



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. 104F 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 104F 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. 104F was conducted on September 12, 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.

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Drinking water sampling for the presence of lead and copper was conducted at two (2) distinct locations within Building 104F. A total of three (3) 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	<0.5 µg/L	3.6 µg/L	15 µg/L
Copper	77 µg/L	150 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



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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 104F ranged from 9.18 to 9.20 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)

A large black rectangular redaction box covers the signature area, with the text "(b) (6)" in red at the top left corner.

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
104F-DW-01	2nd floor, north lobby, bottle filler	9.2	20.6	DF	Copper	150	µg/L	Below	1300
104F-DW-01	2nd floor, north lobby, bottle filler	9.2	20.6	DF	Lead	< 0.50	µg/L	Below	15
104F-DW-02	Duplicate of 104F-DW-01	9.2	20.6	DF D	Copper	140	µg/L	Below	1300
104F-DW-02	Duplicate of 104F-DW-01	9.2	20.6	DF D	Lead	< 0.50	µg/L	Below	15
104F-DW-03	1st floor, southeast hall	9.18	19.4	L DF	Copper	77	µg/L	Below	1300
104F-DW-03	1st floor, southeast hall	9.2	19.4	L DF	Lead	3.6	µg/L	Below	15

Notes:

DF - Drinking Fountain

D - Duplicate

L/R - Left or Right

AL - Action Level

µg/L - micrograms per liter

APPENDIX B – WATER SAMPLE LABORATORY REPORT

ANALYTICAL REPORT

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

Laboratory Job ID: 810-37073-1
Client Project/Site: Burns & McDonnell

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

Attn: Mr. Matt Shanahan

(b) (6)

Authorized for release by:
9/20/2022 7:34:39 AM

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

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

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.



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Definitions/Glossary

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

Job ID: 810-37073-1

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

Case Narrative

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

Job ID: 810-37073-1

Job ID: 810-37073-1

Laboratory: Eurofins Eaton South Bend

Narrative

Job Narrative
810-37073-1

Receipt

The samples were received on 9/13/2022 10:00 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
Project/Site: Burns & McDonnell

Job ID: 810-37073-1

Client Sample ID: 104F-DW-01

Lab Sample ID: 810-37073-1

Date Collected: 09/12/22 06:05

Matrix: Drinking Water

Date Received: 09/13/22 10:00

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.50		0.50	ug/L			09/19/22 18:02	1
Copper	150		1.0	ug/L			09/19/22 18:02	1

Client Sample ID: 104F-DW-02

Lab Sample ID: 810-37073-2

Date Collected: 09/12/22 06:05

Matrix: Drinking Water

Date Received: 09/13/22 10:00

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.50		0.50	ug/L			09/19/22 18:04	1
Copper	140		1.0	ug/L			09/19/22 18:04	1

Client Sample ID: 104F-DW-03

Lab Sample ID: 810-37073-3

Date Collected: 09/12/22 06:10

Matrix: Drinking Water

Date Received: 09/13/22 10:00

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.6		0.50	ug/L			09/19/22 18:13	1
Copper	77		1.0	ug/L			09/19/22 18:13	1

Lab Chronicle

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

Job ID: 810-37073-1

Client Sample ID: 104F-DW-01

Lab Sample ID: 810-37073-1

Date Collected: 09/12/22 06:05

Matrix: Drinking Water

Date Received: 09/13/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	200.8		1	32266	NB	EA SB	09/19/22 18:02

Client Sample ID: 104F-DW-02

Lab Sample ID: 810-37073-2

Date Collected: 09/12/22 06:05

Matrix: Drinking Water

Date Received: 09/13/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	200.8		1	32266	NB	EA SB	09/19/22 18:04

Client Sample ID: 104F-DW-03

Lab Sample ID: 810-37073-3

Date Collected: 09/12/22 06:10

Matrix: Drinking Water

Date Received: 09/13/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	200.8		1	32266	NB	EA SB	09/19/22 18:13

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
Project/Site: Burns & McDonnell

Job ID: 810-37073-1

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: 810-37073-1

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: 810-37073-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-37073-1	104F-DW-01	Drinking Water	09/12/22 06:05	09/13/22 10:00
810-37073-2	104F-DW-02	Drinking Water	09/12/22 06:05	09/13/22 10:00
810-37073-3	104F-DW-03	Drinking Water	09/12/22 06:10	09/13/22 10:00

1

2

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10

11



Eaton Analytical

110 S
South
T: 1.8
F: 1.5



810-37073 Chain of Custody

www.eurofinsus.com/Eaton

CHAIN OF CUSTODY RECORD

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REPORT TO: **Shaded area for EEA use only** SAMPLER (Signature) PWS ID # STATE (sample origin) PROJECT NAME PO#

BILL TO: *apalder@barnsmcd.com*

COMPLIANCE MONITORING: Yes No

POPULATION SERVED: *MD*

SOURCE WATER

GFC

121244

LAB Number DATE TIME AM PM RECEIVED BY (Signature) DATE TIME AM PM RECEIVED FOR LABORATORY BY DATE TIME AM PM TEST NAME SAMPLE REMARKS CHLORINATED YES NO # OF CONTAINERS MATRIX CODE TURNAROUND TIME

LAB Number	COLLECTION		RECEIVED BY (Signature)	RECEIVED FOR LABORATORY BY		TEST NAME	SAMPLE REMARKS	CHLORINATED		# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME
	DATE	TIME		DATE	TIME			YES	NO			
1	9-12-22	0605	X	104F-DW-01		<i>Lead + Copper</i>				1	DW SW	
2	9-12-22	0605	X	104F-DW-02						1	DW SW	
3	9-12-22	0610	X	104F-DW-03		<i>↓</i>				1	DW SW	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												

REINQUISHED BY (Signature) DATE TIME AM PM RECEIVED BY (Signature) DATE TIME AM PM

REINQUISHED BY (Signature) DATE TIME AM PM RECEIVED FOR LABORATORY BY DATE TIME AM PM

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

CONDITIONS UPON RECEIPT (check one):
 Iced: Wet/Blue: Ambient: Upon Receipt: *N/A*

MATRIX CODES:
 DW-DRINKING WATER
 RW-REAGENT WATER
 GW-GROUND WATER
 SW-SURFACE WATER
 PW-POOL WATER
 WM-WASTE WATER

TURN-AROUND TIME (TAT) - SURCHARGES:
 SW = Standard Written: (15 working days) 0%
 RW = Rush Verbal: (5 working days) 50%
 RW = Rush Written: (5 working days) 75%
 IW = Immediate Verbal: (3 working days) 100%
 SP = Weekend, Holiday
 START = Less than 48 hours
 CALL

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

06-LO-F0435 Issue 6.0 Effective Date: 2016-09-20

Login Sample Receipt Checklist

Client: Burns & McDonnell

Job Number: 810-37073-1

Login Number: 37073

List Source: Eurofins Eaton South Bend

List Number: 1

Creator: DePriest, Kellie

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	

