

#### **DEPARTMENT OF THE ARMY**

US ARMY INSTALLATION MANAGEMENT COMMAND - READINESS HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT McCOY 2171 SOUTH 8TH AVENUE FORT MCCOY, WISCONSIN 54656

June 16, 2020

**Environmental Division** 

Mr. Timothy Zeichert Wisconsin Department of Natural Resources PO Box 7921 Madison, WI 53707-7921

Mr. Zeichert:

I have attached the report summarizing the soil sampling results for the waste areas disturbed during installation of the new water main at Fort McCoy. All of the results are below the NR 720 RCLs for both the Industrial and Non-Industrial settings.

If you have any questions or need any additional information, please contact Mr. Craig Bartholomew (608) 388-8453.

Sincerely,

Brent A. Friedl

Environmental Division Chief Directorate of Public Works

Brent a. Fried

**Enclosure** 

# Soil Sampling Wastewater Treatment Plant Water Main Project

Located at

Fort McCoy, Wisconsin

Prepared by
Environmental Compliance Branch
Directorate of Public Works
Fort McCoy, Wisconsin

2171 South 8th Avenue • Fort McCoy, WI 54656 • (608) 388-8453

June 2020

# Table of Contents

Certification Page	iii
Part 1: Background	1
Part 2: Site Setting	3
Part 3: Soil Sampling	4
Part 4: Results and Conclusions	5 5
Figures Figure 1: Site Location Map	
Tables Table 1: Analytical Parameters Detected in Soil Samples	

Appendix A: Email from Tim Zeichert (WDNR) 1 May 2020

Appendix B: Analytical Reports and Chain of Custody Documentation

# Soil Sampling Wastewater Treatment Plant Water Main Project

located at

Fort McCoy, WI

Prepared by

# Environmental Compliance Branch Directorate of Public works Fort McCoy, Wisconsin 54656

2171 South 8th Avenue • Fort McCoy, WI 54656 • (608) 388-8453

June 2020

I, Craig O. Bartholomew, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

BARTHOLOMEW.C Digitally signed by BARTHOLOMEW.CRAIG.OWEN. 12675 1267529465 Date: 2020.06.11 13:46:46 -05'00'

6/11/2020

Craig O. Bartholomew, P.G. Environmental Protection Specialist State of Wisconsin P.G. No: 451-013. Date

# 1.0 BACKGROUND

Fort McCoy is located in the west central portion of Wisconsin. The Installation encompasses nearly 60,000 acres, with the majority of the land area being undeveloped. Nearly all of the developed land is located within the Cantonment, South Post housing, and airfield areas. The mission of the installation is to provide readiness training to all branches of the United States military. Fort McCoy generally provides training to over 120,000 troops each year.

Between World War II and the 1960's three incinerators were utilized for disposal of waste generated on the installation. Closed Landfill 2 (CLF2; BRRTS No. 02-42-279977) was used for disposal of incinerator ash, some demolition wastes, and other non-recyclable materials. Reports indicate that the landfill was closed in 1949. The Wisconsin Department of Natural Resources (WDNR) issued Final Case Closure with Continuing Obligations on 3 June 2016. Continuing obligations require maintaining the engineered cover south of Treatment Drive and the soil cover north of Treatment Drive over the waste materials to minimize direct contact risks.

Records indicate that Closed Landfill 3 (CLF3; BRRTS No. 02-42-279983) was only used during 1950 for disposal of clinker, ash, and noncombustible refuse. The Grit Area consisted of shallow piles of residual solids from the Wastewater Treatment Plant (WWTP). Based upon aerial photos, the WWTP has been in use since at least 1946. It is not known when the solids were placed in the Grit Area. However, disposal of this material ended sometime prior to 1992. The WDNR issued Final Case Closure with Continuing Obligations on 22 May 2012. Continuing obligations require maintaining a soil barrier over the residual contamination to minimize direct contact risks.

Fort McCoy recently completed installation of a water main from Ski Hill facility to the installation Wastewater Treatment Plant (WWTP). The Ski Hill facility is located approximately 1 mile northwest of the WWTP. This project was completed to improve fire protection capabilities at the WWTP (Figures 1 and 2).

The water main consists of 10 inch HDPE pipe with a minimum soil cover of 6 feet to avoid freezing. Trench depth extended to approximately 7.5 below grade. Backfilling of the trench was topped with 4 inches of topsoil to support a vegetative cover composed of grasses.

The water main route ran adjacent to the southern border of the northern portion of CFL2, south across Treatment Drive, along the inside of the western fence line of the WWTP, along the inside of the southern fence line of the plant through the northern

portion of CLF3, under the eastern fence, and north along the outside of the eastern fence through the Grit Area (Figure 2). The National Environmental Policy Act (NEPA) review conducted for this project during July 2018, missed the fact that these former waste disposal areas were likely to be disturbed during installation of the water main. Fort McCoy became aware of this issue in April 2020, just after the water main had been installed, and initially notified Mr. Tim Zeichert of the Wisconsin Department of Natural Resources (WDNR) by email on 17 April 2020. Due to the likelihood of residual contamination ending up near land surface during excavation and backfill operations, potentially creating direct contact risks, it was determined that Fort McCoy should evaluate the presence of contaminant concentrations within two feet of ground surface in these areas.

#### 2.0 AREA LAND USE

The WWTP is located southwest of the Fort McCoy cantonment area (Figure 1). Installation recycling facilities are located east of the treatment plant. CLF2 borders the western boundary, and CLF3 and the Former Grit Area border the southern and eastern sides of the WWTP. The La Crosse River is located adjacent to the western boundary of CLF2. Forested land is present south and east of the plant, and Treatment Drive is located north of the WWTP (Figure 2).

Installation property between the La Crosse River and the western boundary of Fort McCoy (0.65 miles of the WWTP) is utilized as military training lands. No residences, barracks, or office buildings are located within 0.65 miles of the WWTP. There are no wells present between the WWTP and the western installation boundary located downgradient. The nearest upgradient potable well is located over 3 miles northeast of the WWTP.

#### 3.0 SOIL SAMPLING

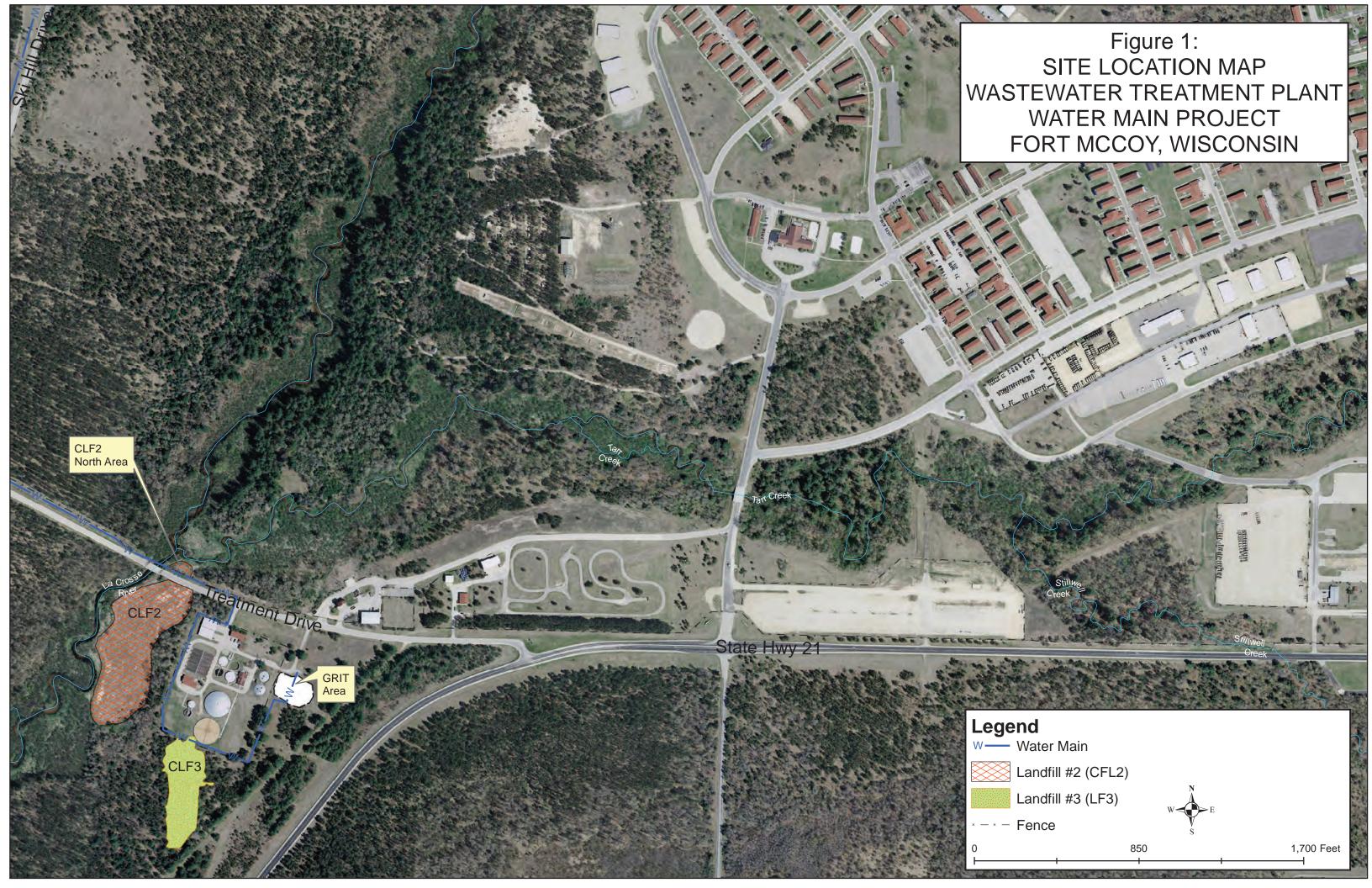
On 1 May 2020, Fort McCoy and the WDNR agreed on a soil sampling plan (Appendix A). Based upon a review of analytical results from previous investigations conducted at the northern portion of CLF2, and at CLF3 & the Grit Area, it was determined that there was no need to sample the trench in the Grit Area. Analytical parameters were selected based upon what had been detected during these investigations. It was determined that one soil sample, analyzed for polynuclear aromatic hydrocarbons (PAHs) and Resource Conservation and total concentrations of Recovery Act (RCRA) metals, should be collected from inside the WWTP fence line within the footprint of CLF3. In addition, two samples were to be collected adjacent to the northern portion of CLF2 just south of the fence line north of Treatment Drive. These two samples were to be analyzed for pesticides, herbicides, and total concentrations of RCRA metals (Figure 2).

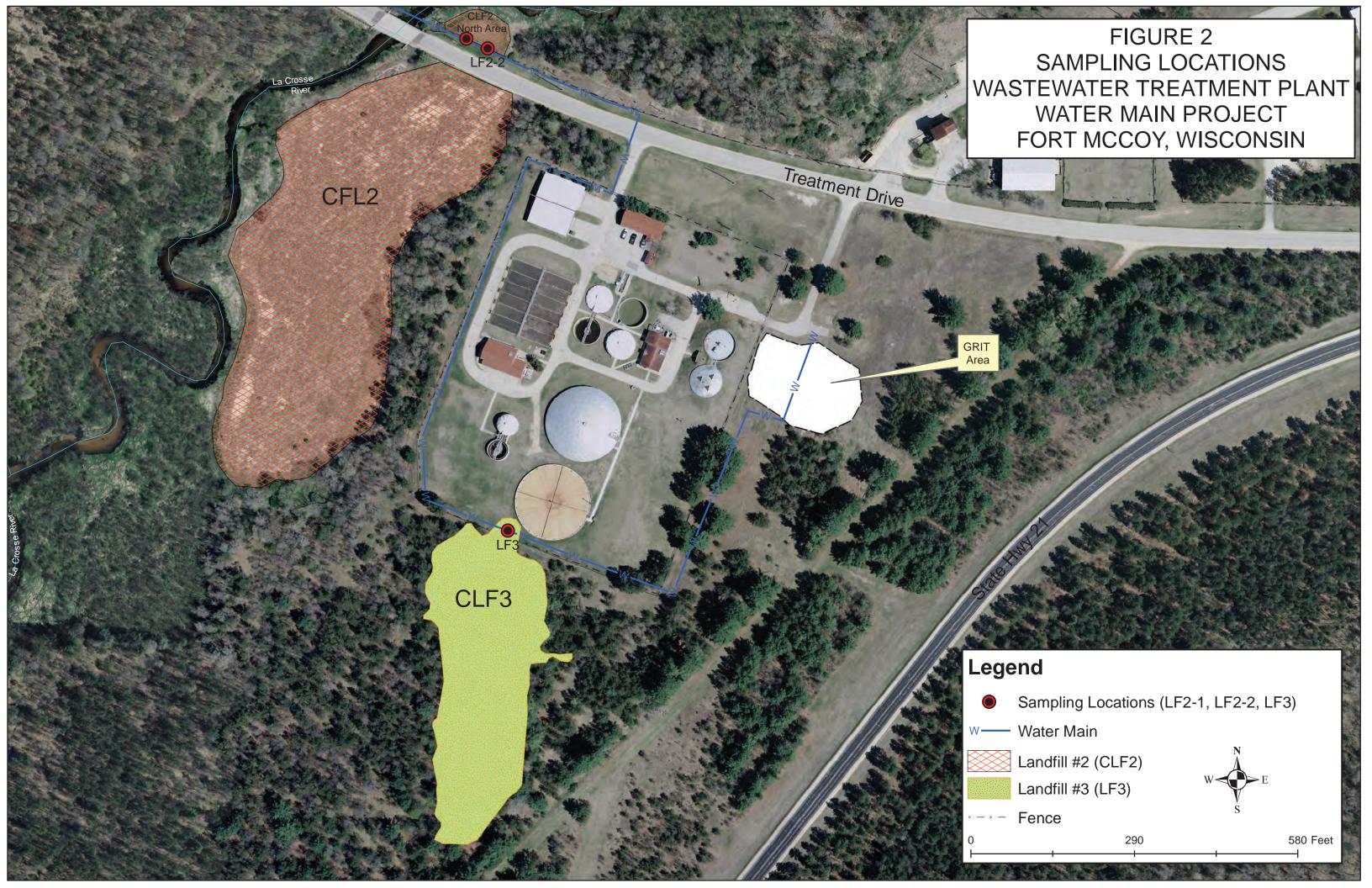
Samples were collected utilizing a hand shovel. At each sampling location, the hand shovel was utilized to excavate to a depth of two feet below grade. Excavated soil was placed in a clean PVC bucket and composited following excavation. A separate bucket was used for each sampling location. The shovel was cleaned with soap and water between sampling locations. Decontamination water was disposed on the ground at each sampling site. Sample bottles were filled by hand wearing nitrile gloves. A new pair of nitrile gloves was utilized for each sample. After filling sample bottles, remaining soil was placed back into each excavation.

#### 4.0 RESULTS AND CONCLUSIONS

Table 1 summarizes parameters detected in the three soil samples, and analytical reports along with the Chain of Custody are included in Appendix B. In addition, Table 1 compares the detected concentrations with the generic NR 720 Residual Contaminant Levels (RCLs) from the United States Environmental Protection Agency (USEPA) web calculator (<a href="http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl search">http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl search</a> [Chicago climate zone]), for both Industrial and Non-Industrial settings. For arsenic, barium, and chromium, the table compares the detected values to the Wisconsin background threshold values from the United States Geological Survey (USGS) listed in NR 720 RCL Tables. As shown, the reported concentrations, in every case, are below the NR 720 generic RCLs or background threshold values. In most cases significantly below these values.

Based upon these results, it appears that installation of the new water main did not increase the direct contact risks in the areas of CLF2 and CLF3. Therefore, Fort McCoy recommends that no further action be required with regard to this issue.





# TABLE 1

# ANALYTICAL PARAMETERS DETECTED IN SOIL SAMPLES

(Collected 5/21/2020)

# WASTE WATER TREATMENT PLANT WATER MAIN PROJECT FORT MCCOY, WISCONSIN

	SAMPI	LE LOCA	TION	NR 720 SOIL RCL <sup>1</sup>	NR 720 SOIL RCL <sup>1</sup>
PARAMETER	LF2-1	LF2-2	LF3	Industrial Direct Contact	Non-Industrial Direct Contact
				(mg/kg)	
Metals (Method 6010C)					
Arsenic	1.5	1.9	1.0	8 <sup>2</sup>	8 <sup>2</sup>
Barium	26	23	36	364 <sup>2</sup>	364 <sup>2</sup>
Cadmium	0.16J	0.14J	0.54	985	71.1
Chromium	4.0	4.0	4.8	44 <sup>2</sup>	44 <sup>2</sup>
Lead	5.5	7.0	14	800	400
Silver	0.35J	0.38J	3.3	5,840	391
Mercury	0.033	0.047	0.35	3.13	3.13
Polynuclear Aromatic Hyd	drocarbon	s (Metho	d 8279D)		
Benzo[a]anthracene	NA	NA	0.017J	20.8	1.14
Benzo[a]pyrene	NA	NA	0.020J	2.11	0.115
Benzo[b]fluoranthene	NA	NA	0.029J	21.1	1.15
Chrysene	NA	NA	0.020J	2,110	115
Fluoranthene	NA	NA	0.030J	30,100	2,390
Indeno[1,2,3-cd]pyrene	NA	NA	0.010J	21.1	1.15
Phenanthrene	NA	NA	0.0091J	No RCL	No RCL
Pyrene	NA	NA	0.027J	22,600	1,790
Pesticides (Method 8081	3)				
4,4'-DDD	<0.00038	0.0033	NA	9.57	1.9
4,4'-DDE	0.0052	0.029	NA	9.38	2
4,4'-DDT	0.0041	0.015	NA	8.53	1.89

<sup>&</sup>lt;sup>1</sup>RCL=Residual Contaminant Level.

NA=Not Analyzed.

<sup>&</sup>lt;sup>2</sup>Background threshold value in Wisconsin.

J = Result is less than the RL but greater than the MDL and the concentration is an approximate value.

# **APPENDIX A**

# EMAIL FROM TIM ZEICHERT (WDNR) 1 MAY 2020

# **Bartholomew, Craig O CIV USARMY USAG (USA)**

From: Zeichert, Timothy A - DNR <Timothy.Zeichert@wisconsin.gov>

**Sent:** Friday, May 1, 2020 2:35 PM

**To:** Bartholomew, Craig O CIV USARMY USAG (USA)

**Subject:** RE: [Non-DoD Source] RE: Fort McCoy Water Main Issue (UNCLASSIFIED)

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

----

Yes, it will. Thank you.

We are committed to service excellence.

Visit our survey at Caution-http://dnr.wi.gov/customersurvey to evaluate how I did.

Tim Zeichert

Phone: 608-266-5788 (please contact my cell phone during the COVID-19 health crisis)

Cell: 608-575-1082

Timothy.Zeichert@wisconsin.gov

----Original Message----

From: Bartholomew, Craig O CIV USARMY USAG (USA) <craig.o.bartholomew2.civ@mail.mil>

Sent: Friday, May 1, 2020 1:54 PM

To: Zeichert, Timothy A - DNR <Timothy.Zeichert@wisconsin.gov>

Cc: Herzog Blumer, Susan R CIV USARMY IMCOM (USA) <susan.r.herzogblumer.civ@mail.mil>;

Friedl, Brent A CIV USARMY USAG (USA) <a href="mailto:sriedl.civ@mail.mil">brent.a.friedl.civ@mail.mil</a>

Subject: RE: [Non-DoD Source] RE: Fort McCoy Water Main Issue (UNCLASSIFIED)

**CLASSIFICATION: UNCLASSIFIED** 

Tim,

The composite samples that I was referring to are for one composite for each sampling location, not area. Therefore, based upon what you have required below, I will plan on two composite samples north of the roadway, and one composite sample at the Landfill 3 area north of the southern fence line.

You specify below that each area should be analyzed for the COCs for the specific area. Therefore, based upon my review of the historical information, I will plan to analyze the samples collected from north of the roadway for total RCRA metals, plus pesticides and herbicides, and the sample collected from the Landfill 3 area for total RCRA metals, and PAH constituents. Will this meet the requirements of the closure committee?

Please let me know and I will move forward to get this work completed.

Thanks for all your help.

Craig O. Bartholomew
Environmental Protection Specialist
Directorate of Public Works
ATTN: IMMC-PWE-C
2171 S. 8th Avenue
Fort McCoy, WI 54656
craig.o.bartholomew2.civ@mail.mil

Telework: (608) 633-5994

Office: (608) 388-8453 (DSN 280)

Fax (608) 388-6235

"We are the Army's Home"

----Original Message-----

From: Zeichert, Timothy A - DNR [Caution-mailto:Timothy.Zeichert@wisconsin.gov]

Sent: Friday, May 1, 2020 12:41 PM

To: Bartholomew, Craig O CIV USARMY USAG (USA) <craig.o.bartholomew2.civ@mail.mil>

Subject: [Non-DoD Source] RE: Fort McCoy Water Main Issue (UNCLASSIFIED)

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

\_\_\_\_\_

Hi Craig,

Sorry for the delay. I reviewed the closure documents and discussed this with the closure committee. We have decided that the following soil sampling should occur:

- \* North side of Treatment Drive the trench through the capped area appears to be approximately 150'. We would like two soil samples from 0-2' from this area. Roughly 50' from each end would essentially be 1/3 of the length.
- \* Landfill 3 north of the treatment plant fence one soil sample from this area from 0-2' will suffice.
- \* Grit Area NO soil sampling will be required.

The samples from each area should be analyzed for the COC for that specific area.

The question arose whether or not your reference regarding composite sampling was for each individual sample location, or a composite of ALL sample locations. We are ok with composite samples from each location, not a composite of ALL locations. I hope this makes sense. If you have any questions, or need clarification, let me know. Thanks. We are committed to service excellence. Visit our survey at Caution-Caution-http://dnr.wi.gov/customersurvey to evaluate how I did. Tim Zeichert Phone: 608-266-5788 (please contact my cell phone during the COVID-19 health crisis) Cell: 608-575-1082 Timothy.Zeichert@wisconsin.gov ----Original Message-----From: Bartholomew, Craig O CIV USARMY USAG (USA) <craig.o.bartholomew2.civ@mail.mil> Sent: Tuesday, April 28, 2020 7:39 AM To: Zeichert, Timothy A - DNR <Timothy.Zeichert@wisconsin.gov> Cc: Friedl, Brent A CIV USARMY USAG (USA) <a href="mailto:specification-color: blue, R CIV USARMY IMCOM (USA) <susan.r.herzogblumer.civ@mail.mil> Subject: Fort McCov Water Main Issue (UNCLASSIFIED)

**CLASSIFICATION: UNCLASSIFIED** 

Tim.

The general route of the water main we discussed the other day is shown on

the attached map (Water Main Route from Ski Hill to WWTP). Last Thursday I went out to walk the trench over the Grit Area & Closed Landfill 3 (CLF3; BRRTS No. 02-42-279983). The contractor was in the process of backfilling the trench along the north side of Treatment Drive (formerly Buckley Court), just north of Closed Landfill 2 (CLF2; BRRTS No. 02-42-279977; see Area North of CLF2 and Map of CLF2-CLF3 Aerial Photo). As shown on the attached map (Area North of CLF2), hand auger borings were advanced along the fence-line in 2010. Incinerator ash was observed in those hand auger borings. At that time it was believed that the CLF2 waste (which is incinerator ash) might extend beneath the roadway. However, an investigation conducted during 2011 showed that any ash that extended south of the hand auger borings was removed when the ditch was installed along the roadway many years ago. The ash north of the road, between the fence and the creek in this area, contained two locations where transite was visible, and Mae requested that the area be capped with 2 feet of soil. In 2011 Fort McCoy capped the ash north of the fence with 2 feet of sand, added topsoil, and planted grass (see Map CLF2-CLF3 Aerial Photo).

The 2009/2010 investigation included excavation and removal of incinerator ash that was located just east of this area, just north of the current Fort McCoy Recycling Center, where the incinerators were formerly located. The area north of CLF2 was discovered during this work and had not been included in the contract for the work. Therefore, it was not excavated. Analytical samples collected during the 2009/2010 work showed that the ash contained metals and pesticides (see attached Incinerator Ash Characterization). The only parameter that exceeded the USEPA Regional Screen Levels was dieldrin.

The main reason that Mae requested that this area be capped was due to the observed transite.

On Thursday, the contractor excavation ran right along the fence line north of the roadway. The north edge of the excavation (1-2 feet wide) contained incinerator ash mixed with soil from just below ground surface to a depth of 1-2 feet. No transite was observed. I realize this section will also need to be sampled. As the incinerator ash has a different composition than the Grit Area & CLF3 waste, the sampling parameters will be a bit different at this location. I assume the parameter list for this area will at least need to include RCRA metals, and pesticides. I can send you the reports for this area if you don't have them digitally.

On Thursday I walked around the Grit Area and the south side of the WWTP by CLF3. The water main goes down the east side of the fence through the Grit Area, then turns west and continues through the east fence line about 15 feet north of the south fence line (see attached Actual Water Main Route South of WWTP). The main then runs along the north side of the south fence line, then turns north before reaching the west fence line and stays inside the fence until it reaches the north fence line. Therefore, the area of CLF3 that may have been disturbed is pretty small.

As we discussed, please let me know what analytical parameters you would like to see in each of these 3 areas, and what sample spacing you would like to see along the trench. The plan will be to use a hand shovel and collect composite samples from zero to 2 feet deep along the trench line in each of

these 3 areas.	Let me know if you have any questions or require additional
information. Th	nanks for all your help.

Craig O. Bartholomew

**Environmental Protection Specialist** 

**Directorate of Public Works** 

ATTN: IMMC-PWE-C

2171 S. 8th Avenue

Fort McCoy, WI 54656

craig.o.bartholomew2.civ@mail.mil < Caution-Caution-mailto:craig.o.bartholomew2.civ@mail.mil >

Telework: (608) 633-5994

Office: (608) 388-8453 (DSN 280)

Fax (608) 388-6235

"We are the Army's Home"

**CLASSIFICATION: UNCLASSIFIED** 

**CLASSIFICATION: UNCLASSIFIED** 

# **APPENDIX B**

# ANALYTICAL REPORTS AND CHAIN OF CUSTODY DOCUMENTATION



# **Environment Testing America**

# **ANALYTICAL REPORT**

Eurofins TestAmerica, Chicago 2417 Bond Street University Park, IL 60484 Tel: (708)534-5200

Laboratory Job ID: 500-182452-1

Client Project/Site: Fort McCoy Soil Sampling

For:

U.S. Army 2171 South 8th Ave Fort McCoy, Wisconsin 54656

Attn: Jeffrey Beaty

Authorized for release by:

and wheder

6/8/2020 1:39:56 PM Sandie Fredrick, Project Manager II (920)261-1660

sandie.fredrick@testamericainc.com

..... LINKS .....

Review your project results through

**Have a Question?** 



Visit us at: www.eurofinsus.com/Env The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

2

4

5

6

Ω

9

10

12

13

# **Table of Contents**

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	5
Sample Summary	6
Client Sample Results	7
Definitions	10
QC Association	11
Surrogate Summary	13
QC Sample Results	14
Chronicle	18
Certification Summary	20
Chain of Custody	21
Receipt Checklists	22

#### **Case Narrative**

Client: U.S. Army Job ID: 500-182452-1

Project/Site: Fort McCoy Soil Sampling

Job ID: 500-182452-1

Laboratory: Eurofins TestAmerica, Chicago

**Narrative** 

Job Narrative 500-182452-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/22/2020 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.3° C.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### **Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

3

E

0

\_

9

IU

12

13

Ь

Client: U.S. Army

Project/Site: Fort McCoy Soil Sampling

Job ID: 500-182452-1

Client Sample ID: LF2-1

Lab Sam	ple ID:	500-182452-1
---------	---------	--------------

Analyte	Result Q	Qualifier	RL M	DL Uni	it	Dil Fac	D	Method	Prep Type
4,4'-DDE	5.2	:	2.0 0	.32 ug/l	Kg	1	☼	8081B	Total/NA
4,4'-DDT	4.1	:	2.0	1.0 ug/l	Kg	1	₩	8081B	Total/NA
Arsenic	1.5		1.1 0	.39 mg/	/Kg	1	₩	6010C	Total/NA
Barium	26		1.1 0	.13 mg/	/Kg	1	₩	6010C	Total/NA
Cadmium	0.16 J	0.	23 0.0	)41 mg/	/Kg	1	₩	6010C	Total/NA
Chromium	4.0		1.1 0	.56 mg/	/Kg	1	₩	6010C	Total/NA
Lead	5.5	0.	56 0	.26 mg/	/Kg	1	₩	6010C	Total/NA
Silver	0.35 J	0.	56 0	.15 mg/	/Kg	1	₩	6010C	Total/NA
Mercury	0.033	0.0	19 0.00	62 mg/	/Kg	1	₩	7471B	Total/NA

# **Client Sample ID: LF2-2**

# Lab Sample ID: 500-182452-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	3.3		1.8	0.36	ug/Kg		₩	8081B	Total/NA
4,4'-DDE	29		1.8	0.30	ug/Kg	1	₩	8081B	Total/NA
4,4'-DDT	15		1.8	0.95	ug/Kg	1	₩	8081B	Total/NA
Arsenic	1.9		1.0	0.36	mg/Kg	1	₩.	6010C	Total/NA
Barium	23		1.0	0.12	mg/Kg	1	₩	6010C	Total/NA
Cadmium	0.14	J	0.21	0.038	mg/Kg	1	₩	6010C	Total/NA
Chromium	4.0		1.0	0.52	mg/Kg	1	ф.	6010C	Total/NA
Lead	7.0		0.52	0.24	mg/Kg	1	₩	6010C	Total/NA
Silver	0.38	J	0.52	0.14	mg/Kg	1	₩	6010C	Total/NA
Mercury	0.047		0.018	0.0060	mg/Kg	1	\$	7471B	Total/NA

# **Client Sample ID: LF3**

# Lab Sample ID: 500-182452-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	17	J	35	4.8	ug/Kg	1	₩	8270D	Total/NA
Benzo[a]pyrene	20	J	35	6.9	ug/Kg	1	₩	8270D	Total/NA
Benzo[b]fluoranthene	29	J	35	7.7	ug/Kg	1	₩	8270D	Total/NA
Chrysene	20	J	35	9.7	ug/Kg	1	₩	8270D	Total/NA
Fluoranthene	30	J	35	6.6	ug/Kg	1	₩	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	10	J	35	9.3	ug/Kg	1	₩	8270D	Total/NA
Phenanthrene	9.1	J	35	5.0	ug/Kg	1	₩	8270D	Total/NA
Pyrene	27	J	35	7.1	ug/Kg	1	₩	8270D	Total/NA
Arsenic	1.0		0.99	0.34	mg/Kg	1	₩	6010C	Total/NA
Barium	36		0.99	0.11	mg/Kg	1	₩	6010C	Total/NA
Cadmium	0.54		0.20	0.036	mg/Kg	1	₩	6010C	Total/NA
Chromium	4.8		0.99	0.49	mg/Kg	1	₩	6010C	Total/NA
Lead	14		0.50	0.23	mg/Kg	1		6010C	Total/NA
Silver	3.3		0.50	0.13	mg/Kg	1	₩	6010C	Total/NA
Mercury	0.35		0.017	0.0057	mg/Kg	1	₩	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

# **Method Summary**

Client: U.S. Army

Project/Site: Fort McCoy Soil Sampling

lethod	Method Description	Protocol	Laboratory
270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
081B	Organochlorine Pesticides (GC)	SW846	TAL CHI
151A	Herbicides (GC)	SW846	TAL CHI
010C	Metals (ICP)	SW846	TAL CHI
471B	Mercury (CVAA)	SW846	TAL CHI
oisture	Percent Moisture	EPA	TAL CHI
050B	Preparation, Metals	SW846	TAL CHI
541	Automated Soxhlet Extraction	SW846	TAL CHI
471B	Preparation, Mercury	SW846	TAL CHI
151A	Extraction (Herbicides)	SW846	TAL CHI

#### **Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### **Laboratory References:**

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# **Sample Summary**

Client: U.S. Army

Project/Site: Fort McCoy Soil Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-182452-1	LF2-1	Solid	05/21/20 09:00	05/22/20 09:25	
500-182452-2	LF2-2	Solid	05/21/20 09:05	05/22/20 09:25	
500-182452-3	LF3	Solid	05/21/20 08:30	05/22/20 09:25	

1

Job ID: 500-182452-1

3

4

Q

9

11

14

14

# **Client Sample Results**

Client: U.S. Army Job ID: 500-182452-1

Project/Site: Fort McCoy Soil Sampling

Client Sample ID: LF2-1 Lab Sample ID: 500-182452-1

Method: 8081B - Organo Analyte		Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil F
Aldrin	<0.80	gaanner	2.0	0.80	ug/Kg	— <del>-</del>	06/04/20 08:01	06/04/20 21:41	
alpha-BHC	<0.49		2.0		ug/Kg	₽	06/04/20 08:01	06/04/20 21:41	
beta-BHC	<0.60		2.0		ug/Kg	₩	06/04/20 08:01		
cis-Chlordane	<0.97		2.0		ug/Kg	· · · · · · · · · · · · · · · · · · ·	06/04/20 08:01		
4,4'-DDD	<0.38		2.0		ug/Kg	₽	06/04/20 08:01		
4,4'-DDE	5.2		2.0		ug/Kg	₩	06/04/20 08:01		
4,4'-DDT	4.1		2.0		ug/Kg	· · · · · · · · · · · · · · · · · · ·	06/04/20 08:01		
delta-BHC	<0.61		2.0		ug/Kg	₩	06/04/20 08:01	06/04/20 21:41	
Dieldrin	<0.26		2.0		ug/Kg	₽	06/04/20 08:01		
Endosulfan I	<0.84		2.0		ug/Kg ug/Kg	· · · · · · · · · · · · · · · · · · ·	06/04/20 08:01		
Endosulfan II	<0.31		2.0		ug/Kg ug/Kg		06/04/20 08:01		
Indosulfan sulfate	<0.35		2.0				06/04/20 08:01		
					ug/Kg	· · · · · · · · · · · · · · · · · · ·			
indrin	<0.27 <0.32		2.0 2.0		ug/Kg	<i>~</i>	06/04/20 08:01		
ndrin aldehyde					ug/Kg		06/04/20 08:01		
indrin ketone	<0.44		2.0		ug/Kg	 	06/04/20 08:01		
amma-BHC (Lindane)	< 0.42		2.0		ug/Kg	₩	06/04/20 08:01		
eptachlor	<0.81		2.0		ug/Kg	Ψ.	06/04/20 08:01		
eptachlor epoxide	<0.69		2.0		ug/Kg			06/04/20 21:41	
ethoxychlor	<0.37		9.6		ug/Kg	<b>:</b>		06/04/20 21:41	
oxaphene	<8.1		19		ug/Kg	₽		06/04/20 21:41	
ans-Chlordane	<0.51		2.0	0.51	ug/Kg	₩	06/04/20 08:01	06/04/20 21:41	
urrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil
CB Decachlorobiphenyl	117		33 - 148				06/04/20 08:01	06/04/20 21:41	
etrachloro-m-xylene	75		30 - 121				06/04/20 08:01	06/04/20 21:41	
Method: 8151A - Herbicio	des (GC)								
nalyte	. ,	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil
4-D	<110		380	110	ug/Kg	<u> </u>	05/28/20 18:36	05/30/20 14:23	
4-DB	<110		380	110	ug/Kg	☼	05/28/20 18:36	05/30/20 14:23	
icamba	<79		380	79	ug/Kg	☼	05/28/20 18:36	05/30/20 14:23	
ichlorprop	<100		380	100	ug/Kg	· · · · · · · · · · · · · · · · · · ·	05/28/20 18:36	05/30/20 14:23	
ilvex (2,4,5-TP)	<98		380		ug/Kg	☼	05/28/20 18:36	05/30/20 14:23	
4,5-T	<93		380		ug/Kg	₩		05/30/20 14:23	
urrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil
CAA	53		25 - 120					05/30/20 14:23	
lethod: 6010C - Metals (						_			
nalyte		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil
rsenic	1.5		1.1		mg/Kg	**		05/27/20 08:39	
arium	26		1.1		mg/Kg	₽		05/27/20 08:39	
admium	0.16	J	0.23		mg/Kg			05/27/20 08:39	
hromium	4.0		1.1		mg/Kg	Ď.	05/26/20 17:32	05/27/20 08:39	
ead	5.5		0.56	0.26	mg/Kg	₩	05/26/20 17:32	05/27/20 08:39	
elenium	<0.66		1.1	0.66	mg/Kg	☼	05/26/20 17:32	05/27/20 08:39	
ilver	0.35	J	0.56	0.15	mg/Kg	\$	05/26/20 17:32	05/27/20 08:39	
lethod: 7471B - Mercury	(CVAA)								
ietiiou. 171 ID - Miciculy									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil l

Eurofins TestAmerica, Chicago

Page 7 of 22 6/8/2020

\_

3

5

7

9

11

13

14

# **Client Sample Results**

Client: U.S. Army Job ID: 500-182452-1

Project/Site: Fort McCoy Soil Sampling

Client Sample ID: LF2-2 Lab Sample ID: 500-182452-2

Date Collected: 05/21/20 09:05

Date Received: 05/22/20 09:25

Matrix: Solid
Percent Solids: 90.5

Method: 8081B - Organoc Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Analyte Aldrin	<0.75	Qualifier	1.8		ug/Kg	— <del>~</del>	06/04/20 08:01	06/04/20 22:02	DII Fa
alpha-BHC	<0.75		1.8			~ ⇔	06/04/20 08:01		
beta-BHC	<0.46		1.8		ug/Kg ug/Kg	~ \$		06/04/20 22:02	
						· · · · · · · · · · · · · · · · · · ·			
cis-Chlordane	<0.91		1.8 1.8		ug/Kg	<i>~</i>		06/04/20 22:02	
4,4'-DDD	3.3				ug/Kg	₩		06/04/20 22:02	
4,4'-DDE	29		1.8		ug/Kg	· · · · · · · · · · · · · · · · · · ·		06/04/20 22:02	
4,4'-DDT	15		1.8		ug/Kg			06/04/20 22:02	
delta-BHC	<0.57		1.8		ug/Kg	<b>☆</b>		06/04/20 22:02	
Dieldrin	<0.25		1.8		ug/Kg			06/04/20 22:02	
Endosulfan I	<0.79		1.8		ug/Kg	<b>☆</b>		06/04/20 22:02	
Endosulfan II	<0.29		1.8		ug/Kg	Ψ.		06/04/20 22:02	
Endosulfan sulfate	<0.33		1.8		ug/Kg	T.	06/04/20 08:01		
Endrin	<0.25		1.8		ug/Kg	÷		06/04/20 22:02	
Endrin aldehyde	<0.30		1.8		ug/Kg	Ψ.		06/04/20 22:02	
Endrin ketone	<0.41		1.8		ug/Kg		06/04/20 08:01		
gamma-BHC (Lindane)	<0.39		1.8		ug/Kg	☼		06/04/20 22:02	
Heptachlor	<0.76		1.8	0.76	ug/Kg	₩	06/04/20 08:01	06/04/20 22:02	
Heptachlor epoxide	< 0.64		1.8	0.64	ug/Kg	₩	06/04/20 08:01	06/04/20 22:02	
Methoxychlor	<0.35		9.0	0.35	ug/Kg	₩	06/04/20 08:01	06/04/20 22:02	
Toxaphene	<7.6		18	7.6	ug/Kg	≎	06/04/20 08:01	06/04/20 22:02	
trans-Chlordane	<0.47		1.8	0.47	ug/Kg	≎	06/04/20 08:01	06/04/20 22:02	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
DCB Decachlorobiphenyl	111		33 - 148				06/04/20 08:01	06/04/20 22:02	
Tetrachloro-m-xylene	85		30 - 121				06/04/20 08:01	06/04/20 22:02	
Method: 8151A - Herbicid	es (GC)								
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fa
2,4-D	<100		360		ug/Kg	☼	05/28/20 18:36	05/30/20 14:42	1
2,4-DB	<110		360	110	ug/Kg	₽	05/28/20 18:36	05/30/20 14:42	1
Dicamba	<76		360	76	ug/Kg	₩	05/28/20 18:36	05/30/20 14:42	•
Dichlorprop	<99		360	99	ug/Kg	₽	05/28/20 18:36	05/30/20 14:42	
Silvex (2,4,5-TP)	<93		360	93	ug/Kg	₩	05/28/20 18:36	05/30/20 14:42	•
2,4,5-T	<89		360	89	ug/Kg	☼	05/28/20 18:36	05/30/20 14:42	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil F
DCAA	53		25 - 120				05/28/20 18:36	05/30/20 14:42	
Method: 6010C - Metals (I	CP)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil F
Arsenic	1.9		1.0	0.36	mg/Kg	<u></u>	05/26/20 17:32	05/27/20 08:43	
Barium	23		1.0	0.12	mg/Kg	☼	05/26/20 17:32	05/27/20 08:43	
Cadmium	0.14	J	0.21	0.038	mg/Kg	₩	05/26/20 17:32	05/27/20 08:43	
Chromium	4.0		1.0		mg/Kg		05/26/20 17:32	05/27/20 08:43	
Lead	7.0		0.52		mg/Kg	☆		05/27/20 08:43	
Selenium	<0.62		1.0		mg/Kg	₽		05/27/20 08:43	
Silver	0.38	J	0.52		mg/Kg	₩		05/27/20 08:43	
Method: 7/71R - Marcury	(CVAA)								
Method: 7471B - Mercury Analyte		Qualifier	RL 0.018	<b>MDL</b> 0.0060		_ D — ≅	Prepared	Analyzed 05/29/20 09:27	Dil Fa

Eurofins TestAmerica, Chicago

Page 8 of 22 6/8/2020

2

3

5

7

9

11

14

15

# **Client Sample Results**

Client: U.S. Army Job ID: 500-182452-1

Project/Site: Fort McCoy Soil Sampling

Mercury

**Client Sample ID: LF3** Lab Sample ID: 500-182452-3

Date Collected: 05/21/20 08:30 **Matrix: Solid** Date Received: 05/22/20 09:25 Percent Solids: 93.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<6.4		35	6.4	ug/Kg	<u> </u>	06/01/20 16:31	06/03/20 03:45	1
Acenaphthylene	<4.7		35	4.7	ug/Kg	☼	06/01/20 16:31	06/03/20 03:45	1
Anthracene	<6.0		35	6.0	ug/Kg	☼	06/01/20 16:31	06/03/20 03:45	1
Benzo[a]anthracene	17	J	35	4.8	ug/Kg	₽	06/01/20 16:31	06/03/20 03:45	1
Benzo[a]pyrene	20	J	35	6.9	ug/Kg	₽	06/01/20 16:31	06/03/20 03:45	1
Benzo[b]fluoranthene	29	J	35	7.7	ug/Kg	☼	06/01/20 16:31	06/03/20 03:45	1
Benzo[g,h,i]perylene	<11		35	11	ug/Kg	φ.	06/01/20 16:31	06/03/20 03:45	1
Benzo[k]fluoranthene	<11		35	11	ug/Kg	☼	06/01/20 16:31	06/03/20 03:45	1
Chrysene	20	J	35	9.7	ug/Kg	₽	06/01/20 16:31	06/03/20 03:45	1
Dibenz(a,h)anthracene	<6.9		35	6.9	ug/Kg	₽	06/01/20 16:31	06/03/20 03:45	1
Fluoranthene	30	J	35	6.6	ug/Kg	☼	06/01/20 16:31	06/03/20 03:45	1
Fluorene	<5.0		35	5.0	ug/Kg	₽	06/01/20 16:31	06/03/20 03:45	1
Indeno[1,2,3-cd]pyrene	10	J	35	9.3	ug/Kg	₽	06/01/20 16:31	06/03/20 03:45	1
1-Methylnaphthalene	<8.7		72	8.7	ug/Kg	☼	06/01/20 16:31	06/03/20 03:45	1
2-Methylnaphthalene	<6.6		72	6.6	ug/Kg	₽	06/01/20 16:31	06/03/20 03:45	1
Naphthalene	<5.5		35	5.5	ug/Kg	₽	06/01/20 16:31	06/03/20 03:45	1
Phenanthrene	9.1	J	35	5.0	ug/Kg	₽	06/01/20 16:31	06/03/20 03:45	1
Pyrene	27	J	35	7.1	ug/Kg	≎	06/01/20 16:31	06/03/20 03:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	85		43 - 145				06/01/20 16:31	06/03/20 03:45	1
Nitrobenzene-d5 (Surr)	70		37 - 147				06/01/20 16:31	06/03/20 03:45	1
Terphenyl-d14 (Surr)	88		42 - 157				06/01/20 16:31	06/03/20 03:45	1
Method: 6010C - Metals (I	CP)								
Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.0		0.99	0.34	mg/Kg	₩	05/26/20 17:32	05/27/20 08:47	1
Barium	36		0.99	0.11	mg/Kg	₩	05/26/20 17:32	05/27/20 08:47	1
Cadmium	0.54		0.20	0.036	mg/Kg	₩	05/26/20 17:32	05/27/20 08:47	1
Chromium	4.8		0.99	0.49	mg/Kg	₽	05/26/20 17:32	05/27/20 08:47	1
Lead	14		0.50	0.23	mg/Kg	₩	05/26/20 17:32	05/27/20 08:47	1
Selenium	<0.58		0.99	0.58	mg/Kg	₩	05/26/20 17:32	05/27/20 08:47	1
Silver	3.3		0.50	0.13	mg/Kg	₩	05/26/20 17:32	05/27/20 08:47	1
Method: 7471B - Mercury	(CVAA)								
Analyte	Popult	Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac

© 05/28/20 14:00 05/29/20 09:33

0.017

0.0057 mg/Kg

0.35

# **Definitions/Glossary**

Client: U.S. Army Job ID: 500-182452-1

Project/Site: Fort McCoy Soil Sampling

#### **Qualifiers**

#### **GC/MS Semi VOA**

Qualifier Qualifier Description

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

**Metals** 

Qualifier Qualifier Description

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

# **Glossary**

Abbreviation	These commonly	used abbreviations mag	y or may not be	present in this report.
--------------	----------------	------------------------	-----------------	-------------------------

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

2

4

5

6

8

9

4 4

12

13

Client: U.S. Army

Job ID: 500-182452-1 Project/Site: Fort McCoy Soil Sampling

# **GC/MS Semi VOA**

# **Prep Batch: 545331**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-3	LF3	Total/NA	Solid	3541	
MB 500-545331/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-545331/2-A	Lab Control Sample	Total/NA	Solid	3541	

# **Analysis Batch: 545460**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-545331/1-A	Method Blank	Total/NA	Solid	8270D	545331
LCS 500-545331/2-A	Lab Control Sample	Total/NA	Solid	8270D	545331

# Analysis Batch: 545591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-3	LF3	Total/NA	Solid	8270D	545331

#### **GC Semi VOA**

# **Prep Batch: 544852**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-1	LF2-1	Total/NA	Solid	8151A	
500-182452-2	LF2-2	Total/NA	Solid	8151A	
MB 500-544852/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 500-544852/2-A	Lab Control Sample	Total/NA	Solid	8151A	

# **Analysis Batch: 545153**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-1	LF2-1	Total/NA	Solid	8151A	544852
500-182452-2	LF2-2	Total/NA	Solid	8151A	544852
MB 500-544852/1-A	Method Blank	Total/NA	Solid	8151A	544852
LCS 500-544852/2-A	Lab Control Sample	Total/NA	Solid	8151A	544852

#### **Prep Batch: 545912**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-1	LF2-1	Total/NA	Solid	3541	
500-182452-2	LF2-2	Total/NA	Solid	3541	
MB 500-545912/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-545912/2-A	Lab Control Sample	Total/NA	Solid	3541	

#### Analysis Batch: 545964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-1	LF2-1	Total/NA	Solid	8081B	545912
500-182452-2	LF2-2	Total/NA	Solid	8081B	545912
MB 500-545912/1-A	Method Blank	Total/NA	Solid	8081B	545912
LCS 500-545912/2-A	Lab Control Sample	Total/NA	Solid	8081B	545912

# **Metals**

#### **Prep Batch: 544381**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-1	LF2-1	Total/NA	Solid	3050B	
500-182452-2	LF2-2	Total/NA	Solid	3050B	
500-182452-3	LF3	Total/NA	Solid	3050B	
MB 500-544381/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-544381/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Eurofins TestAmerica, Chicago

# **QC Association Summary**

Client: U.S. Army

Project/Site: Fort McCoy Soil Sampling

# **Metals**

# **Analysis Batch: 544575**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-1	LF2-1	Total/NA	Solid	6010C	544381
500-182452-2	LF2-2	Total/NA	Solid	6010C	544381
500-182452-3	LF3	Total/NA	Solid	6010C	544381
MB 500-544381/1-A	Method Blank	Total/NA	Solid	6010C	544381
LCS 500-544381/2-A	Lab Control Sample	Total/NA	Solid	6010C	544381

# **Prep Batch: 544793**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-1	LF2-1	Total/NA	Solid	7471B	
500-182452-2	LF2-2	Total/NA	Solid	7471B	
500-182452-3	LF3	Total/NA	Solid	7471B	
MB 500-544793/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-544793/13-A	Lab Control Sample	Total/NA	Solid	7471B	

# **Analysis Batch: 545013**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-1	LF2-1	Total/NA	Solid	7471B	544793
500-182452-2	LF2-2	Total/NA	Solid	7471B	544793
500-182452-3	LF3	Total/NA	Solid	7471B	544793
MB 500-544793/12-A	Method Blank	Total/NA	Solid	7471B	544793
LCS 500-544793/13-A	Lab Control Sample	Total/NA	Solid	7471B	544793

# **General Chemistry**

# Analysis Batch: 544339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182452-1	LF2-1	Total/NA	Solid	Moisture	
500-182452-2	LF2-2	Total/NA	Solid	Moisture	
500-182452-3	LF3	Total/NA	Solid	Moisture	

Job ID: 500-182452-1

# **Surrogate Summary**

Client: U.S. Army Job ID: 500-182452-1

Project/Site: Fort McCoy Soil Sampling

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

**Matrix: Solid** Prep Type: Total/NA

			Pe	ercent Surroga	ate Recovery (Acceptance Limits)
		FBP	NBZ	TPHL	
Lab Sample ID	Client Sample ID	(43-145)	(37-147)	(42-157)	
500-182452-3	LF3	85	70	88	
LCS 500-545331/2-A	Lab Control Sample	96	94	90	
MB 500-545331/1-A	Method Blank	89	92	98	
Surrogate Legend					
FBP = 2-Fluorobipher	nyl (Surr)				
NBZ = Nitrobenzene-	d5 (Surr)				

TPHL = Terphenyl-d14 (Surr) Method: 8081B - Organochlorine Pesticides (GC)

**Matrix: Solid** Prep Type: Total/NA

			Perce	nt Surrogate Recovery (Acceptance Limits)
		DCBP1	TCX1	
Lab Sample ID	Client Sample ID	(33-148)	(30-121)	
500-182452-1	LF2-1	117	75	
500-182452-2	LF2-2	111	85	
LCS 500-545912/2-A	Lab Control Sample	128	101	
MB 500-545912/1-A	Method Blank	129	102	
Surrogate Legend				
DCBP = DCB Decach	lorobiphenyl			

Method: 8151A - Herbicides (GC)

TCX = Tetrachloro-m-xylene

**Matrix: Solid** Prep Type: Total/NA

			Percent Surrogate Recovery (Acceptance Limits)
		DCPAA1	
Lab Sample ID	Client Sample ID	(25-120)	
500-182452-1	LF2-1	53	
500-182452-2	LF2-2	53	
LCS 500-544852/2-A	Lab Control Sample	61	
MB 500-544852/1-A	Method Blank	62	
Surrogate Legend			
DCPAA = DCAA			

Client: U.S. Army

MB MB

Project/Site: Fort McCoy Soil Sampling

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

**Matrix: Solid** 

Analysis Batch: 545460

Lab Sample ID: MB 500-545331/1-A

**Client Sample ID: Method Blank** Prep Type: Total/NA

**Prep Batch: 545331** 

Job ID: 500-182452-1

	1410 11	*10							
Analyte	Result C	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<6.0		33	6.0	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Acenaphthylene	<4.4		33	4.4	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Anthracene	<5.6		33	5.6	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Benzo[a]anthracene	<4.5		33	4.5	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Benzo[a]pyrene	<6.4		33	6.4	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Benzo[b]fluoranthene	<7.2		33	7.2	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Benzo[g,h,i]perylene	<11		33	11	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Benzo[k]fluoranthene	<9.8		33	9.8	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Chrysene	<9.1		33	9.1	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Dibenz(a,h)anthracene	<6.4		33	6.4	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Fluoranthene	<6.2		33	6.2	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Fluorene	<4.7		33	4.7	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Indeno[1,2,3-cd]pyrene	<8.6		33	8.6	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
1-Methylnaphthalene	<8.1		67	8.1	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
2-Methylnaphthalene	<6.1		67	6.1	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Naphthalene	<5.1		33	5.1	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Phenanthrene	<4.6		33	4.6	ug/Kg		06/01/20 16:31	06/02/20 14:03	1
Pyrene	<6.6		33	6.6	ug/Kg		06/01/20 16:31	06/02/20 14:03	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	89		43 - 145	06/01/20 16:31	06/02/20 14:03	1
Nitrobenzene-d5 (Surr)	92		37 - 147	06/01/20 16:31	06/02/20 14:03	1
Terphenyl-d14 (Surr)	98		42 - 157	06/01/20 16:31	06/02/20 14:03	1

Lab Sample ID: LCS 500-545331/2-A

**Matrix: Solid** 

2-Methylnaphthalene

Naphthalene

Pyrene

Phenanthrene

**Analysis Batch: 545460** 

Client Sample ID:	<b>Lab Control Sample</b>
	Prep Type: Total/NA
	Pren Batch: 545331

Spike LCS LCS %Rec. **Analyte** Added Result Qualifier Unit %Rec Limits Acenaphthene 1330 1270 ug/Kg 95 65 - 124 Acenaphthylene 1330 1250 94 68 - 120 ug/Kg Anthracene 1330 1230 ug/Kg 92 70 - 114 Benzo[a]anthracene 1330 1400 ug/Kg 105 67 - 122 Benzo[a]pyrene 1330 1340 ug/Kg 100 65 - 133Benzo[b]fluoranthene 1330 1250 94 69 - 129 ug/Kg 1520 72 - 131 Benzo[g,h,i]perylene 1330 ug/Kg 114 Benzo[k]fluoranthene 1330 1280 ug/Kg 96 68 - 127Chrysene 1400 105 1330 ug/Kg 63 - 120 1330 1430 107 64 - 131 Dibenz(a,h)anthracene ug/Kg Fluoranthene 1330 1210 91 62 - 120 ug/Kg Fluorene 1330 1280 96 62 - 120 ug/Kg 107 Indeno[1,2,3-cd]pyrene 1330 1430 68 - 130 ug/Kg 1-Methylnaphthalene 1330 1350 ug/Kg 101 68 - 111

1330

1330

1330

1330

Eurofins TestAmerica, Chicago

6/8/2020

69 - 112

63 - 110

62 - 120

61 - 128

105

102

91

101

1390

1350

1220

1350

ug/Kg

ug/Kg

ug/Kg

ug/Kg

# Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-545331/2-A

**Matrix: Solid** 

Client: U.S. Army

Analysis Batch: 545460

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

**Prep Batch: 545331** 

LCS LCS

Surrogate	%Recovery Qualifie	r Limits
2-Fluorobiphenyl (Surr)	96	43 - 145
Nitrobenzene-d5 (Surr)	94	37 - 147
Terphenyl-d14 (Surr)	90	42 - 157

#### Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 500-545912/1-A

**Matrix: Solid** 

**Client Sample ID: Method Blank Prep Type: Total/NA** 

**Prep Batch: 545912** 

Analysis Batch: 545964

randing one Buttonn o nood .								op =atom	• . • •
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.69		1.7	0.69	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
alpha-BHC	<0.42		1.7	0.42	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
beta-BHC	<0.52		1.7	0.52	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
cis-Chlordane	<0.85		1.7	0.85	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
4,4'-DDD	< 0.33		1.7	0.33	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
4,4'-DDE	<0.28		1.7	0.28	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
4,4'-DDT	<0.88		1.7	0.88	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
delta-BHC	<0.53		1.7	0.53	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Dieldrin	<0.23		1.7	0.23	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Endosulfan I	<0.73		1.7	0.73	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Endosulfan II	<0.27		1.7	0.27	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Endosulfan sulfate	<0.31		1.7	0.31	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Endrin	<0.23		1.7	0.23	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Endrin aldehyde	<0.28		1.7	0.28	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Endrin ketone	<0.38		1.7	0.38	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
gamma-BHC (Lindane)	<0.36		1.7	0.36	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Heptachlor	<0.70		1.7	0.70	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Heptachlor epoxide	< 0.59		1.7	0.59	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Methoxychlor	<0.32		8.3	0.32	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
Toxaphene	<7.0		17	7.0	ug/Kg		06/04/20 08:01	06/04/20 18:14	1
trans-Chlordane	< 0.44		1.7	0.44	ug/Kg		06/04/20 08:01	06/04/20 18:14	1

MB MB

Surrogate	%Recovery G	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	129		33 - 148	06/04/20 08:01	06/04/20 18:14	1
Tetrachloro-m-xylene	102		30 - 121	06/04/20 08:01	06/04/20 18:14	1

Lab Sample ID: LCS 500-545912/2-A

**Matrix: Solid** 

Analysis Batch: 545964

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545912

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D 9	%Rec	Limits	
Aldrin	13.3	13.4		ug/Kg		101	52 - 122	
alpha-BHC	13.3	13.1		ug/Kg		98	50 - 123	
beta-BHC	13.3	15.4		ug/Kg		116	44 - 140	
cis-Chlordane	13.3	13.8		ug/Kg		104	52 - 129	
4,4'-DDD	13.3	15.0		ug/Kg		112	47 - 137	
4,4'-DDE	13.3	13.7		ug/Kg		102	50 - 130	

Eurofins TestAmerica, Chicago

Page 15 of 22

6/8/2020

100 100

Client: U.S. Army

Project/Site: Fort McCoy Soil Sampling

# Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 500-545912/2-A

**Matrix: Solid** 

Analysis Batch: 545964

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA Prep Batch: 545912** 

Job ID: 500-182452-1

Spike	LCS	LCS				%Rec.	
Added	Result	Qualifier	Unit	D	%Rec	Limits	
13.3	13.7		ug/Kg		103	46 - 143	
13.3	14.9		ug/Kg		112	57 - 125	
13.3	14.1		ug/Kg		106	51 <sub>-</sub> 133	
13.3	13.5		ug/Kg		101	30 - 120	
13.3	14.8		ug/Kg		111	30 - 120	
13.3	15.9		ug/Kg		120	42 - 150	
13.3	14.2		ug/Kg		106	43 - 144	
13.3	14.3		ug/Kg		107	39 - 131	
13.3	15.3		ug/Kg		115	51 <sub>-</sub> 135	
13.3	12.8		ug/Kg		96	50 - 122	
13.3	13.6		ug/Kg		102	53 - 129	
13.3	13.6		ug/Kg		102	50 - 139	
13.3	14.8		ug/Kg		111	45 - 144	
13.3	15.1		ug/Kg		113	52 - 132	
	Added  13.3  13.3  13.3  13.3  13.3  13.3  13.3  13.3  13.3  13.3  13.3  13.3  13.3  13.3  13.3	Added         Result           13.3         13.7           13.3         14.9           13.3         14.1           13.3         13.5           13.3         14.8           13.3         15.9           13.3         14.2           13.3         14.3           13.3         15.3           13.3         12.8           13.3         13.6           13.3         14.8	Added         Result         Qualifier           13.3         13.7           13.3         14.9           13.3         14.1           13.3         13.5           13.3         14.8           13.3         15.9           13.3         14.2           13.3         14.3           13.3         15.3           13.3         12.8           13.3         13.6           13.3         14.8	Added         Result         Qualifier         Unit           13.3         13.7         ug/Kg           13.3         14.9         ug/Kg           13.3         14.1         ug/Kg           13.3         13.5         ug/Kg           13.3         14.8         ug/Kg           13.3         15.9         ug/Kg           13.3         14.2         ug/Kg           13.3         14.3         ug/Kg           13.3         15.3         ug/Kg           13.3         12.8         ug/Kg           13.3         13.6         ug/Kg           13.3         13.6         ug/Kg           13.3         14.8         ug/Kg	Added         Result         Qualifier         Unit         D           13.3         13.7         ug/Kg         ug/Kg           13.3         14.9         ug/Kg           13.3         14.1         ug/Kg           13.3         13.5         ug/Kg           13.3         14.8         ug/Kg           13.3         15.9         ug/Kg           13.3         14.2         ug/Kg           13.3         14.3         ug/Kg           13.3         15.3         ug/Kg           13.3         12.8         ug/Kg           13.3         13.6         ug/Kg           13.3         13.6         ug/Kg           13.3         14.8         ug/Kg	Added         Result         Qualifier         Unit         D         %Rec           13.3         13.7         ug/Kg         103           13.3         14.9         ug/Kg         112           13.3         14.1         ug/Kg         106           13.3         13.5         ug/Kg         101           13.3         14.8         ug/Kg         111           13.3         15.9         ug/Kg         106           13.3         14.2         ug/Kg         106           13.3         14.3         ug/Kg         107           13.3         15.3         ug/Kg         115           13.3         12.8         ug/Kg         96           13.3         13.6         ug/Kg         102           13.3         14.8         ug/Kg         102	Added         Result         Qualifier         Unit         D         %Rec         Limits           13.3         13.7         ug/Kg         103         46 - 143           13.3         14.9         ug/Kg         112         57 - 125           13.3         14.1         ug/Kg         106         51 - 133           13.3         13.5         ug/Kg         101         30 - 120           13.3         14.8         ug/Kg         111         30 - 120           13.3         15.9         ug/Kg         120         42 - 150           13.3         14.2         ug/Kg         106         43 - 144           13.3         14.3         ug/Kg         107         39 - 131           13.3         15.3         ug/Kg         115         51 - 135           13.3         12.8         ug/Kg         96         50 - 122           13.3         13.6         ug/Kg         102         53 - 129           13.3         13.6         ug/Kg         102         50 - 139           13.3         14.8         ug/Kg         111         45 - 144

0...:

LCS LCS

Surrogate	%Recovery Qualifier	Limits
DCB Decachlorobiphenyl	128	33 - 148
Tetrachloro-m-xvlene	101	30 - 121

# Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 500-544852/1-A

**Matrix: Solid** 

Analysis Batch: 545153

Client	<b>Sample</b>	ID:	Method	Blank
	Dw	on T	Typol To	to I/NI A

Prep Type: Total/NA Prep Batch: 544852

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	<94		330	94	ug/Kg		05/28/20 18:36	05/30/20 06:57	10
2,4-DB	<98		330	98	ug/Kg		05/28/20 18:36	05/30/20 06:57	10
Dicamba	<69		330	69	ug/Kg		05/28/20 18:36	05/30/20 06:57	10
Dichlorprop	<90		330	90	ug/Kg		05/28/20 18:36	05/30/20 06:57	10
Silvex (2,4,5-TP)	<85		330	85	ug/Kg		05/28/20 18:36	05/30/20 06:57	10
2,4,5-T	<81		330	81	ug/Kg		05/28/20 18:36	05/30/20 06:57	10

MB MB Limits Prepared Surrogate %Recovery Qualifier Analyzed Dil Fac DCAA 62 25 - 120 05/28/20 18:36 05/30/20 06:57

Lab Sample ID: LCS 500-544852/2-A

**Matrix: Solid** 

**Analysis Batch: 545153** 

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544852

<b>,</b>	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
2,4-D	1350	856		ug/Kg		63	20 - 115
2,4-DB	1350	841		ug/Kg		63	20 - 120
Dicamba	1340	757		ug/Kg		56	25 - 110
Dichlorprop	1340	819		ug/Kg		61	25 - 110
Silvex (2,4,5-TP)	1340	740		ug/Kg		55	29 - 115
2,4,5-T	1340	917		ug/Kg		68	25 - 115

Eurofins TestAmerica, Chicago

6/8/2020

Job ID: 500-182452-1

Client: U.S. Army

Project/Site: Fort McCoy Soil Sampling

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 500-544852/2-A

**Matrix: Solid** 

Matrix: Solid

Analysis Batch: 545153

LCS LCS

Surrogate Limits %Recovery Qualifier DCAA 25 - 120 61

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

**Prep Batch: 544852** 

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-544381/1-A

**Analysis Batch: 544575** 

Client Sample ID: Method Blank Prep Type: Total/NA

**Prep Batch: 544381** 

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.34		1.0	0.34	mg/Kg		05/26/20 17:32	05/27/20 07:33	1
Barium	<0.11		1.0	0.11	mg/Kg		05/26/20 17:32	05/27/20 07:33	1
Cadmium	<0.036		0.20	0.036	mg/Kg		05/26/20 17:32	05/27/20 07:33	1
Chromium	<0.50		1.0	0.50	mg/Kg		05/26/20 17:32	05/27/20 07:33	1
Lead	<0.23		0.50	0.23	mg/Kg		05/26/20 17:32	05/27/20 07:33	1
Selenium	<0.59		1.0	0.59	mg/Kg		05/26/20 17:32	05/27/20 07:33	1
Silver	<0.13		0.50	0.13	mg/Kg		05/26/20 17:32	05/27/20 07:33	1

Lab Sample ID: LCS 500-544381/2-A

**Matrix: Solid** 

**Analysis Batch: 544575** 

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA

**Prep Batch: 544381** 

, , , , , , , , , , , , , , , , , , , ,	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic	10.0	9.44		mg/Kg		94	80 - 120	
Barium	200	204		mg/Kg		102	80 - 120	
Cadmium	5.00	4.70		mg/Kg		94	80 - 120	
Chromium	20.0	19.1		mg/Kg		95	80 - 120	
Lead	10.0	9.12		mg/Kg		91	80 - 120	
Selenium	10.0	8.87		mg/Kg		89	80 - 120	
Silver	5.00	4.36		mg/Kg		87	80 - 120	

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-544793/12-A

**Matrix: Solid** 

Analysis Batch: 545013

**Client Sample ID: Method Blank** Prep Type: Total/NA

**Prep Batch: 544793** 

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Mercury 0.017 0.0056 mg/Kg 05/28/20 14:00 05/29/20 08:29

Lab Sample ID: LCS 500-544793/13-A

**Matrix: Solid** 

**Analysis Batch: 545013** 

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA **Prep Batch: 544793** LCS LCS Spike %Rec.

Analyte Added Result Qualifier Unit D %Rec Limits Mercury 0.167 0.152 91 80 - 120 mg/Kg

MB MB

Lab Sample ID: 500-182452-1

**Client Sample ID: LF2-1** Date Collected: 05/21/20 09:00

**Matrix: Solid** 

Job ID: 500-182452-1

Date Received: 05/22/20 09:25

ı		Batch	Batch		Dilution	Batch	Prepared			
	Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
	Total/NA	Analysis	Moisture		1	544339	05/26/20 13:49	LWN	TAL CHI	

**Client Sample ID: LF2-1** Lab Sample ID: 500-182452-1

Date Collected: 05/21/20 09:00 Matrix: Solid

Date Received: 05/22/20 09:25 Percent Solids: 86.3

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3541			545912	06/04/20 08:01	BSO	TAL CHI
Total/NA	Analysis	8081B		1	545964	06/04/20 21:41	PJ1	TAL CHI
Total/NA	Prep	8151A			544852	05/28/20 18:36	ACK	TAL CHI
Total/NA	Analysis	8151A		10	545153	05/30/20 14:23	JBJ	TAL CHI
Total/NA	Prep	3050B			544381	05/26/20 17:32	BDE	TAL CHI
Total/NA	Analysis	6010C		1	544575	05/27/20 08:39	JEF	TAL CHI
Total/NA	Prep	7471B			544793	05/28/20 14:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	545013	05/29/20 09:25	MJG	TAL CHI

**Client Sample ID: LF2-2** Lab Sample ID: 500-182452-2

Date Collected: 05/21/20 09:05 **Matrix: Solid** 

Date Received: 05/22/20 09:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	544339	05/26/20 13:49	LWN	TAL CHI

Client Sample ID: LF2-2 Lab Sample ID: 500-182452-2

Date Collected: 05/21/20 09:05 Matrix: Solid Date Received: 05/22/20 09:25 Percent Solids: 90.5

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3541			545912	06/04/20 08:01	BSO	TAL CHI
Total/NA	Analysis	8081B		1	545964	06/04/20 22:02	PJ1	TAL CHI
Total/NA	Prep	8151A			544852	05/28/20 18:36	ACK	TAL CHI
Total/NA	Analysis	8151A		10	545153	05/30/20 14:42	JBJ	TAL CHI
Total/NA	Prep	3050B			544381	05/26/20 17:32	BDE	TAL CHI
Total/NA	Analysis	6010C		1	544575	05/27/20 08:43	JEF	TAL CHI
Total/NA	Prep	7471B			544793	05/28/20 14:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	545013	05/29/20 09:27	MJG	TAL CHI

Lab Sample ID: 500-182452-3 Client Sample ID: LF3

Date Collected: 05/21/20 08:30 **Matrix: Solid** Date Received: 05/22/20 09:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	544339	05/26/20 13:49	LWN	TAL CHI

# **Lab Chronicle**

Client: U.S. Army Job ID: 500-182452-1

Project/Site: Fort McCoy Soil Sampling

Client Sample ID: LF3 Lab Sample ID: 500-182452-3

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3541			545331	06/01/20 16:31	ACK	TAL CHI
Total/NA	Analysis	8270D		1	545591	06/03/20 03:45	SS	TAL CHI
Total/NA	Prep	3050B			544381	05/26/20 17:32	BDE	TAL CHI
Total/NA	Analysis	6010C		1	544575	05/27/20 08:47	JEF	TAL CHI
Total/NA	Prep	7471B			544793	05/28/20 14:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	545013	05/29/20 09:33	MJG	TAL CHI

#### **Laboratory References:**

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

3

3

5

7

0

10

12

4.1

# **Accreditation/Certification Summary**

Client: U.S. Army Job ID: 500-182452-1

Project/Site: Fort McCoy Soil Sampling

# Laboratory: Eurofins TestAmerica, Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority Wisconsin		Program State	Identification Number 999580010	Expiration Date 08-31-20		
The following analyte the agency does not o		port, but the laboratory is r	not certified by the governing authority.	This list may include analytes for which		
Analysis Method	Prep Method	Matrix	Analyte			
Moisture		Solid	Percent Moisture			
Moisture		Solid	Percent Solids			

4

5

7

8

10

111

13

14

# Chain of Custody Record 397308 ❖ eurofins

Environment Testing TestAmerica

Client Contact	Project Ma	anager: Se	andie	mede,	CK.	Site	Cont	act:	40.00	Dat	te: 2	IMAY 3	020	COC No:			
ompany Name: FORT MCCO4		920 -				Lab	Cont	act:		Car	rrier:			of CC	OCs		
dress: 2171 South 8th ALE		Analysis T												Sampler;	Sampler;		
ty/State/Zip: For MCC04/WII/54656	X CALENI	DAR DAYS	[] wo	RKING DAY	S	Ш.					1 1			For Lab Use Only:			
ione: 608-358-8034	-	if different fro	om Below			ow						1 1 1		635		Walk-in Client:	
x:	∑ 2 weeks			S Z		-						1.22	mig.	Lab Sampling:			
oject Name: FORT McLoy SOIL SAMPING						5 5	12	20		111		120	<del>2</del> 82				
e: FORT McCoy	i ii		days			SD	24	2					7/10	Job / SDG No.:			
9#50012338			day			nple /	3	#	1111			500-182	452 COC	Job / SDG No.:	145		
20012322	-		Sample			San	SI	1				6 7 7	0.7	100	1		
Sample Identification	Sample Date	Sample Time	Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered	RCRA Mehals	Pest	PAH					Sample Specific	Notes:		
F2-1	5-21-20	0900	C	Solis			X										
F2-2	5-21-20	0905	C	Solio		NIN	X	X									
£F3	5-21-22	0837	0	Salia	9	NA	X		X	hilling							
_1		202	_	30.10	0		A .										
					11												
				III													
									4114								
			*														
							П		1.1-1								
		1/					П	T									
eservation Used: 1= Ice, 2= HCI; 3= H2SO4; 4=HNO3;	5=NaOH: €	= Other		1		+	1	1	1			+					
ssible Hazard Identification:							-			e may be ass	essec	if sample	s are reta	ined longer than 1 month)			
e any samples from a listed EPA Hazardous Waste? Pleasemments Section if the lab is to dispose of the sample.	e List any E	PA Waste	Codes for	the samp	le in the	B											
Non-Hazard Flammable Skin Irritant	Poison	В	X Unkn	own			□ R	eturn	to Client	X Disposa	al by Lal	ь	Archive fo	or Months			
ecial Instructions/QC Requirements & Comments:																	
-																	
Custody Seals Intact: Yes No	Custody Se	eal No.: / 3	2700	4-1	327	205	7		Cooler Temp	. (°C): Obs'd:_		Corr'c	ß	Therm ID No.:			
linquished by:	Company:			Date/Tir	ne:	R	eceive	ed by	<i>f</i> :		C	ompany:		Date/Time:			
linquished by:	Company:	104		Date/Tir			eceive	ed by	<b>/</b> :		C	ompany:		Date/Time:			
														11	-		
									A Satory			ompany:		Date/Time: 5/22/20			

Client: U.S. Army

Job Number: 500-182452-1

Login Number: 182452 List Source: Eurofins TestAmerica, Chicago

List Number: 1

Creator: James, Jeff A

Creator: James, Jen A		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-0.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins TestAmerica, Chicago