October 11, 2022
Diane Czarnecki
Industrial Hygienist
Facilities Management Division
GSA Public Buildings Service – Heartland Region
2300 Main Street
Kansas City, MO 64108

Re: Goodfellow Federal Center – Bldg. 105E Drinking Water Sampling
Project No. 121244

Dear Ms. Czarnecki:

Thank you for the opportunity to provide the General Services Administration (GSA) with the above referenced environmental sampling activities. The following is our report.

INTRODUCTION

As requested, Burns & McDonnell conducted drinking water sampling and testing for the presence of lead and copper at Building 105E of the Goodfellow Federal Center located at 4300 Goodfellow Boulevard in St. Louis, Missouri. Sampling was completed in response to the ongoing environmental condition assessment at the Goodfellow Federal Center which is documented at the Goodfellow Federal Center Reading Room located at https://www.gsa.gov/portal/content/212361.

Drinking water sampling was conducted to determine the current levels of lead and copper in representative sources throughout the complex. Drinking water sampling at Bldg. 105E was conducted on September 16, 2022 by Justin Arnold of OCCU-TEC.

METHODOLOGY

The sampling methodology used during this investigation was developed in general accordance with the United States Environmental Protection Agency's (EPA) "Quick Guide to Drinking Water Sample Collection – Second Edition" developed by the EPA Region 8 in September 2016.

Samples were collected as first draw samples in accordance with the Lead and Copper Rule (40 CFR Part 141 Subpart I). First draw samples represent 'worst case' conditions with water that has been stationary within the plumbing systems for a minimum of six hours. The samples were collected in individually labeled 1000 milliliter (mL) plastic bottles capped with Teflon septa lined screw caps. The bottles were filled to the shoulder with water from the sample source. The samples were then placed in a cooler for safe transport. Each sample was acidified at the laboratory as needed.

Drinking water sampling for the presence of lead and copper was conducted at one (1) distinct locations within Building 105E. A total of two (2) samples were obtained including duplicate samples. After each drinking water sample was collected, Burns & McDonnell filled a separate sample cup with approximately 2 inches of water. Burns & McDonnell placed an Oakton EcoTestr pH and temperature meter into the sample cup. After readings stabilized, Burns & McDonnell recorded the readings for pH (the acidity or basicity of an aqueous solution) and the temperature (in degrees Celsius) on site specific sample logs.

Drinking water samples were submitted to Eurofins-Eaton Analytical in South Bend, IN for analyses of lead and copper. Eurofins-Eaton Analytical is certified by the State of Missouri Department of Natural Resources (MDNR) as an approved drinking water laboratory. Eurofins-Eaton Analytical's Missouri Certification number is 880.

The drinking water samples were collected using media supplied by Eurofins-Eaton Analytical. Lead and Copper samples were collected and analyzed in accordance with EPA Method 200.8.

RESULTS AND DISCUSSION
The results for the subject testing are summarized in the table below.

Analysis	Lowest Concentration[(a)]	Highest Concentration[(a)]	Action Level[(b)]
Lead	1.0 µg/L	1.1 µg/L	15 µg/L
Copper	47 µg/L	53 µg/L	1300 µg/L

Notes:
(a) Samples with a "<" sign indicate that the results were below the reportable limit.
(b) As per EPA Lead and Copper Rule (40 CFR Part 141 Subpart I).
(c) µg/L – micrograms per liter

No samples resulted in lead or copper concentrations over the action levels.

A summary table of all sampling results by location is included in Appendix A. The complete laboratory report for the drinking water sampling from Eurofins-Eaton Analytical is attached in Appendix B.

pH
Normal pH levels for drinking water are between 6.0 to 8.5. Water with a pH < 6.5 is considered acidic, soft, and corrosive. Acidic water may contain metal ions, may cause premature damage to metal piping, and increases the likelihood of leaching. Water with a pH > 8.5 is considered alkaline or basic and can indicate that the water is hard. Hard water does not pose a health risk

but can cause aesthetic problems. These problems include an alkali taste, the formation of scale deposits, and difficulty in getting soaps and detergents to lather.

Recorded pH levels in Building 105E ranged from 9.76 to 9.76 indicating the drinking water is slightly alkaline.

LIMITATIONS

The scope of this assessment was limited in nature. Burns & McDonnell collected samples from a select number of drinking water sources in an effort to minimize cost while providing a general overview of the drinking water quality at the site. Sample locations do not encompass every drinking water source at the Site. Additionally, samples were only analyzed for a select number of potential contaminants likely to affect the drinking water quality at the site. Burns & McDonnell is not responsible for potential contaminants not identified in this report.

Burns & McDonnell appreciates the opportunity to work with the GSA on this project. Please contact us if you have any questions regarding this report or if we may be of any additional service.

Sincerely,

(b) (6)

Matt Shanahan, CHMM
Project Manager

Attachments:

Appendix A - Results Summary by Location
Appendix B - Water Sample Laboratory Report

APPENDIX A – RESULTS SUMMARY BY LOCATION

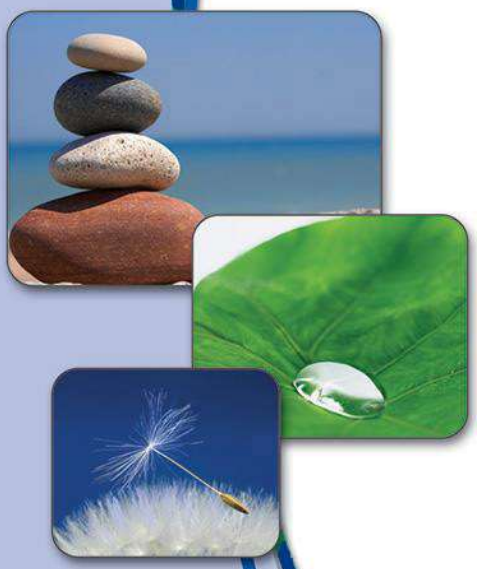
Appendix A
Results Summary by Location

Sample Number	Location	pH	Temp (°C)	Water Source	Analyte	Result	Units	Above / Below	AL
105E-DW-01	1st floor, column N43	9.8	16.7	DF	Copper	53	µg/L	Below	1300
105E-DW-01	1st floor, column N43	9.8	16.7	DF	Lead	1.0	µg/L	Below	15
105E-DW-02	Duplicate of 105E-DW-01	9.8	16.7	DF D	Copper	47	µg/L	Below	1300
105E-DW-02	Duplicate of 105E-DW-01	9.8	16.7	DF D	Lead	1.1	µg/L	Below	15

Notes:
D - Duplicate
DF - Drinking Fountain
AL - Action Level
µg/L - micrograms per liter

APPENDIX B – WATER SAMPLE LABORATORY REPORT

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins Eaton South Bend
110 S Hill Street
South Bend, IN 46617
Tel: (574)233-4777

Laboratory Job ID: 810-38470-1
Client Project/Site: Burns & McDonnell

For:
Burns & McDonnell
425 South Woods Mill Road
Chesterfield, Missouri 63017

Attn: Mr. Matt Shanahan
(b) (6) [redacted]

Authorized for release by:
10/6/2022 9:43:34 AM

Amanda Scott, Project Manager
(574)233-4777
Amanda.Scott@et.eurofinsus.com

Table of Contents

Client: Burns & McDonnell
Job ID: 810-38470-1
Project/Site: Burns & McDonnell

Glossary

Abbreviation	These commonly used abbreviations may 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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Client: Burns & McDonnell
Project/Site: Burns & McDonnell

Job ID: 810-38470-1

Job ID: 810-38470-1

Laboratory: Eurofins Eaton South Bend

Narrative

Job Narrative
810-38470-1

Receipt
The samples were received on 9/22/2022 9:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

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

Client Sample Results

Client: Burns & McDonnell
Job ID: 810-38470-1
Project/Site: Burns & McDonnell

Client Sample ID: 105E-DW-01
Lab Sample ID: 810-38470-1

Date Collected: 09/16/22 05:17
Matrix: Drinking Water
Date Received: 09/22/22 09:15

Method: EPA 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.0		0.50		ug/L			10/05/22 18:03	1
Copper	53		1.0		ug/L			10/05/22 18:03	1

Client Sample ID: 105E-DW-02
Lab Sample ID: 810-38470-2

Date Collected: 09/16/22 05:17
Matrix: Drinking Water
Date Received: 09/22/22 09:15

Method: EPA 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.1		0.50		ug/L			10/05/22 20:14	1
Copper	47		1.0		ug/L			10/05/22 20:14	1

Lab Chronicle

Client: Burns & McDonnell
Job ID: 810-38470-1
Project/Site: Burns & McDonnell

Client Sample ID: 105E-DW-01
Lab Sample ID: 810-38470-1

Date Collected: 09/16/22 05:17
Matrix: Drinking Water
Date Received: 09/22/22 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	200.8		1	34370	JK	EA SB	10/05/22 18:03

Client Sample ID: 105E-DW-02
Lab Sample ID: 810-38470-2

Date Collected: 09/16/22 05:17
Matrix: Drinking Water
Date Received: 09/22/22 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	200.8		1	34370	JK	EA SB	10/05/22 20:14

Laboratory References:

EA SB = Eurofins Eaton South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Accreditation/Certification Summary

Client: Burns & McDonnell
Job ID: 810-38470-1
Project/Site: Burns & McDonnell

Laboratory: Eurofins Eaton South Bend

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Missouri	State	880	09-30-24

Method Summary

Client: Burns & McDonnell
Project/Site: Burns & McDonnell

Job ID: 810-38470-1

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	EA SB

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA SB = Eurofins Eaton South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Sample Summary

Client: Burns & McDonnell
Project/Site: Burns & McDonnell

Job ID: 810-38470-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-38470-1	105E-DW-01	Drinking Water	09/16/22 05:17	09/22/22 09:15
810-38470-2	105E-DW-02	Drinking Water	09/16/22 05:17	09/22/22 09:15

eurofins | Eaton Analytical

810-38470 Chain of Custody

110 S. Hill Street
South Bend, IN 46617
T: 1.800.332.4345
F: 1.574.233.8207

Order # _____

Batch # _____

www.EurofinsUS.com/Eaton

Shaded area for EEA use only

CHAIN OF CUSTODY RECORD

Page 1 of 1

REPORT TO:	SAMPLER (Signature)	PWS ID #	STATE (sample origin)	PROJECT NAME	PO#
cgulcher@burnsmcd.com	(b) (6)		MO	GFC	121244

BILL TO:

COMPLIANCE MONITORING	Yes	No	POPULATION SERVED	SOURCE WATER

LAB Number	COLLECTION DATE	COLLECTION TIME	AM	PM	SAMPLING SITE	TEST NAME	SAMPLE REMARKS	CHLORINATED YES	CHLORINATED NO	# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME
1	9.14.22	0517	X		105E-DW-01	Lead & Copper		X		1	DW	SW
2	9.14.22	0517	X		105E-DW-02	↓		X		1	DW	SW
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												

RELINQUISHED BY:(Signature)	DATE	TIME	AM	PM	RECEIVED BY:(Signature)	DATE	TIME	AM	PM
(b) (6)	9/20	430		PM	(b) (6)	09/21/22	0915		PM
RELINQUISHED BY:(Signature)	DATE	TIME	AM	PM	RECEIVED BY:(Signature)	DATE	TIME	AM	PM
RELINQUISHED BY:(Signature)	DATE	TIME	AM	PM	RECEIVED FOR LABORATORY BY:	DATE	TIME	AM	PM

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT

LAB COMMENTS

ambient

CONDITIONS UPON RECEIPT (check one):

___ Iced: Wet/Blue___ Ambient___ °C Upon Receipt N/A

MATRIX CODES:

DW-DRINKING WATER
RW-REAGENT WATER
GW-GROUND WATER
EW-EXPOSURE WATER
SW-SURFACE WATER
PW-POOL WATER
WW-WASTE WATER

TURN-AROUND TIME (TAT) - SURCHARGES

SW = Standard Written: (15 working days)	0%	IV* = Immediate Verbal: (3 working days)	100%
RV* = Rush Verbal: (5 working days)	50%	IW* = Immediate Written: (3 working days)	125%
RW* = Rush Written: (5 working days)	75%	SP* = Weekend, Holiday	CALL
		STAT* = Less than 48 hours	CALL

* Please call, expedited service not available for all testing

Samples received unannounced with less than 48 hours holding time remaining may be subject to additional charges.

Login Sample Receipt Checklist

Client: Burns & McDonnell

Job Number: 810-38470-1

Login Number: 38470
List Number: 1
Creator: Wojcik, Mary

List Source: Eurofins Eaton South Bend

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	False	Thermal preservation not required.
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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	
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").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	