required
x	Requirements for equipment and tool inspections, operations, use
×	Exposure to hazardous substances and control measures
×	General safe work practices, housekeeping
×	Emergency action plan and procedures, evacuation
_ ×	First Aid and Emergency Response procedures
×	Hospital and Urgent Care Locations: Tomah Health; 501 Gogher Ave, Tomah WI, 54660
_ &	HASP Sections, Safety Plans, AHAs reviewed: AHA'S 1-3, Mob & Demob, DPT safety
×	Other hazards and hazard controls to review (Note below)
	/ork Tasks and Safety Items Discussed:
Work	area is adjacent to railroad tracks that are in use.
Beng	aware of its potential danger and staying clear of its
tracks	during work and stagling. Keep work area tidy and
reat.	Eurprotection when drilling.

#### ONEIDA Sustainm DAILY FIELD RECORD Page 1 of 1 Project and Task Number: S2022014 Date: 05/24/23 Project Name: Fort McCoy - GW Investigation Field Activity: Gew Grab Sampling, DPT drilling Weather: 510-710; 30.23 Hg; 13mph wind Location: Fort McCoy, Monroe County, Wisconsin Time Time PERSONNEL: Name Company Out SAM SANTOSO SRS 0736 1130 Jack Heltzer 1130 SRS 0730 PERSONAL SAFETY CHECKLIST Steel-toed Boots Hard Hat Tyvek Coveralls Nitrile Gloves Safety Glasses 1/2-Face Respirator DRUM I.D. **DESCRIPTION OF CONTENTS AND QUANTITY** LOCATION TIME DESCRIPTION OF WORK PERFORMED 0730 Arrive on site - Conduct Safety Meeting covering Railford awareness Start hand augering and drilling SEFTW- SS BS-05, Collecte 0805 0740 Start hand augering and drilling BS-04; Coilet sample @0835 +Dp. 0815 Start hard augering and drilling BS-U3: Collect sample @ 0705 0850 Start hard augering and drilling BS- 02; Collect sample@ 0935 0915 Start hard augering and drilling BS-01; Collect scripte @ 1010 09 45 Mobilize rig to trailer / Staging area 1030 Collected FB-01 (Freid Black) 1015\$ (ollected EB-01 (Equipment Blank) 1025 Probe Technology/ Dan & Eric finish packing equipment + leave 1048 Site. 1050 SRS Persume L double check avers for clearliness. All personnel have left site & contact responsible parties 1130



# DAILY SAFETY TAILGATE MEETING FORM FORT McCOY, MONROE COUNTY, WISCONSIN

The following personnel were present for discussion of the topics listed above and have read and understand the applicable contents of the Accident Prevention Plan.

NAME	SIGNATURE	COMPANY	DATE
SAM SANTOSO	SIGNATURE	SRS	05/24/23
DAN BENDURF	//	PRUSE THEN	5/24/23
Eire Plante	Gally	Probe Toch	5/25/23
Jack Heltze	s fl	SRS	5/24/23
13			

# Daily Worker Sign-IN Log Fort Mc Coy, Monroe County, Wisconsin

Date	Name	Company	Work	Level of Protection	TIME	TIME
05/24/23	SAM SANTOSO	SRS	Outside	D	0730	1130
05/24/23	Jack Heltzer	SRS	OUtside	0	0730	1130
5/24/23	Eric Plante	Probe TOFA	outside	0	0770	~1050
5/24/23	DAN BENOURF	Proze TezH	DUTSIDE	P	0730	~1050
\$JH						
			4			



## DAILY HEALTH AND SAFETY INSPECTION CHECKLIST FORT McCOY, MONROE COUNTY, WISCONSIN

The Site Safety and Health Officer (SSHO) will perform a safety inspection with this checklist for each day that work tasks are performed at the site. If this checklist is not used, the SSHO will document safety activities on an equivalent report form or daily log that include the contents of this checklist.

Checklist Items	Description
1. What safety tasks were performed today? Identify one or more of the following areas and specify and describe the task(s).  a. Safety plan review and training b. Tools, equipment, PPE, work site inspection  c. Implementation of safety procedures and controls	C.) Discussed how to be safe, Why our ppe has requirements, Using proper Lifting techniques.
What safety topics (e.g., newly encountered hazards) were discussed and addressed today?	Railroad cognizant, though more clear of vegetation still check for fless, ticks, bugs at end of day.
3. What safety deficiencies, including near misses or accidents, were observed today? What were the corrective actions? Note the times when deficiencies were observed and when corrections were made or are scheduled to be completed.	No noted near misses, accidents, or safety deficiencies were noted.
What other safety issues or findings were observed today?	Complacency on safety, proper Lifting techniques, and overhead branches.
5. Miscellaneous notes	Nove.
Inspection Performed By:	SAM SANTUSO
Date of Inspection:	05/24/23

DRILLING	EQUIPMENT			
Contract Name and Number:	Contractor/Subcontractor:			
Fort McCoy DLA Property / S2022014	PROBE TECHNOL	615	>	
Government Inspector:	Location:			
NIA	U.S. Army Area #4 Storms	je Ya	-d	
Contractor Inspector: DAN BENDURF	0.5. Army Area #4 Stems Date: 5 24 2-3			
Equipment name and number:				
(Des - 10)		Yes	No	N/A
Is a copy of the operation and maintenance ma available? (18.H.02)	nual for drilling equipment		×	
2. Has a survey been conducted to identify overhed potential ground hazards and their locations identification (18.H.03)		X		
3. Does the hazard analysis contain copies of Saffluids available? (18.H.04a)	ety Data Sheets for all drilling			×
4. Have all members of the drilling crew been train maintenance of the equipment; the safety features overhead electrical lines and underground hazards	and procedures to be used; and	×		
5. Does the drilling equipment have two easily according to the operator and one for the helps			X	
6. Is the equipment posted with a warning of elect	rical hazards? (18.H.07a)	X		
7. Is there a spotter or an electrical proximity warn safe distances from power lines are maintained?		,	X	
Before moving earth drilling equipment, has the overhead and terrain hazards, particularly overhead		X		
9. Is equipment set-up in a stable manner, with cr	ibbing if necessary? (18.H.09.a)			X
10. Are outriggers being used in accordance with recommendations? (18.H.09.b)	the manufacturer's	X		
11. Are drill crew members prohibited from wearin equipment which might become caught in moving		X		
12. Are steps being taken to control dust? (18.H.		X		
13. Are augers cleaned only when the rotating me auger is stopped? (18.H.11.j)	echanism is in neutral and the	X		
Means shall be provided to guard against emplaround the auger; barricade around the perimeter activated by a presence-sensing device).     18.H.11	of the auger; electronic brake	×		
Comments:				

This checklist is based on EM 385-1-1, dated 30 November 2014. Use of this checklist is optional.



## WEEKLY HEALTH AND SAFETY INSPECTION CHECKLIST FORT McCOY, MONROE COUNTY, WISCONSIN

The Site Safety and Health Officer (SSHO) will perform a safety inspection with this checklist on a weekly basis or after every 5 days that work tasks for this project are performed, at minimum. Notes and comments for inspected items will be added to the second page of this checklist.

CHECKLIST	Yes	No	N/A
1. Are the Injury and Illness Prevention Program and Health and Safety Plan kept in a location that is known and accessible to all site personnel? Location of IIPP and HASP:	X		
2. Does the site copy of the HASP contain updated revisions (i.e., hand-written field notes or approved amendments) that reflect current tasks and conditions?		X	
3. Are OSHA and contract safety compliance plans available and implemented, according to encountered hazards and planned work tasks? E.g., HAZWOPER Health & Safety Plan, Fall Protection Plan, Excavation and Trenching Plan, Hazard Communication Program, Control of Hazardous Energy Program.	X		
<ol> <li>Have hazards and hazard controls been reviewed with site personnel according to their work task(s) and documented? E.g., tailgate, Activity Hazard Analysis, compliance plans</li> </ol>	X		
5. Are training records, inspections reports, daily field forms properly filled out, kept current, and filed in an organized manner? File location: One da Server	X		
6. Is the Site Layout Plan posted in an accessible location? Does it show updated locations of each work feature (designated work zones, entry/exit roads, emergency and safety supplies, auxiliary areas for staging, trailer, lunch/break, portable restroom, parking)? Location of Site Layout Plan: Paper Copy & Electronic	×		
7. Is there an Emergency Action Plan with map(s) to the nearest emergency medical facility with the phone number and address posted and made available to all site personnel?	x		
8. Are job site posters posted in a conspicuous location?			×
9. Has site communication and emergency contact information between the SSHO/ Supervisor and site personnel been clearly established and/or effectively working?	×		
10. Are there 2 designated First Aid/CPR responders for each work shift? Do site personnel know who those are? Sam Sautoso & Jack Heltzer	×		
11. Are work zones boundaries clearly defined and maintained to keep unauthorized personnel out? Method of work zone: Outside, but can spot if visitors approach.		×	
12. Are the emergency and sanitary items in a readily accessible location and checked to ensure they are properly supplied or operating?  a. Fire Extinguisher(s). Qty3  b. First aid kit(s) and bloodborne pathogen kit(s). Qty3  c. Eyewash station(s). Qty	x		
13. Are chemicals that are used and stored at the site in containers and identified with labels and hazard warnings?			×
14. Does each chemical being used and stored at the site have its own Safety Data Sheet (SDS)? Location of SDSs:			×
15. Are the site personnel wearing the proper personal protection equipment (PPE) for the work they are performing?	×		
16. Is the site kept clean and cleared of unnecessary materials, debris and trip hazards?	×		
17. Have hazard controls for physical hazards (e.g., weather, biological, traffic, electrical, noise, trip hazards, struck-by hazards) that are currently observed at the site been sufficiently implemented for site workers?	×		
18. HAZWOPER: Are controls used to prevent exposure to hazardous substances (i.e., air monitoring, correct PPE/respirators, work zone delineation, decontamination) being correctly implemented? Have monitoring exposure and calibration records been kept?			×
19. Is there any observed safety deficiency that needs correction?		×	



#### **NOTES/COMMENTS**

Inspected items included: continued working and openble drilling equipment & rig (trailer).

- . No broken lights or trailer appeared to be in pour working condition.
- during all holes and had no signs of lankes.
- o Drill operator cleaned and brushed off

  god any debris from rig before loading.

  o All work overs locked over a second

  Lime to ensure no left items behind and

  Steads back in place.

eAll personnel were reviewed darly about general & specific practices at work.

O Name:	Date:
SAM SANTUSO	05/24/23

U.S. Army Corps of Engineers – Omaha District Fort McCoy Defense Logistics Agency Property Area 4 Fort McCoy, Monroe, Wisconsin Groundwater Investigation Report

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U.S. Army Corps of Engineers – Omaha District Fort McCoy Defense Logistics Agency Property Area 4 Fort McCoy, Monroe, Wisconsin Groundwater Investigation Report

# APPENDIX C GEOLOGICAL BORING LOGS



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-01

Page: 1 of 1

Drilling Start Date: 05/23/2023 10:40

Drilling End Date: 05/23/2023 11:00

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft):

Boring Diameter (in): 2.00

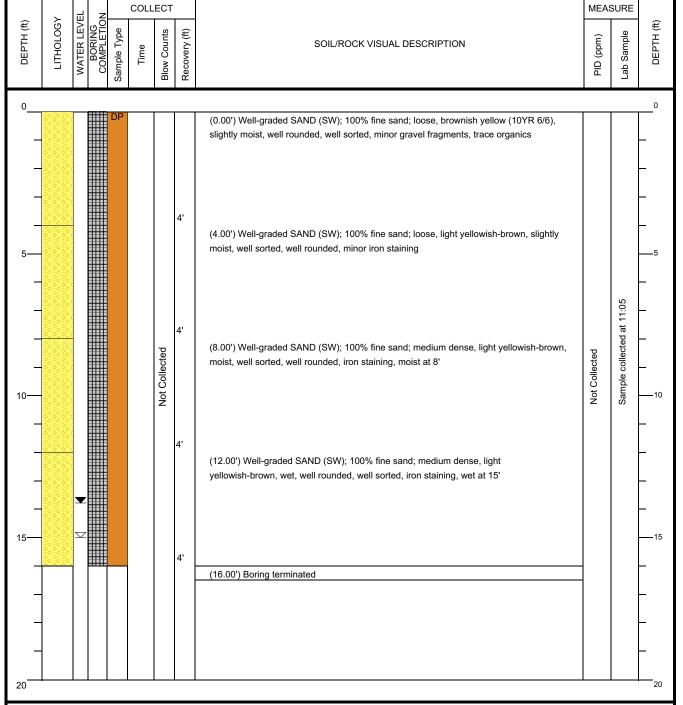
Sampling Method(s): Direct Push

DTW During Drilling (ft): 15

DTW After Drilling (ft): 13.78
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012291, -90.677279

16.0





Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-02

Page: 1 of 1

Drilling Start Date: 05/23/2023 13:25

Drilling End Date: 05/23/2023 13:45

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 20

Boring Diameter (in): 2.00

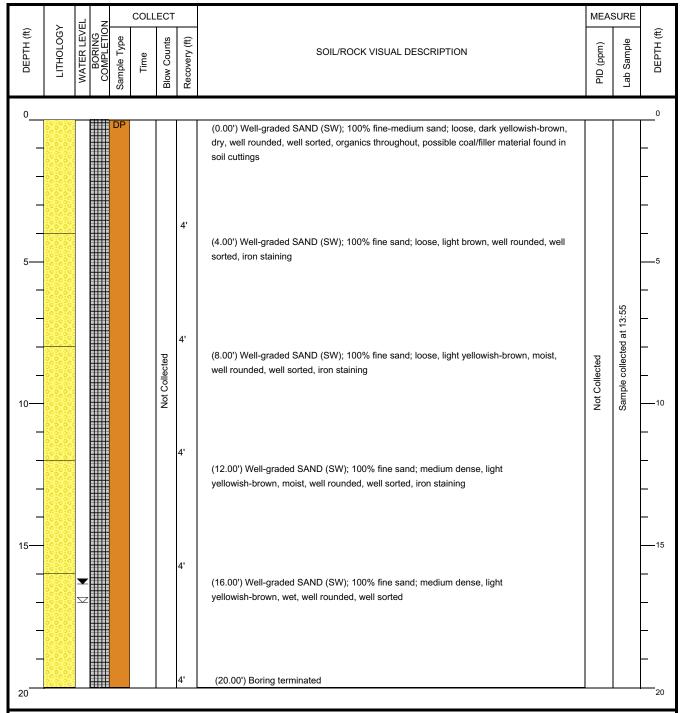
Sampling Method(s): Direct Push

DTW During Drilling (ft): 17

DTW After Drilling (ft): 16.35

Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012332, -90.676349



NOTES: Hole precleared to 5' on 05/23/2023 13:20 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-02-GW-052323 collected at 19.5-20.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-03

Page: 1 of 1

Drilling Start Date: 05/23/2023 12:45

Drilling End Date: 05/23/2023 13:05

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 18

Boring Diameter (in): 2.00

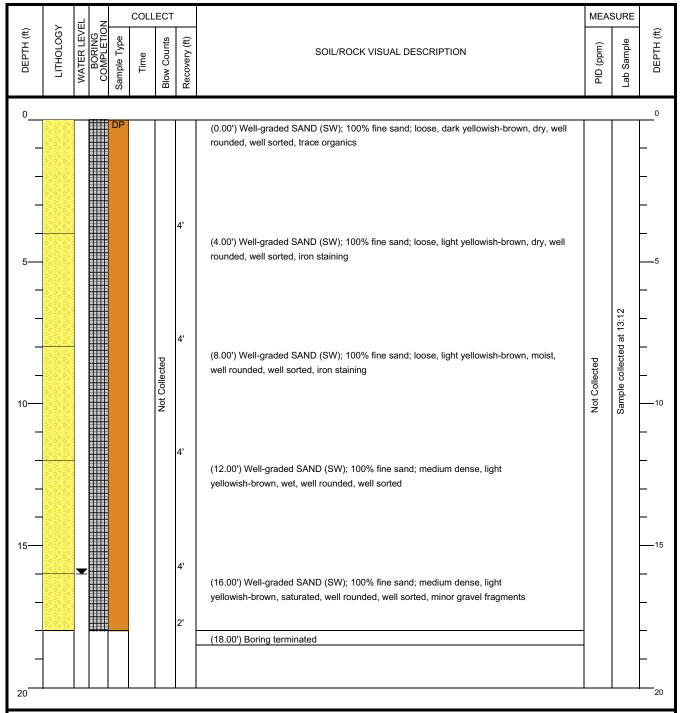
Sampling Method(s): Direct Push

DTW During Drilling (ft): 16

DTW After Drilling (ft): 15.99
Ground Surface Elev. (ft): N/A

Ground Surface Elev. (π): N/A

Location (Lat, Long): 44.012301, -90.676639



NOTES: Hole precleared to 5' on 05/23/2023 12:40 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-03-GW-052323 collected at 17.5-18.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-04

Page: 1 of 1

Drilling Start Date: 5/23/2023 12:15

Drilling End Date: 5/23/2023 12:25

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 16

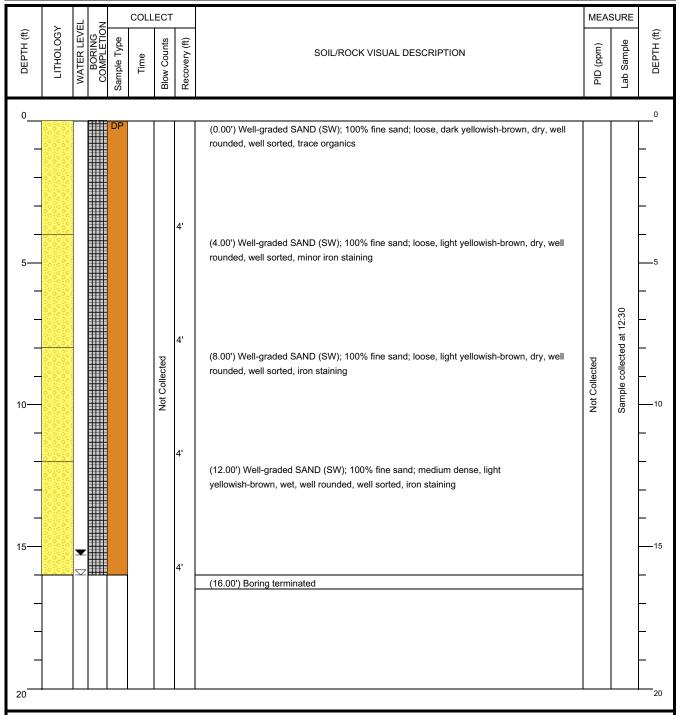
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 16

DTW After Drilling (ft): 15.29
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012304, -90.676951



NOTES: Hole precleared to 5' on 5/23/2023 12:10 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-04-GW-052323 collected at 15.5-16.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-05

Page: 1 of 1

Drilling Start Date: 05/23/2023 14:05

Drilling End Date: 05/23/2023 14:50

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 20

Boring Diameter (in): 2.00

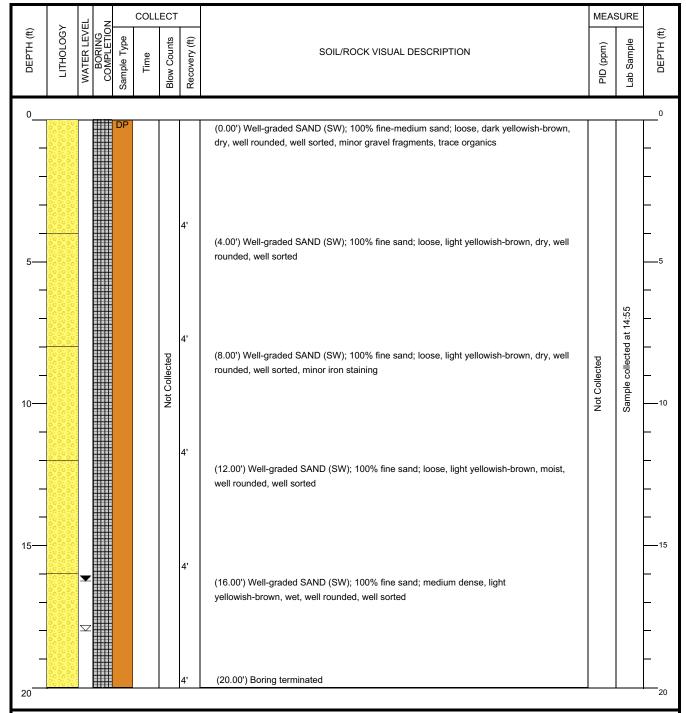
Sampling Method(s): Direct Push

DTW During Drilling (ft): 18

DTW After Drilling (ft): 16.25

Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012351, -90.676004



NOTES: Hole precleared to 5' on 05/23/2023 14:00 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-05-GW-052323 collected at 19.5-20.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-06

Page: 1 of 1

Drilling Start Date: 05/23/2023 10:05

Drilling End Date: 05/23/2023 10:15

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 16

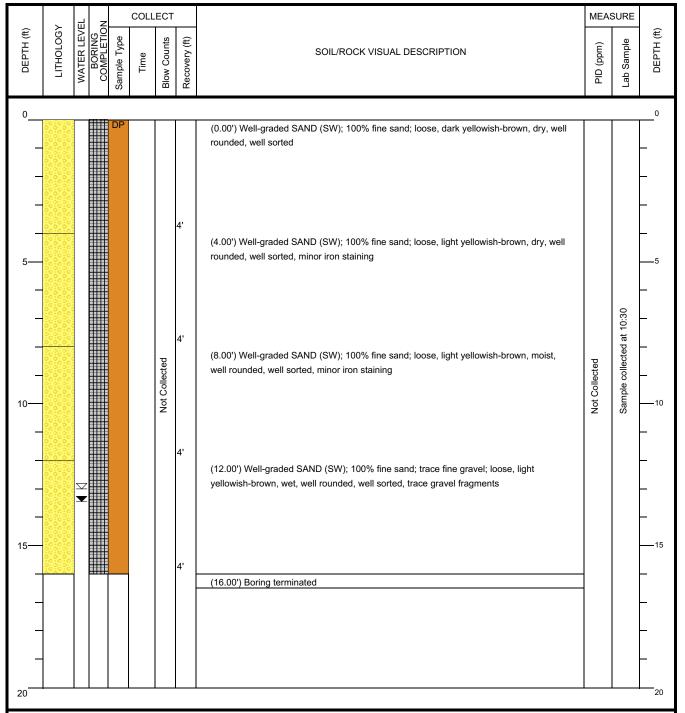
Boring Diameter (in): 5.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 13

DTW After Drilling (ft): 13.44
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012299, -90.677563



NOTES: Hole precleared to 5' on 05/23/2023 10:00 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-06-GW-052323 collected at 15.5-16.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-07

1 of 1

Page:

Drilling Start Date: **05/23/2023 09:25** 

Drilling End Date: 05/23/2023 09:40

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 16

Boring Diameter (in): 2.00

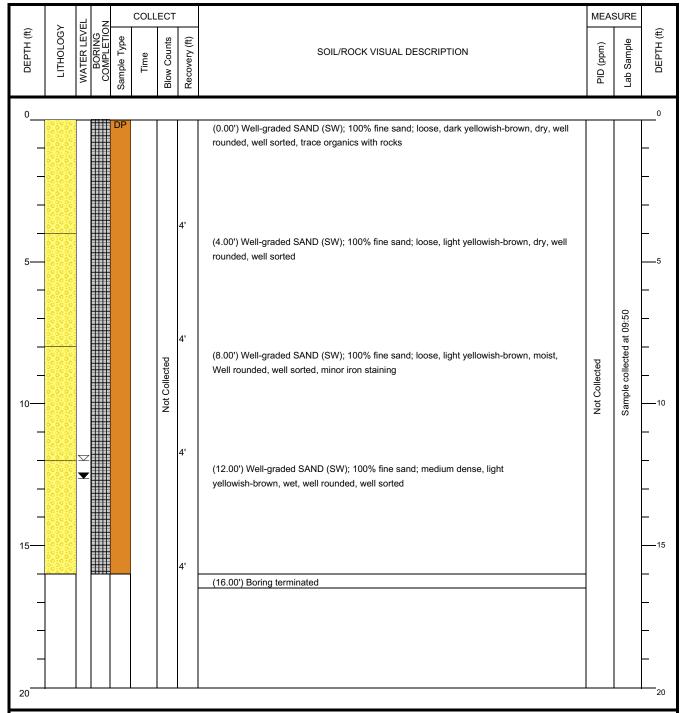
Sampling Method(s): Direct Push

DTW During Drilling (ft): 12

DTW After Drilling (ft): 12.62
Ground Surface Elev. (ft): N/A

Cround Curiaco Liev. (iv). 1471

Location (Lat, Long): 44.012283, -90.677892



NOTES: Hole precleared to 5' on 05/23/2023 09:20 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-07-GW-052323 collected at 15.5-16.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-08

Page: 1 of 1

Drilling Start Date: 05/23/2023 08:45

Drilling End Date: 05/23/2023 09:00

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 15

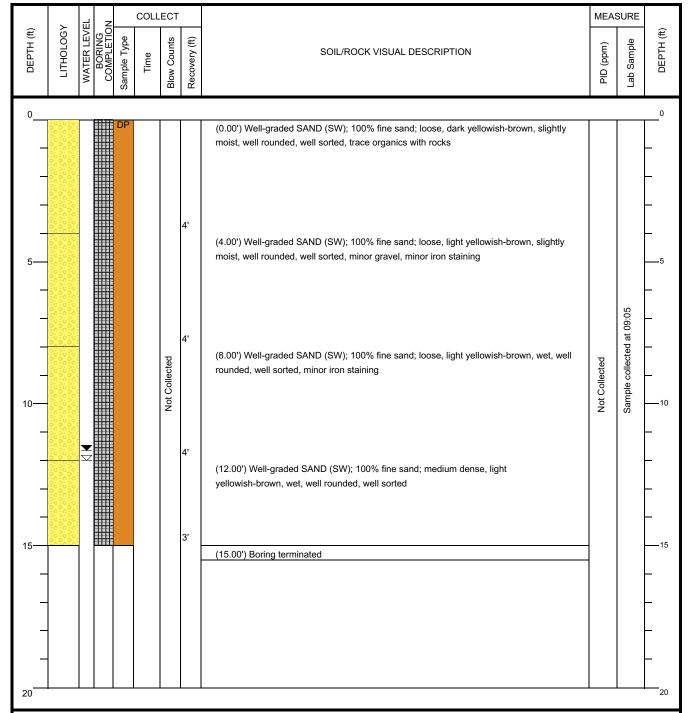
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 12

DTW After Drilling (ft): 11.64
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012033, -90.677889



NOTES: Hole precleared to 5' on 05/23/2023 08:40 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-08-GW-052323 collected at 14.5-15.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

1 of 1

Boring No. SB-TW-09

Page:

Drilling Start Date: 05/23/2023 08:05

Drilling End Date: 05/23/2023 08:20

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 12

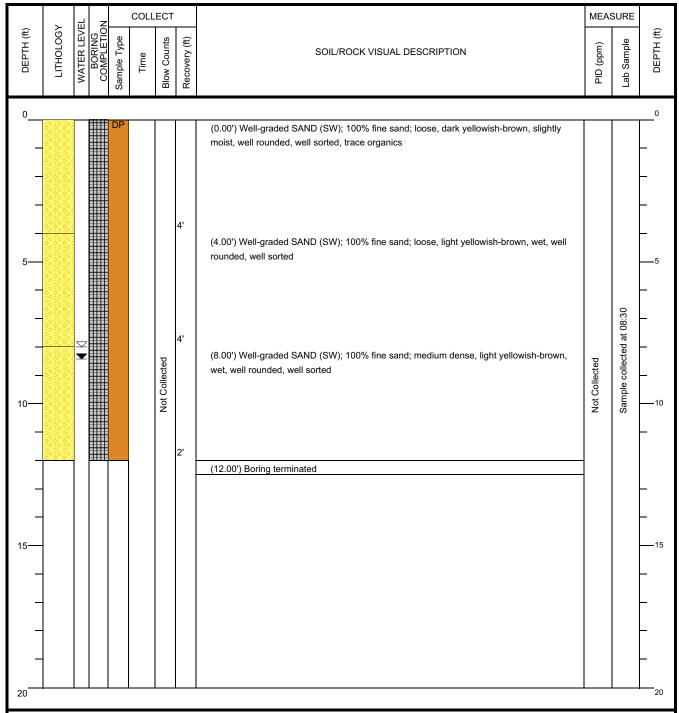
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 8

DTW After Drilling (ft): 8.42
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012405, -90.6783



NOTES: Hole precleared to 5' on 05/23/2023 08:00 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-09-GW-052323 collected at 11.5-12.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-10

Page: 1 of 1

Drilling Start Date: 05/22/2023 16:25

Drilling End Date: 05/22/2023 16:35

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 12

Boring Diameter (in): 2.00

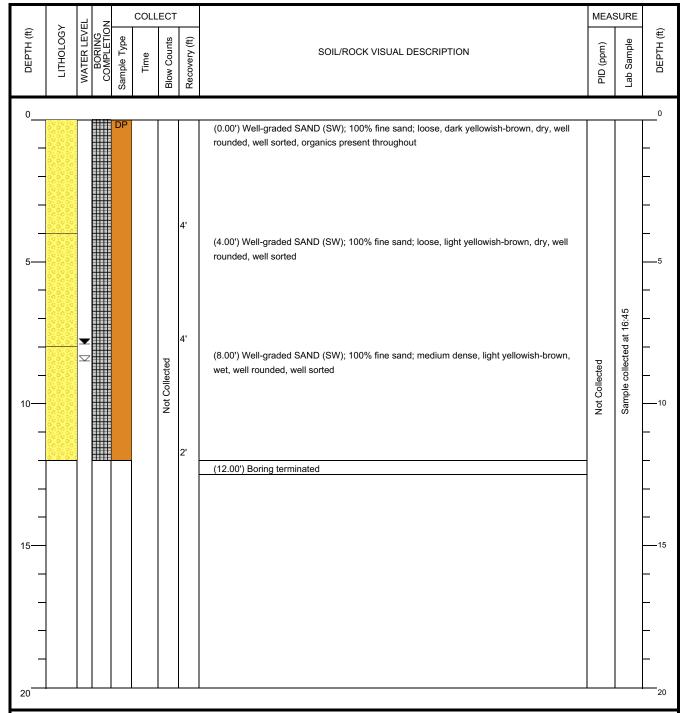
Sampling Method(s): Direct Push

DTW During Drilling (ft): 8.5

DTW After Drilling (ft): 7.9

Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012373, -90.678708



NOTES: Hole precleared to 5' on 05/22/2023 16:20 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-10-GW-052223 collected at 11.5-12.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-11

Page: 1 of 1

Drilling Start Date: 05/22/2023 15:45

Drilling End Date: 05/22/2023 16:00

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 16

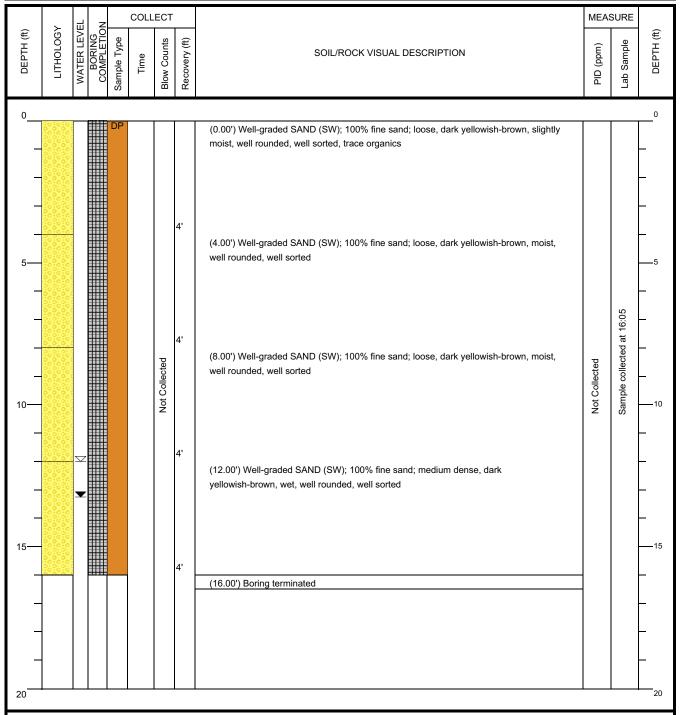
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 12

DTW After Drilling (ft): 13.24
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012314, -90.679063



NOTES: Hole precleared to 5' on 05/22/2023 15:40 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-11-GW-052223 collected at 15.5-16.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-12

Page: 1 of 1

Drilling Start Date: **05/22/2023 15:00** 

Drilling End Date: 05/22/2023 15:09

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 16

Boring Diameter (in): 2.00

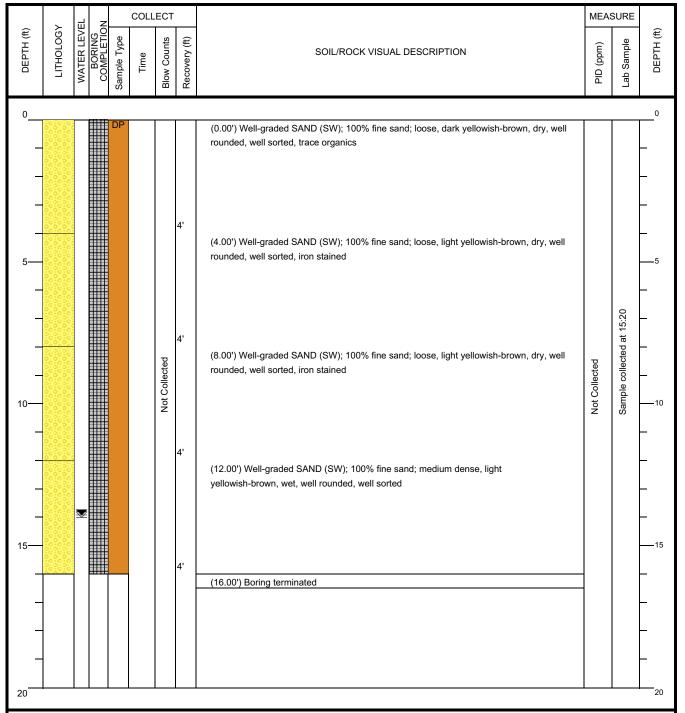
Sampling Method(s): Direct Push

DTW During Drilling (ft): 14

DTW After Drilling (ft): 13.92
Ground Surface Elev. (ft): N/A

Cround Surface Liev. (it). NA

Location (Lat, Long): 44.012278, -90.679594



NOTES: Hole precleared to 5' on 05/22/2023 14:55 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-12-GW-052223 collected at 15.5-16.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-13

Page: 1 of 1

Drilling Start Date: 05/22/2023 14:15

Drilling End Date: 05/22/2023 14:23

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 16

Boring Diameter (in): 2.00

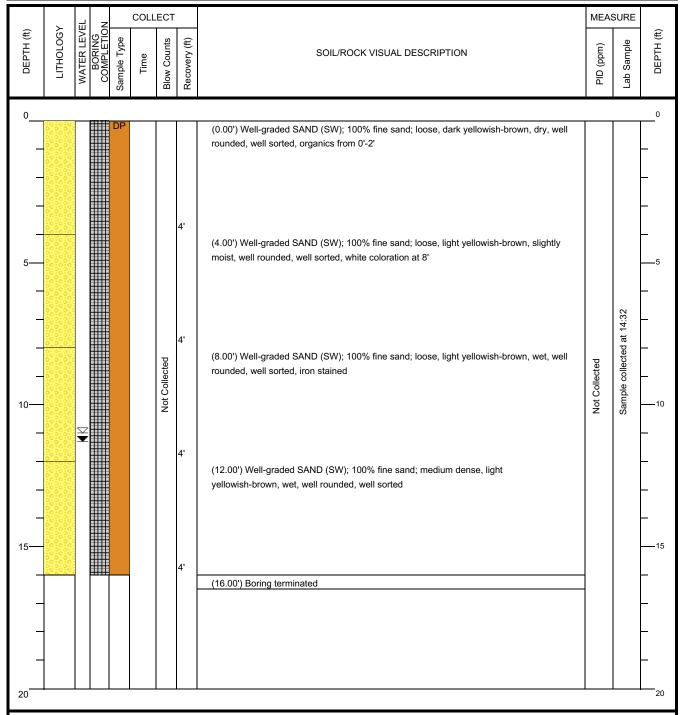
Sampling Method(s): Direct Push

DTW During Drilling (ft): 11

DTW After Drilling (ft): 11.31

Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012282, -90.680135





Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. SB-TW-14

Page: 1 of 1

Drilling Start Date: 05/22/2023 13:15

Drilling End Date: 05/22/2023 13:40

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 20

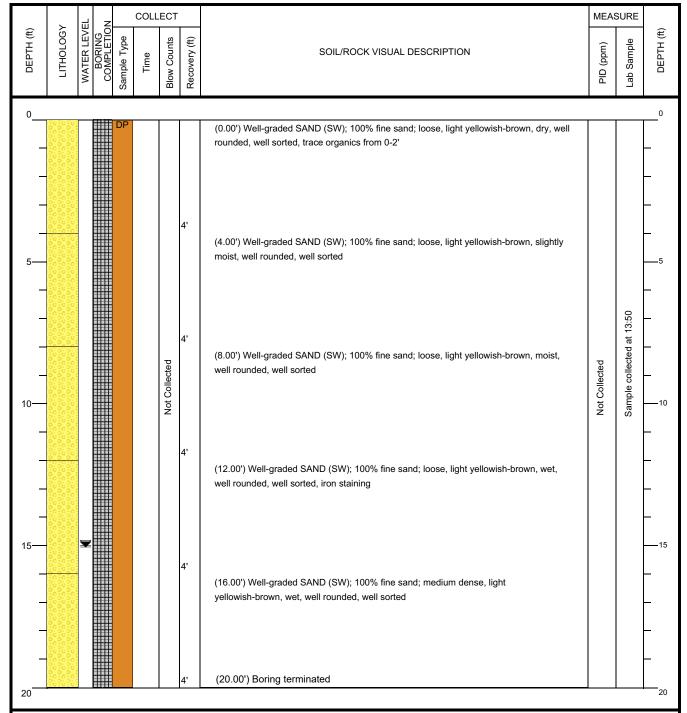
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 15

DTW After Drilling (ft): 15.05
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012153, -90.680683



NOTES: Hole precleared to 5' on 05/22/2023 13:10 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-14-GW-052223 collected at 19.5-20.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

BORING LOG

Boring No. SB-TW-15

Page: 1 of 1

Drilling Start Date: 05/22/2023 12:35

Drilling End Date: 05/22/2023 12:55

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 20

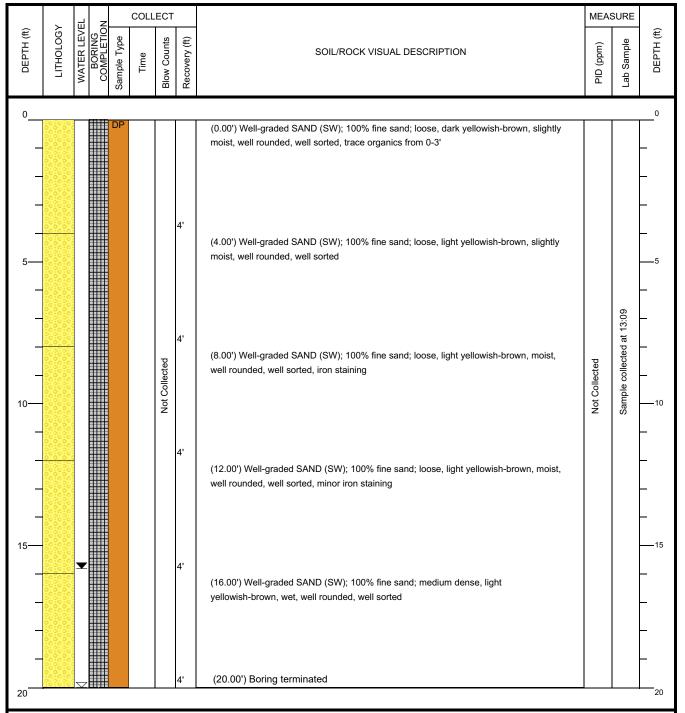
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 20

DTW After Drilling (ft): 15.8
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.012096, -90.681132



NOTES: Hole precleared to 5' on 05/22/2023 12:30 by Probe Technologies Incorporated using hand auger. Water sample SB-TW-15-GW-052223 collected at 19.5-20.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

1 of 1

Boring No. BS-01

Page:

Drilling Start Date: 05/24/2023 09:50

Drilling End Date: 05/24/2023 10:05

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 12

Boring Diameter (in): 2.00

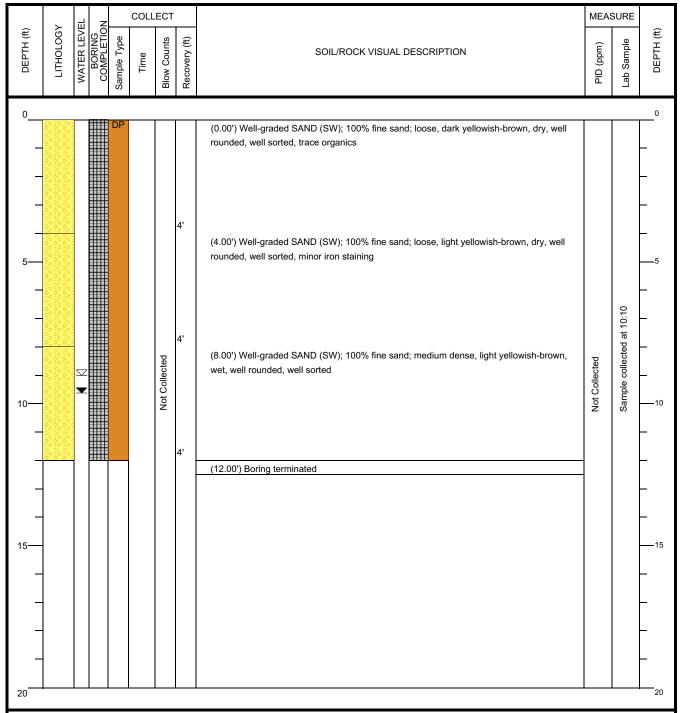
Sampling Method(s): Direct Push

DTW During Drilling (ft): 9

DTW After Drilling (ft): 9.63

Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.010956, -90.680139



NOTES: Hole precleared to 5' on 05/24/2023 09:45 by Probe Technologies Incorporated using hand auger. Water sample BS-01-GW-052423 collected at 11.5-12.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. BS-02 Page: 1 of 1

Drilling Start Date: 05/24/2023 09:20

Drilling End Date: 05/24/2023 09:30

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 12

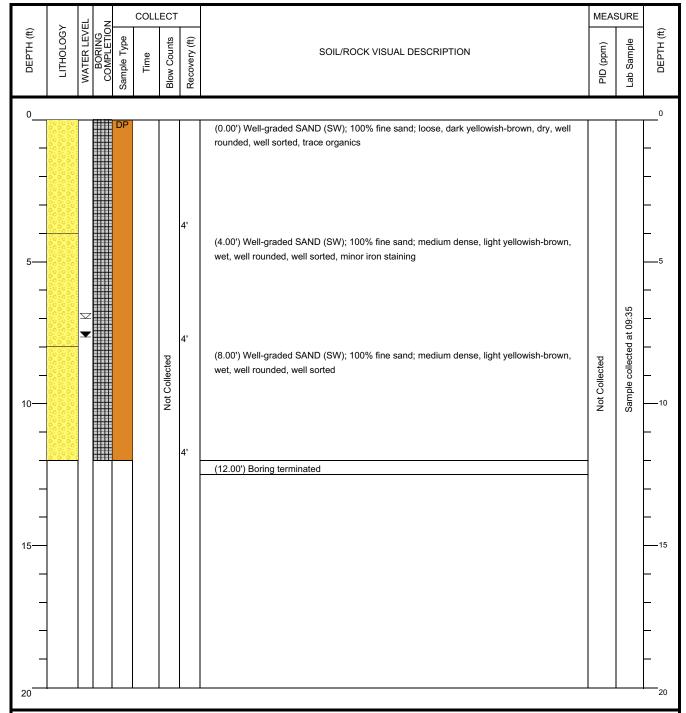
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 7

DTW After Drilling (ft): 7.65
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.010979, -90.679033



NOTES: Hole precleared to 5' on 05/24/2023 09:15 by Probe Technologies Incorporated using hand auger. Water sample BS-02-GW-052423 collected at 11.5-12.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

BORING LOG

Boring No. BS-03 Page: 1 of 1

Drilling Start Date: 05/24/2023 08:55

Drilling End Date: 05/24/2023 09:00

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 12

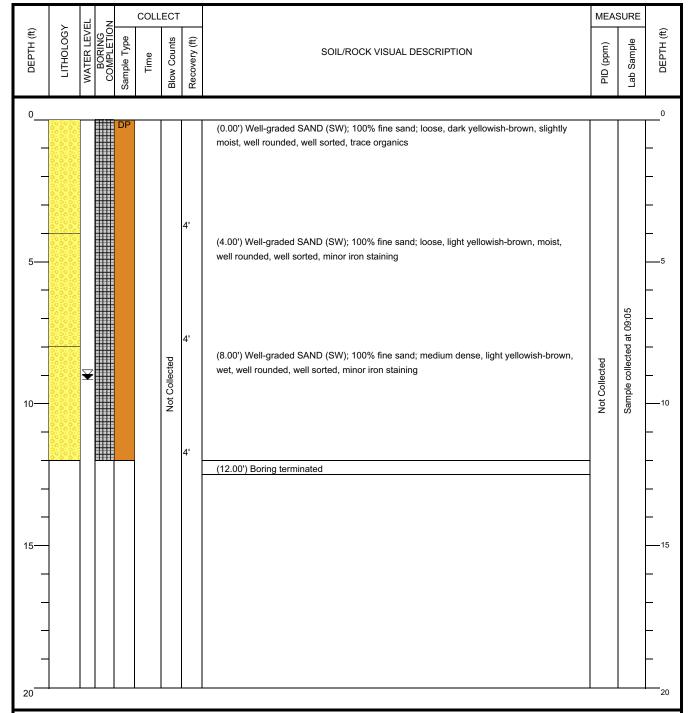
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 9

DTW After Drilling (ft): 9.15
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.010952, -90.678092



NOTES: Hole precleared to 5' on 05/24/2023 08:50 by Probe Technologies Incorporated using hand auger. Water sample BS-03-GW-052423 collected at 11.5-12.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

1 of 1

Boring No. BS-04

Page:

Drilling Start Date: 05/24/2023 08:20

Drilling End Date: 05/24/2023 08:30

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 12

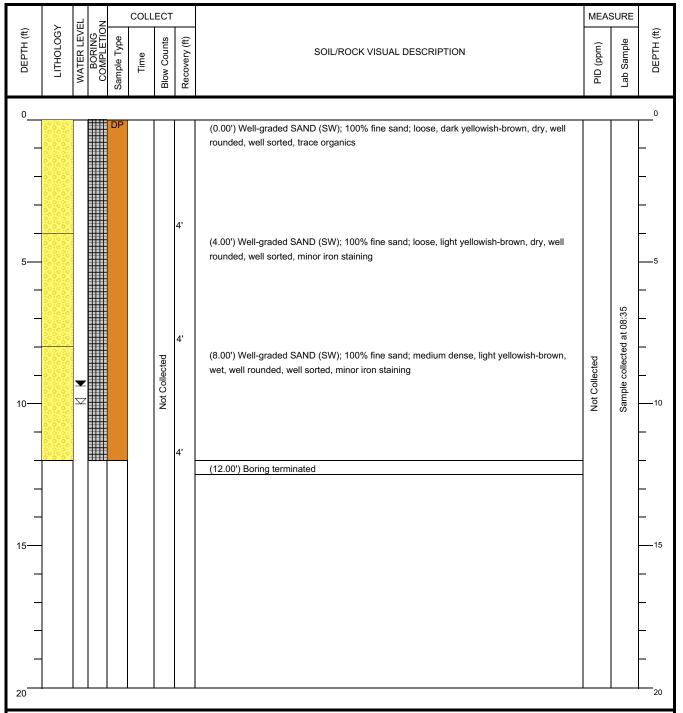
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 10

DTW After Drilling (ft): 9.37
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.010966, -90.677123



NOTES: Hole precleared to 5' on 05/24/2023 08:15 by Probe Technologies Incorporated using hand auger. Water sample BS-04-GW-052423 collected at 11.5-12.0 ft bgs.



Project: Fort McCoy

Address: 1654 S 11th Ave, Fort McCoy, WI

**BORING LOG** 

Boring No. BS-05 Page: 1 of 1

Drilling Start Date: 05/24/2023 07:45

Drilling End Date: 05/24/2023 08:00

Drilling Company: Probe Technologies Incorporated

Drilling Method: Direct Push

Drilling Equipment: **Geoprobe 6620 D2**Driller: **Dan Bendorf** 

Logged By: Jack Heltzer

Boring Depth (ft): 12

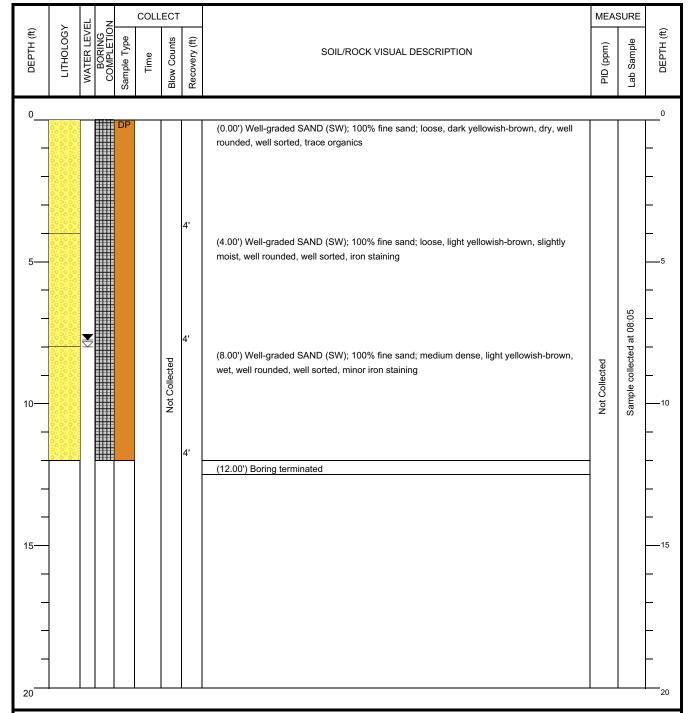
Boring Diameter (in): 2.00

Sampling Method(s): Direct Push

DTW During Drilling (ft): 8

DTW After Drilling (ft): 7.75
Ground Surface Elev. (ft): N/A

Location (Lat, Long): 44.010962, -90.675906



NOTES: Hole precleared to 5' on 05/24/2023 07:40 by Probe Technologies Incorporated using hand auger. Water sample BS-05-GW-052423 collected at 11.5-12.0 ft bgs.

U.S. Army Corps of Engineers – Omaha District Fort McCoy Defense Logistics Agency Property Area 4 Fort McCoy, Monroe, Wisconsin Groundwater Investigation Report

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U.S. Army Corps of Engineers – Omaha District Fort McCoy Defense Logistics Agency Property Area 4 Fort McCoy, Monroe, Wisconsin Groundwater Investigation Report

# APPENDIX D SAMPLING FIELD FORMS

						1.0			Analysis / Container / Preservative					Chain of Cust	ody	Page O			
Company Name/Address: Sustainment & Resto	oration	Servic	es -	Accounts	Payable		Pres Chk			Anz	alvsis /	Contail					4	Pac	e <sup>*</sup>
GA 2152 Northwest Parkway				Suite 200 Milwauk	ee, WI 53226			3									,	JULIE	T, TN
Report to: Keely Meadows					meadows@oescgi	oup.com  Please Ci	rcle:	E-HNO									12065 Lebanon Rd Submitting a sample constitutes acknowl Pace Terms and Con	e via this cha ledgment an aditions four	and acceptance of add at:
Project Description: Fort McCoy			City/State F Collected:	ort M Wisc	on 3in	PT MT	ET	нор									https://info.pacelab: terms.pdf	s.com/hubfs	s/pas-standard-
Phone: <b>678-778-7531</b>	Clie	ent Project #	*		Lab Project # SUSRESMGA	FORT MCC	COY	250mlHDP			1					-	SDG # Table #		
Collected by (print):  JH /SS	Site	e/Facility ID	#		P.O. #			6020								1	Acctnum: SU	SRESI	ИGA
Collected by (signature):		Same Day	ab MUST Be N	ay	Quote #  Date Result	s Needed		Cd,Cr,Pb								F	remplate: <b>T2</b> . Prelogin: <b>P9</b> 9 PM: <b>873</b> - Hea	99720	
Packed on Ice N Y Sample ID	Co	Two Day Three Day	10 Day	y (Rad Only)  Depth	STO Date	Time	No. of Cntrs	DOD As,C			Н						PB: Shipped Via: F	-	Ground
			GW	/	05/22/23	1309	1	X									11611161162	Jan	pic # (lab offin)
SB-TW-15-GW-00		G	GW	/	05/22/23		1	X											
Sp-Tw-13-6W-05		G	GW	/	05/32/33	1432	1	X											70
Sb-TW-12-GW-05		G	GW	/	05/22/23	1520	1	X											
Sb-TW- 11-GW-0.		G	GW	/	05/22/23	1605	1	X											
SB-TW-10-GW-03	1/200	B	GW	/	05/22/23	1645	1	X		-					1				1.01
SB- TW- 09- GW- 05		G	GW	/	05/23/23	0830	1	X											
SB-TW-08-GW-05		G	GW	/	05/23/23	0905	1	X											
SB-TW-07-GW-05	52323	G	GW	/	05/23/23	0950	1	X				5							
SB-TV-07=MS-6W-	03000	G	GW	/	05/23/23	1030J	# 1	X											
Matrix: S - Soil AIR - Air F - Filter W - Groundwater B - Bioassay W - WasteWater	Remarks					6950					pH Temp COC Seal Present/I COC Signed/Accurat Bottles arrive int Correct bottles us			esent/Intac Accurate: Lve intact:	t: _N				
W - Drinking Water - Other	Samples re	eturned via FedEx			Trackir	ng#			781	VOA Zero Headspace: Preservation Correct/			volume sent If Applicands  adspace:	able	X i				
linquished by : (Signature)			/24/23	Time:		ed by: (Signa	gnature)  Trip Blank Received: 1857 NO HCL / MeoH TBR  O Bottles Received: If preservation requ				<0.5 mR/hr:	:	_ <sub>A</sub> _ <sub>1</sub>						
nquTshed by : (Signature)		Date:		Time:	Receiv	ed by: (Signa	Temp.			required by		Condition:							
quished by : (Signature)		Date:		Time:	Receiv	ed for lab by	: (Signa	ture)		1	Date:		Tim	ne:	Hold:				NCF / OK

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Sustainment & Restorati	on Servic	es -	Accounts	Payable		Pres					1000			-		1	Rac	0.
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			Suite 200						30			100				[ F	EOPLE ADVA	MCING SCIENCE
2152 Northwest Parkway			Milwauk	ee, WI 53226			-				- 11	100				M	T JULIE	T, TN
Report to:			Email To: k	meadows@oesc	group.com		HNO3		4							12065 Lebanon R Submitting a sam	td Mount Julie	et, TN 37122
Keely Meadows							도				10				1 1	constitutes acknor Pace Terms and Ci	wledgment an	nd acceptance of
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	Client Project		Wisc	Lab Project #			불					(0)			Ī	- D.C. #		1
Phone: 678-778-7531				SUSRESMG	A-FORT MO	COY	250mlHDPE-		-							SDG #		
Collected by (print):	Site/Facility II	D.#		P.O. #	_	-									1	Table #		
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Immediately		y10 D	y (Rad Only) ay (Rad Only)	Date Resu	Its Needed	No.	As,Cd,Cr,Pb		1							M: 873 - He:	then J W	lagner
Packed on Ice N Y	Three D	Day		711		of									PE		TO IN	/
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	gog								Sh	nipped Via: F		e # (lab only)
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			1	05/23/23		1	X											
SB-TW-06-GW-0525		GW		05/23/2		1	X				E-51							100
SB-TW-01-6W- 05230		GW		05/23/23		1	X					146						-
SB- tw-04-GW-05237		GW		05/23/23	1230	1	X	-							-			. 1
5B-TW-03-GW-05032		GW	/	05/23/23	1312	1	X		181			100						
SB- TW- 02- GW-052323	G	GW	/	05/23/20	3 1355	1	Х											
SB-TW-05-GW-05232	3 G	GW	/	05/23/23		1	Х		3									
BS-05-GW-052723	G	GW	/	05/24/23		1	X											
BS-04-GW-052\$23	G	GW	/	05/24/23		1	X											
BS-03-6W-052423	G	GW		The second second second								-					10-1	
* Matrix:	marks:	011		05/24/23	10402	1	X		38									
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WW - WasteWater														COC Sign	ned/Acc	ent/Intact	: _NP	Y N
DW - Drinking Water OT - OtherSan	ples returned vi	a:			EU MAN				_	Flow _		Other	_	Correct	bottle	intact: es used:		$-\frac{Y}{Y}-\frac{N}{N}$
	JPS _ FedEx _	Courier		- Tracki	ng#									Suffici	ent vol	lume sent: f Applica	ble	YN
Relinquished by : (Signature)	Date		Time:		ed by: (Signat	ure)			Tri	p Blank	Receive	d: Yes / No		VOA Zer Preserv	o Heads	space: Correct/C		_Y _N
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Solite 200   Milwaukee, WI 53226   Milwauk		on Servi		Accounts	Payable							A STATE OF					1 G	Pace	<b>9</b> *
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FB-01-052423  GW 05/24/23 [0]5 1 X  GW 1 X 1 X  GW 1 X 1 X  GW 1 X X X 1 X  GW 1 X X X X X X X X X X X X X X X X X X	BS- 05- DUP 64-052423 JH	G	GW	1			1	X					195						
GW   1 X   1	EB-01-652423	G	GW	/			1	Х			-								
GW  GW  1 X	FB-01-052423	6	GW	/			1	X											
GW 1 X 1 X 1			GW			10.0	1	X											
GW  GW  1 X  PH Temp  Coc Seal Present/Intact: NP Y N  W-WasteWater  Other  Other  UPS FedEx Courier  Tracking #  Time:  Received by: (Signature)  Date:  Time:  Received by: (Signature)  Temp:  Coc Signed/Accurate:  Samples receipt Checklist  Coc Seal Present/Intact: NP Y N  Bottles arrive intact:  Correct bottles used:  Y N  Sufficient volume sent:  Y N  Trip Blank Received: Yes / No  HCL / MeoH  TBR  Temp:  Coc Signed/Accurate:  Sufficient volume sent:  Y N  RAD Screen <0.5 mR/hr:  Y Time:  Received by: (Signature)  Date:  Time:  Received for lab by: (Signature)			GW				1	2000											
Matrix:			GW							3 (4)	- 6				- 1				
Remarks:    PH   Temp   Coc Sall Present/Intact: NP Y N October   Sample Receipt Checklist   NP Y N October   Sample Receipt Checklist   NP Y N October   NP Y			GW																
Samples returned via:  UPS _ FedEx _ Courier	S - Soil AIR - Air F - Filter W - Groundwater B - Bioassay W - WasteWater	arks:						^			-			_	COC Sea	1 Pres	ent/Intact	hecklist	Y N
Received by: (Signature)  Trip Blank Received: Yes / No HCL / MeoH TBR  Temp: °C Bottles Received: Yes / No RAD Screen <0.5 mR/hr: Y Time: Received by: (Signature)  Date: Time: Hold:	- Other Sampl	es returned via	: _ Courier _	WE !	Tracking	#		181	THE STATE OF THE S	78	Flow_	IR	Other		Bottles	arriv bottl ent vo	e intact: es used: lume sent		Y N
Date: Time: Received by: (Signature)  Date: Time: Received by: (Signature)  Temp: °C Bottles Received: If preservation required by Login: Date/Time  ished by: (Signature)  Date: Time: Received for lab by: (Signature)  Date: Time: Hold:	Jet.					by: (Signatu	re)			Tri	p Blank	Receive			Preserv	o Head	ispace:	backed.	_ <sup>x</sup> _ <sup>y</sup> _ <sup>y</sup>
Date: Time: Received for lab by: (Signature) Date: Time: Hold:						by: (Signatu	re)			Te	mp:	°C	TBR						
	uisnea by : (Signature)	Date:		Time:	Received	for lab by: (S	ignatur	e)	MAS	Da	te:	Na in	Time:						ondition:

.2

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# APPENDIX E SITE SURVEY DATA

#### **APPENDIX E – SITE SURVEY DATA**

**Projection:** WGS 1984 Web Mercator **Method/Equipment:** GPS via Trimble

Location ID	Latitude	Longitude	Appendix A Photographic Log
SB/TW-01	44.01229	-90.6773	3, 4, 5
SB/TW-02	44.01233	-90.6763	5, 6, 7
SB/TW-03	44.0123	-90.6766	8
SB/TW-04	44.0123	-90.677	9
SB/TW-05	44.01235	-90.676	10
SB/TW-06	44.0123	-90.6776	11
SB/TW-07	44.01228	-90.6779	12
SB/TW-08	44.01203	-90.6779	13, 14
SB/TW-09	44.01241	-90.6783	15
SB/TW-10	44.01237	-90.6787	16, 17
SB/TW-11	44.01231	-90.6791	18, 19
SB/TW-12	44.01228	-90.6796	20
SB/TW-13	44.01228	-90.6801	21
SB/TW-14	44.01215	-90.6807	22
SB/TW-15	44.0121	-90.6811	23
BS-01	44.01096	-90.6801	24
BS-02	44.01098	-90.679	25
BS-03	44.01095	-90.6781	26
BS-04	44.01097	-90.6771	Not Pictured
BS-05	44.01096	-90.6759	27

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# APPENDIX F ANALYTICAL REPORTS



### Pace Analytical ANALYTICAL REPORT

L1620149

















#### **Sustainment & Restoration Services - GA**

Sample Delivery Group:

Samples Received: 05/25/2023

Project Number:

Description: Fort McCoy

Report To: Keely Meadows

2152 Northwest Parkway

Suite J

Marietta, GA 30067

Entire Report Reviewed By:

Heather J Wagner

Apanhillas =

Project Manager Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received. Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SB-TW-11-GW-052223 L1620149-05	11
SB-TW-10-GW-052223 L1620149-06	12
SB-TW-09-GW-052323 L1620149-07	13
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BS-03-GW-052423 L1620149-18	24
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Sc: Sample Chain of Custody

#### SAMPLE SUMMARY

SB-TW-15-GW-052223 L1620149-01 GW			Collected by JH/SS	Collected date/time 05/22/23 13:09	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 11:48	SJM	Mt. Juliet, TN
SB-TW-14-GW-052223 L1620149-02 GW			Collected by JH/SS	Collected date/time 05/22/23 13:50	Received da: 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 11:51	SJM	Mt. Juliet, TN
SB-TW-13-GW-052223 L1620149-03 GW			Collected by JH/SS	Collected date/time 05/22/23 14:32	Received da: 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 11:55	SJM	Mt. Juliet, TN
SB-TW-12-GW-052223 L1620149-04 GW			Collected by JH/SS	Collected date/time 05/22/23 15:20	Received da: 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 11:58	SJM	Mt. Juliet, TN
SB-TW-11-GW-052223 L1620149-05 GW			Collected by JH/SS	Collected date/time 05/22/23 16:05	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 12:08	SJM	Mt. Juliet, TN
SB-TW-10-GW-052223 L1620149-06 GW			Collected by JH/SS	Collected date/time 05/22/23 16:45	Received da: 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 12:11	SJM	Mt. Juliet, TN
SB-TW-09-GW-052323 L1620149-07 GW			Collected by JH/SS	Collected date/time 05/23/23 08:30	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 12:20	SJM	Mt. Juliet, TN
SB-TW-08-GW-052323 L1620149-08 GW			Collected by JH/SS	Collected date/time 05/23/23 09:05	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location





















Metals (ICPMS) by Method 6020

WG2068786

06/01/23 07:18

06/01/23 12:23

SJM

Mt. Juliet, TN

#### SAMPLE SUMMARY

Micilar   CPMS   by Michold 6020	SB-TW-07-GW-052323 L1620149-09 GW			Collected by JH/SS	Collected date/time 05/23/23 09:50	Received da 05/25/23 08	
SB-TW-06-GW-052323 L1620149-10   GW	Method	Batch	Dilution	•	•	Analyst	Location
Method   Barch   Dilution   Preparation   Analysis   Analysis   Analysis   Discator   Analysis	Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 11:35	SJM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020   MG2068786   1	SB-TW-06-GW-052323 L1620149-10 GW			•			
SB-TW-01-GW-052323 L1620149-11 GW   SBatch   Dilution   Peparation   Analysis   Analysis   Location   date/time   date/time	Method	Batch	Dilution	•	•	Analyst	Location
Method	Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 12:27	SJM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020   WG2068786   1   OG01/23 07:18   OG01/23 12:30   SJM   Mt. Juliet;	SB-TW-01-GW-052323 L1620149-11 GW			•			
SB-TW-04-GW-052323 L1620149-12   GW   Satch   Dilution   Preparation   date/time   date/	Method	Batch	Dilution	·='	•	Analyst	Location
SB-TW-04-GW-052323         L1620149-12         GW         JH/SS         05/23/23 12:30         05/25/23 08:45           Method         Batch         Dilution date/time         Analysis date/time         Analysis date/time         Analysis date/time         Analysis date/time         Analysis date/time         Analysis date/time         SJM         Mt. Juliet.           SB-TW-03-GW-052323         L1620149-13         GW         Collected by JH/SS         Collected date/time         Received date/time date/time         Analysis date/time         Batch         Dilution         Preparation date/time         Analysis date/time         SJM         Mt. Juliet.           SB-TW-02-GW-052323         L1620149-14         GW         Collected by JH/SS         Collected date/time date/time         Received date/time         Analysis date/time <td< td=""><td>Metals (ICPMS) by Method 6020</td><td>WG2068786</td><td>1</td><td>06/01/23 07:18</td><td>06/01/23 12:30</td><td>SJM</td><td>Mt. Juliet, TN</td></td<>	Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 12:30	SJM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020   WG2068786   1 06/01/23 07.18 06/01/23 12.33   SJM   Mt. Juliet, in the control of the contro	SB-TW-04-GW-052323 L1620149-12 GW			•			
Collected by JH/SS   D5/23/23 13:12   D5/25/23 08:45	Method	Batch	Dilution	•	•	Analyst	Location
Method   Batch   Dilution   Preparation   date/time   date/time	Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 12:33	SJM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020   WG2068786   1   06/01/23 07:18   06/01/23 12:37   SJM   Mt. Juliet, of the properties	SB-TW-03-GW-052323 L1620149-13 GW			*			
Metais (ICPMS) by Method 6020         WG2068786         1         06/01/23 07:18         06/01/23 12:37         SJM         Mt. Juliet, of the propertion of the properties of the propertion of the properties of the properti	Method	Batch	Dilution		•	Analyst	Location
SB-TW-02-GW-052323         L1620149-14         GW         JH/SS         05/23/23 13:55         05/25/23 08:45           Method         Batch         Dilution         Preparation date/time         Analysis         Analyst         Location date/time           Metals (ICPMS) by Method 6020         WG2068786         1         06/01/23 07:18         06/01/23 12:40         SJM         Mt. Juliet,           SB-TW-05-GW-052323         L1620149-15         GW         Collected by JH/SS         05/23/23 14:55         05/25/23 08:45           Method         Batch         Dilution         Preparation date/time         Analysis         Analyst         Location date/time           Metals (ICPMS) by Method 6020         WG2068786         1         06/01/23 07:18         06/01/23 12:43         SJM         Mt. Juliet,           BS-05-GW-052423         L1620149-16         GW         Collected by JH/SS         Collected date/time         Received date/time           Method         Batch         Dilution         Preparation         Analysis         Analyst         Location	Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 12:37	SJM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020   WG2068786   1   O6/01/23 07:18   O6/01/23 12:40   SJM   Mt. Juliet,	SB-TW-02-GW-052323 L1620149-14 GW			*			
SB-TW-05-GW-052323 L1620149-15 GW  Batch  Method  Metals (ICPMS) by Method 6020  Meg2068786  Method  Batch  Dilution  Preparation date/time date/time date/time date/time  Collected by JH/SS  Dilution  Preparation date/time date/time  Collected by JH/SS  Dilution  Collected by JH/SS  Dilution  Collected by JH/SS  Dilution  Collected date/time Received date/time Received date/time  Dilution  Received date/time  Received date/time  Dilution  Preparation Analysis	Method	Batch	Dilution	·='	•	Analyst	Location
SB-TW-05-GW-052323         L1620149-15         GW         JH/SS         05/23/23 14:55         05/25/23 08:45           Method         Batch         Dilution date/time         Preparation date/time         Analysis         Analyst         Location date/time           Metals (ICPMS) by Method 6020         WG2068786         1         06/01/23 07:18         06/01/23 12:43         SJM         Mt. Juliet, Mt. Juliet	Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 12:40	SJM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020   WG2068786   1   O6/01/23 07:18   O6/01/23 12:43   SJM   Mt. Juliet,	SB-TW-05-GW-052323 L1620149-15 GW						
Metals (ICPMS) by Method 6020	Method	Batch	Dilution		•	Analyst	Location
BS-05-GW-052423 L1620149-16 GW  Batch Dilution Preparation Analysis Analyst Location	Metals (ICPMS) by Method 6020	WG2068786	1			SJM	Mt. Juliet, TN
Method Batch Dilution Preparation Analysis Analyst Location	BS-05-GW-052423 L1620149-16 GW			*			
date/unie date/unie		Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location





















Metals (ICPMS) by Method 6020

WG2068786

06/01/23 07:18

SJM

Mt. Juliet, TN

06/01/23 12:53

#### SAMPLE SUMMARY

BS-04-GW-052423 L1620149-17 GW			Collected by JH/SS	Collected date/time 05/24/23 08:35	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 12:57	SJM	Mt. Juliet, TN
BS-03-GW-052423 L1620149-18 GW			Collected by JH/SS	Collected date/time 05/24/23 09:05	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 13:00	SJM	Mt. Juliet, TN
BS-02-GW-052423 L1620149-19 GW			Collected by JH/SS	Collected date/time 05/24/23 09:35	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 13:03	SJM	Mt. Juliet, TN
BS-01-GW-052423 L1620149-20 GW			Collected by JH/SS	Collected date/time 05/24/23 10:10	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068786	1	06/01/23 07:18	06/01/23 13:07	SJM	Mt. Juliet, TN
SB-TW-13-DUP-GW-052223 L1620149-21 GW			Collected by JH/SS	Collected date/time 05/22/23 14:32	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068783	1	05/31/23 09:41	05/31/23 14:51	JPD	Mt. Juliet, TN
3S-04-DUP-GW-052423 L1620149-22 GW			Collected by JH/SS	Collected date/time 05/24/23 08:35	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068783	1	05/31/23 09:41	05/31/23 14:54	JPD	Mt. Juliet, TN
EB-01-052423 L1620149-23 GW			Collected by JH/SS	Collected date/time 05/24/23 10:25	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG2068783	1	05/31/23 09:41	05/31/23 14:58	JPD	Mt. Juliet, TN
FB-01-052423 L1620149-24 GW			Collected by JH/SS	Collected date/time 05/24/23 10:15	Received da 05/25/23 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location



















Metals (ICPMS) by Method 6020

WG2068783

05/31/23 09:41

JPD

Mt. Juliet, TN

05/31/23 15:01

#### CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

















PAGE:

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Heather J Wagner Project Manager

L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.397	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 11:48	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 11:48	WG2068786
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	06/01/2023 11:48	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 11:48	WG2068786



















1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.560	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 11:51	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 11:51	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 11:51	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 11:51	WG2068786



















L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.900		0.195	0.500	0.650	1	06/01/2023 11:55	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 11:55	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 11:55	WG2068786
Lead	7439-92-1	0.521	J	0.513	1.50	1.71	1	06/01/2023 11:55	WG2068786



















L1620149

	"								
	CAS #	Result	<u>Qualifier</u>	DL	LOD	LOQ	Dilution	Analysis	<u>Batch</u>
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.298	J	0.195	0.500	0.650	1	06/01/2023 11:58	WG2068786
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	06/01/2023 11:58	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 11:58	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 11:58	WG2068786



















1620149

	CAS#	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	1.62		0.195	0.500	0.650	1	06/01/2023 12:08	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 12:08	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 12:08	WG2068786
Lead	7439-92-1	1.50	<u>U</u>	0.513	1.50	1.71	1	06/01/2023 12:08	WG2068786



















L1620149

	CAS#	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.555	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 12:11	WG2068786
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	06/01/2023 12:11	WG2068786
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	06/01/2023 12:11	WG2068786
Lead	7439-92-1	1.07	<u>J</u>	0.513	1.50	1.71	1	06/01/2023 12:11	WG2068786



















L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.365	J	0.195	0.500	0.650	1	06/01/2023 12:20	WG2068786
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	06/01/2023 12:20	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 12:20	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 12:20	WG2068786



















L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.334	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 12:23	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 12:23	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 12:23	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 12:23	WG2068786



















L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	<u>Batch</u>
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.251	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 11:35	WG2068786
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	06/01/2023 11:35	WG2068786
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	06/01/2023 11:35	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 11:35	WG2068786



















L1620149

	CAS #	Result	Qualifier	DL	LOD	100	Dilution	Analysis	Datah
	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	<u>Batch</u>
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.500	U	0.195	0.500	0.650	1	06/01/2023 12:27	WG2068786
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	06/01/2023 12:27	WG2068786
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	06/01/2023 12:27	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 12:27	WG2068786



















L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.439	J	0.195	0.500	0.650	1	06/01/2023 12:30	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 12:30	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 12:30	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 12:30	WG2068786



















L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.210	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 12:33	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 12:33	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 12:33	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 12:33	WG2068786



















L1620149

#### Metals (ICPMS) by Method 6020

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	<u>Batch</u>
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.402	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 12:37	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 12:37	WG2068786
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	06/01/2023 12:37	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 12:37	WG2068786



















Sustainment & Restoration Services - GA

L1620149

	CAS#	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.310	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 12:40	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 12:40	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 12:40	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 12:40	WG2068786



















L1620149

	CAS#	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.328	J	0.195	0.500	0.650	1	06/01/2023 12:43	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 12:43	WG2068786
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	06/01/2023 12:43	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 12:43	WG2068786



















L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.599	J	0.195	0.500	0.650	1	06/01/2023 12:53	WG2068786
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	06/01/2023 12:53	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 12:53	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 12:53	WG2068786



















L1620149

	CAS#	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.281	J	0.195	0.500	0.650	1	06/01/2023 12:57	WG2068786
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	06/01/2023 12:57	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 12:57	WG2068786
Lead	7439-92-1	0.550	J	0.513	1.50	1.71	1	06/01/2023 12:57	WG2068786



















L1620149

	CAS#	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	<u>Batch</u>
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.209	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 13:00	WG2068786
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	06/01/2023 13:00	WG2068786
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	06/01/2023 13:00	WG2068786
Lead	7439-92-1	1.50	<u>U</u>	0.513	1.50	1.71	1	06/01/2023 13:00	WG2068786



















L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	<u>Batch</u>
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.337	<u>J</u>	0.195	0.500	0.650	1	06/01/2023 13:03	WG2068786
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	06/01/2023 13:03	WG2068786
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	06/01/2023 13:03	WG2068786
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	06/01/2023 13:03	WG2068786



















# BS-01-GW-052423

Collected date/time: 05/24/23 10:10

# SAMPLE RESULTS - 20

L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.356	J	0.195	0.500	0.650	1	06/01/2023 13:07	WG2068786
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	06/01/2023 13:07	WG2068786
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	06/01/2023 13:07	WG2068786
Lead	7439-92-1	0.731	<u>J</u>	0.513	1.50	1.71	1	06/01/2023 13:07	WG2068786



















L1620149

#### Metals (ICPMS) by Method 6020

Collected date/time: 05/22/23 14:32

	CAS#	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.866		0.195	0.500	0.650	1	05/31/2023 14:51	WG2068783
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	05/31/2023 14:51	WG2068783
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	05/31/2023 14:51	WG2068783
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	05/31/2023 14:51	WG2068783



















L1620149

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.351	<u>J</u>	0.195	0.500	0.650	1	05/31/2023 14:54	WG2068783
Cadmium	7440-43-9	0.500	U	0.160	0.500	0.533	1	05/31/2023 14:54	WG2068783
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	05/31/2023 14:54	WG2068783
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	05/31/2023 14:54	WG2068783



















L1620149

#### Metals (ICPMS) by Method 6020

Collected date/time: 05/24/23 10:25

	CAS#	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Patch
	CAS#	Result	Qualifier	DL	LOD	LOW	Dilution	Alidiysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.500	U	0.195	0.500	0.650	1	05/31/2023 14:58	WG2068783
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	05/31/2023 14:58	WG2068783
Chromium	7440-47-3	15.0	<u>U</u>	5.60	15.0	18.7	1	05/31/2023 14:58	WG2068783
Lead	7439-92-1	55.4		0.513	1.50	1.71	1	05/31/2023 14:58	WG2068783



















L1620149

#### Metals (ICPMS) by Method 6020

Collected date/time: 05/24/23 10:15

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/l		ug/l	ug/l	ug/l		date / time	
Arsenic	7440-38-2	0.500	U	0.195	0.500	0.650	1	05/31/2023 15:01	WG2068783
Cadmium	7440-43-9	0.500	<u>U</u>	0.160	0.500	0.533	1	05/31/2023 15:01	WG2068783
Chromium	7440-47-3	15.0	U	5.60	15.0	18.7	1	05/31/2023 15:01	WG2068783
Lead	7439-92-1	1.50	U	0.513	1.50	1.71	1	05/31/2023 15:01	WG2068783



















#### WG2068783

#### QUALITY CONTROL SUMMARY

L1620149-21,22,23,24

### Method Blank (MB)

(MB) R3931127-1 05/31/23 13:00

Metals (ICPMS) by Method 6020

	MB Result	MB Qualifier	MB DL	MB LOD	MB LOQ
Analyte	ug/l		ug/l	ug/l	ug/l
Arsenic	0.500	<u>U</u>	0.195	0.500	0.650
Cadmium	0.500	<u>U</u>	0.160	0.500	0.533
Chromium	15.0	<u>U</u>	5.60	15.0	18.7
Lead	1.50	U	0.513	1.50	1.71







# <sup>†</sup>Cn

#### Laboratory Control Sample (LCS)

(LCS) R3931127-2 05/31/23 13:04

(LCS) NSSS1127-2 03/31/2	25 15.04				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
Arsenic	50.0	50.0	100	84.0-116	
Cadmium	50.0	52.0	104	87.0-115	
Chromium	50.0	49.9	99.9	85.0-116	
Lead	50.0	47.1	94.2	88.0-115	









(OS) L1620025-01 05/31/23 15:53 • (MS) R3931127-6 05/31/23 15:59 • (MSD) R3931127-7 05/31/23 16:03

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Arsenic	50.0	10.0	51.4	50.1	103	100	20	84.0-116			2.64	20
Cadmium	50.0	10.0	46.2	46.2	92.3	92.4	20	87.0-115			0.0509	20
Chromium	50.0	300	300	300	0.000	0.000	20	85.0-116	<u> J6 U</u>	<u>J6 U</u>	0.000	20
Lead	50.0	30.0	54.2	50.6	108	101	20	88.0-115			6.77	20

PAGE:

#### WG2068786

#### QUALITY CONTROL SUMMARY

L1620149-01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17,18,19,20

#### Method Blank (MB)

(MB) R3931662-1 06/01/23 11:28

Metals (ICPMS) by Method 6020

	MB Result	MB Qualifier	MB DL	MB LOD	MB LOQ
Analyte	ug/l		ug/l	ug/l	ug/l
Arsenic	0.500	<u>U</u>	0.195	0.500	0.650
Cadmium	0.500	<u>U</u>	0.160	0.500	0.533
Chromium	15.0	<u>U</u>	5.60	15.0	18.7
Lead	150	11	0 513	150	1 71



<sup>2</sup>Tc





#### Laboratory Control Sample (LCS)

(LCS) R3931662-2 06/01/23 11:31

(200) 1000002 2 00/01/2	-0				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
Arsenic	50.0	51.7	103	84.0-116	
Cadmium	50.0	53.7	107	87.0-115	
Chromium	50.0	52.1	104	85.0-116	
Lead	50.0	49.2	98.4	88.0-115	







# <sup>8</sup>Al

#### L1620149-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

 $(OS) \, L1620149 - O9 \quad 06/01/23 \,\, 11:35 \, \boldsymbol{\cdot} \,\, (MS) \,\, R3931662 - 4 \quad 06/01/23 \,\, 11:41 \, \boldsymbol{\cdot} \,\, (MSD) \,\, R3931662 - 5 \quad 06/01/23 \,\, 11:45 \,\, (MSD) \,\, R3931662 - 5 \quad 06/01/23 \,\, 11:45 \,\, (MSD) \,\, R3931662 - 1 \,\, (MSD) \,\, R3931662 - 1 \,\, (MSD) \,\, ($ 

, ,	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%	2	%	ino addinior	mor quamor	%	%
Arsenic	50.0	0.251	52.1	50.8	104	101	1	84.0-116			2.53	20
Cadmium	50.0	0.500	53.9	53.8	108	108	1	87.0-115			0.302	20
Chromium	50.0	15.0	51.6	50.1	103	100	1	85.0-116			3.02	20
Lead	50.0	1.50	50.2	48.9	100	97.7	1	88.0-115			2.79	20

### **GLOSSARY OF TERMS**

#### Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

#### Abbreviations and Definitions

Appleviations and	Definitions
DL	Detection Limit.
LOD	Limit of Detection.
LOQ	Limit of Quantitation.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
Qualifier	DESCRIPTION

J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
U	Below Detectable Limits: Indicates that the analyte was not detected.

















# **ACCREDITATIONS & LOCATIONS**

### Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina 1	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky 16	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	Al30792	Tennessee 14	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234



<sup>\*</sup> Not all certifications held by the laboratory are applicable to the results reported in the attached report.

TN00003



















EPA-Crypto

 $<sup>^* \, \</sup>text{Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.} \\$ 

St /8-tdoors			Billing Infor	mation:	-				An	alvsis / (	ontaine	r / Prese	ervative	1000		Chain of Cu	stody	Page 1 of	3
Company Name/Address: Sustainment & Restoration GA	on Servi	ces -	Accounts 1033 N N Suite 200	s Payable Mayfair Rd		Pres Chk	3									- 6	Pac Pace	* <b>e</b> * Ancina science	
2152 Northwest Parkway			Milwauk	ee, WI 53226			3	8			Sec.			- 3		M	T JULI	ET, TN	
Report to: Keely Meadows			Email To: kmeadows@oescgroup.com				SOMIHDPE-HNO									12065 Lebanon Submitting a sa constitutes ack	mple via this nowledgmen	chain of custody t and acceptance o	fihe
Project Description: Fort McCoy			ort M Wisc	on 3in	Please Ci		HDPE									https://info.par terms.pdf	elabs.com/r	oubls/pas-standard	10
Phone: <b>678-778-7531</b>	Client Project #		Lab Project # SUSRESMGA	-FORT MC	COY	N	(90)						- 100		SDG #	G	018	1	
Collected by (print):  JH/55	Site/Facility ID #			P.O. #			6020									Acctnum: Template			1
Collected by (signature):	Rush? (Lab MUST Be Notified) Same DayFive Day Next Day5 Day (Rad Only) Two Day10 Day (Rad Only)			Quote #  Date Resul	ts Needed	No.	As.Cd.Cr.Pb									Prelogin:	P9997		
Packed on Ice NY	Three I		Depth	Date	Time	Of										Shipped \		EX Groun	
SB-TW-15-GW-052223	G	GW	/	05/22/23	1309	1	×											-0	
SB-TW-14-6W-052223	G	GW	/	05/22/2	3 1350	1	2000	-					200					-0	
Sb-Tw-13-64-05223	G	GW	/	05/32/33	1432	1	×	(	0.00									-0	2
Sb-TW-12-GW-052273	G	GW	/	05/22/23		1	1000		2015					18				-0	6
Sb-Tw- 11-GW-052273	G	GW	/	05/22/23	-		100	100			200							01	2
SB-TW-10-GW-052223	B	GW	/	oslaala	1.0	1	1035	(	12.50				OXYMUS .					-0	,
SB- TW- 09- GW- 052023	G	GW	1	05/23/23		1	-	K	(2)(2)	-	100							-04	7
SB- TW- 08-GW- 052323	6	GW	1	05/23/23	The second second		-	X		-	233	-		- 69					
SB-TW-07-GW-052323	G	GW	1	05/23/23	0950	1	1000	X		-	5.5				200			30	1
SB-TV-07-MS-6W-05282	3 6	GW	/	05/23/2	6950	) 計 1		X	10000	1		_		100	Sa	mple Recei	pt Che	cklist 17	
SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	emarks:				0,0				72/	pH Flov		_ Temp		CO Bo Co	C Signe ttles a rrect l	Present/Ind/Accurate arrive introottles use nt volume	e: act: ed: sent:	Z.	_ N _ N _ N
					king#	64	18/	/	546	Trip Bla	S ink Rece	99 ived: Y	es TNo	Pr	eserva	If App Headspace tion Corre en <0.5 mR	: ct/Che	Y.	N N
Relinquished by : (Signature)		Date: 05/24/	23 1	230	eived by: (Sign						7/ 7		HCL / MeoH TBR tles Received	26		tion required		n: Date/Tim	e
Relinquished by : (Signature)		Date:	Tir							\$1000 miles (1000)	SAT	4.7	4024	_	old:			Conditio	057
Relinquished by : (Signature)		Date:	Tir	me: Rec	eived for lab	by: (Sig	nature	19	11	Date:	5/	23	814		0.00			NCF /	1007 1

Company Name/Address:			Billing Infor	rmation:			T		ΑΑ	nalysis /	Contains	er / Preservat	ive		Chain of Custody	Page	of 3
Sustainment & Restorati	on Servi			s Payable		Pres			139		993						
GA			1033 N Mayfair Rd						230						- Pa	ace.	
			Suite 200	0			Kal	933	1 28		933	100		- 199	PEOPLE	ADVANCING SCIE	NCE
2152 Northwest Parkway			Milwauk			2	- 1		198				MTII	JLIET, TN			
Report to.			Email To: kmeadows@oescgroup.com					S				100			12065 Lebanon Rd Mo	unt Juliet, TN 3712	2
Keely Meadows		Total forms		- 6 - 1	I Diaz	se Circle:	-	王	199			26			Submitting a sample vi constitutes acknowled Pace Terms and Condit	gment and accepta	nce of the
Project Description: Fort McCoy		City/State F Collected:	ort M Wisc	onsin		IT CT ET		IDP	1000						https://info.pacelabs.c terms.pdf		dard-
Phone: 678-778-7531	Client Project #			Lab Project # SUSRESMGA-FORT MCC				250mlHDPE-HNO				- 6			SDG# [	201	19
Collected by (print): Site/Fac		e/Facility ID #			P.O. #										Table #		8.8%
JH1SS								6020	88			200			Acctnum: SUS		
Collected by (signature):  Rush? (Lab MUST Be Same Day Five Next Day 5 Day Two Day 10 D				Quote #					183		308	190		1	Template:T23		
			Day (Rad Only)	Date R	Date Results Needed		-	יט ו	4			199		98	Prelogin: P99 PM: 873 - Hea		ier
			y (Rad Only)	51	-0	No.		As,Cd,Cr,Pb				- 60			PB: 045	16/20	
Packed on Ice N Y			Doubh	Date	Tim	of Cntr				113					Shipped Via: F		
Sample ID	Comp/Grab	Matrix *	Depth	Date	1 1111		-	gog						4	Remarks	Sample # (I	lab only)
SB-TW-07-MSP-64-052303	G	GW	/	05/23/	23 095	50 1		Х				- 33				-0	9
SB-TW-06-GW-054323		GW	/	05/23	23 103	0 1		X	188					0.00		- 10	2
SB-TW-01-6W- 052323		GW	/	05/23	123 110	5 1		Х				100				-1	
98- tw-04-GW-05232		GW	/	65/23	123 123	8 1	- 10	X								-1-	4
5B-TW-03-GW-052323	G	GW	/	05/23/	23 131	2 1	1	X	- 1000					2/3		-1	4
SB- TW- 02-GW-052323	G	GW	1	05/23				X	100							-	7
SB-TW-05-GW-052323	G	GW	/	05/23/	23 145	55 1	L	X			1					-	2
BS-05-GW-052923	G	GW	/	05/24	23 080	5 1	1	X	100							1/2	-
BS-04-GW-052\$23	G	GW	/	05/24	123 083	5 1	1	X	1300							17/	1
BS-03-6W-052423	G	GW	/	05/24	123 0909	š   1	1	X			200		4	C-	mple Receipt C	hecklist	)
* Matrix:	marks:									рН		_ Temp		COC Seal	Present/Intact	: _NP_(	N N
SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay										Flow	,	Other		Bottles a	arrive intact: cottles used:	93	X N
ww - WasteWater					AND DESCRIPTION	ERIO.		1	1. 1	0	1	217	0-0-0-		nt volume sent		X _N
DW - Drinking Water OT - Other	mples returne	ed via: Ex Courie			Tracking #	64	81	/	546	9	29	193		VOA Zero	Headspace: tion Correct/C		Y N
Relinquished by : (Signature)		Date:	Tim	ne:	Received by: (	Signature)				Trip Bla	nk Recei	ved:	Меон		en <0.5 mR/hr:		D/_N
		05/24/	123 1230						11 64	133	TBR			If preservation required by Login: Date/Time			
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Relinquished by : (Signature)		Date:	Tin	ne:	Received for lab by: (Signature)					Date:	12/	7 Time:	:45	Hold:		NCF NCF	ition:
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			Dilling Inform	nation:	-	1			Δ	Analysis /	Containe	/ Preserv	tive		Chain of Custody	Page 3 of 3
company Name/Address:		1	Billing Information:				V		1000						0	
Sustainment & Restoration Services - GA		Accounts Payable 1033 N Mayfair Rd				V						8		Pa	ce.	
		Suite 200									100	PEOPLE AL	OVANCING SCIENCE			
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eport to:			Email To: km	d	250mlHDPE-HNO		100		333				12065 Lebanon Rd Moun Submitting a sample via ti	t Juliet, TN 37122 his chain of custody ent and acceptance of the		
Ceely Meadows		City/State	Fort M	ccov	Please Cir	rcle:	E-F					18			Pace Terms and Condition https://info.pacelabs.com	is found at:
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Collected by (print):  JH/SS	Site/Facility ID	)#		P.O. #			6020								Acctnum: SUSI	
		Lab MUST Be	Notified)	Quote #										Template:T230	770	
gez .	Same Day Five Day			Date Result	_	As,Cd,Cr,Pb				1800			1114	Prelogin: P999 PM: 873 - Heatl	ner J Wagner,	
Immediately	Next Da		y (Rad Only) ay (Rad Only)		s Needed	No.	P)		100					1016	10.	
Packed on Ice N Y	Three D		1	STO		Of			- 100		P. A.					dEX Ground
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Citas	DOD								Remarks	Sample # (lab only)
BS-02-GW-052423	G	GW	05/XJH		0935				100	-						-20
BS-01-GW-052423	G	GW	/	05/24/23		1	1000				1000					-21
	3 G	GW	/	05/22/23	77.00	1		-		-	100 mm					- 22
SB-13-TW-13-DUP-6W-05222 BS-05-01-052423 JH EB-01-052423	G	GW	/	05/24/23	0835	1	1000	500	100				50			73
ER 01-652423	G	GW	/	05/24/23	3 1025	1		-	28					2000		24
FB-01-052423	6	GW	/	05/24/23	1015	1	100	(			1985					-4
70-012 03 416	-	GW				1	. )	X	200		1000			TEST STATE		
		GW				1	)	X								
		GW				1	1 2	X		12	1889		- 10			
		GW				1	1	X			100			No.		NA CA
b	emarks:	-								pł	4	_ Temp_		COC Seal	mple Receipt C Present/Intact	: _NP (Y)
SS - Soil AIR - Air F - Filter	emarks.									Flo		Other		Bottles a	ed/Accurate: arrive intact: bottles used:	<u> </u>
WW - WasteWater		No.	Annual Control				22	330	546	9	11	107		Sufficien	nt volume sent: If Applical	
DW - Drinking Water OT - Other	Samples returne	ed via: Ex Couri	er	Trac	king# 6	48	3/		276		51	1)		Preserva	Headspace: tion Correct/Ch	necked:
		Date:	Tim	ne: Rec	eived by: (Sig	nature)	)			Trip B	lank Rece	ived: Yes	CL/MeoH	RAD Scree	en <0.5 mR/hr:	0-
Relinquished by: (Signature)		05/24	123 1	236							TBR			If preservation required by Login: Date/Time		
		Date: Tin		-	gnature)				150000550		_	+034.7				
Weilidanier of Magines.						A COLOR					5A7	Time		Hold:		Condition
Relinquished by : (Signature)		Date:	Time: Received f			lab by: (Signature)					3/25/22 8:45					NCF / OK
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