BURNS McDONNELL

April 8, 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. 110 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 110 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. 110 was conducted on March 12, 2022 by Emily Pulcher of Burns & McDonnell.

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 110. 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	<0.5 µg/L	<0.5 µg/L	15 µg/L
Copper	130 µg/L	130 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 110 ranged from 10.20 to 10.20 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) [redacted]

Matt Shanahan, CHMM
Project Manager

Attachments:

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

APPENDIX A – RESULTS SUMMARY BY LOCATION

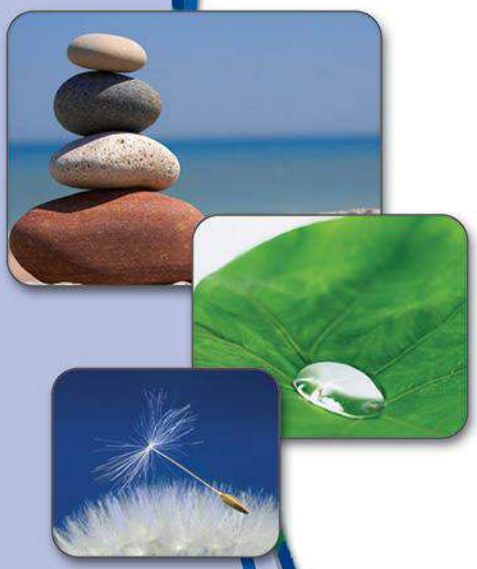
Appendix A
Results Summary by Location

Sample Number	Location	pH	Temp (°C)	Water Source	Analyte	Result	Units	Above / Below	AL
110-DW-01	Warehouse, vending area	10.2	16.0	Sink	Copper	130	µg/L	Below	1300
110-DW-01	Warehouse, vending area	10.2	16.0	Sink	Lead	< 0.50	µg/L	Below	15
110-DW-02	Duplicate of 110-DW-01	10.2	16.0	Sink D	Copper	130	µg/L	Below	1300
110-DW-02	Duplicate of 110-DW-01	10.2	16.0	Sink D	Lead	< 0.50	µg/L	Below	15

Notes:
D - Duplicate
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: 810-17791-1
Client Project/Site: 110-DW-01-02

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

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

Authorized for release by:
3/18/2022 8:03:37 AM

Patricia Muff, Project Manager
(574)233-4777
patricia.muff@eurofinset.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
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.

Table of Contents

Definitions/Glossary

Client: Burns & McDonnell
Project/Site: 110-DW-01-02

Job ID: 810-17791-1

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

Client Sample Results

Client: Burns & McDonnell
Project/Site: 110-DW-01-02

Job ID: 810-17791-1

Client Sample ID: 110-DW-01

Lab Sample ID: 810-17791-1

Date Collected: 03/12/22 10:57
Matrix: Drinking Water
Date Received: 03/15/22 09:00

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.50		0.50		ug/L			03/17/22 18:58	1
Copper	**130**		1.0		ug/L			03/17/22 18:58	1

Client Sample ID: 110-DW-02

Lab Sample ID: 810-17791-2

Date Collected: 03/12/22 10:57
Matrix: Drinking Water
Date Received: 03/15/22 09:00

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.50		0.50		ug/L			03/17/22 19:00	1
Copper	**130**		1.0		ug/L			03/17/22 19:00	1

Lab Chronicle

Client: Burns & McDonnell
Job ID: 810-17791-1
Project/Site: 110-DW-01-02

Client Sample ID: 110-DW-01
Lab Sample ID: 810-17791-1

Date Collected: 03/12/22 10:57
Matrix: Drinking Water
Date Received: 03/15/22 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	200.8		1	15096	03/17/22 18:58	NB	EA SB

Client Sample ID: 110-DW-02
Lab Sample ID: 810-17791-2

Date Collected: 03/12/22 10:57
Matrix: Drinking Water
Date Received: 03/15/22 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	200.8		1	15096	03/17/22 19:00	NB	EA SB

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: 810-17791-1
Project/Site: 110-DW-01-02

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: 110-DW-01-02

Job ID: 810-17791-1

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: 110-DW-01-02

Job ID: 810-17791-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-17791-1	110-DW-01	Drinking Water	03/12/22 10:57	03/15/22 09:00
810-17791-2	110-DW-02	Drinking Water	03/12/22 10:57	03/15/22 09:00

eurofins | Eaton Analytical

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

Order # 433314

Batch # _____

810-17791 Chain of Custody

www.EurofinsUS.com/Eaton

CHAIN OF CUSTODY RECORD

Shaded area for EEA use only

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

BILL TO:	COMPLIANCE MONITORING	Yes	No	POPULATION SERVED	SOURCE WATER	Preservative Checks
same			X		municipal	

LAB Number	COLLECTION DATE	COLLECTION TIME	AM	PM	SAMPLING SITE	TEST NAME	pH accep-table? √	Residual Chlorine (P/A)	CHLORINATED YES	CHLORINATED NO	# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME
1	3/12/22	1057	1		IID-DW-01	Lead and copper			1		1	DW	SW
2	1	1057	1		IID-DW-02	1					1	DW	SW
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

RELINQUISHED BY:(Signature)	DATE	TIME	RECEIVED BY:(Signature)	DATE	TIME
(b) (6) [redacted]	3/14/22	1600 AM PM			AM PM
RELINQUISHED BY:(Signature)	DATE	TIME	RECEIVED BY:(Signature)	DATE	TIME
		AM PM			AM PM
RELINQUISHED BY:(Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY:	DATE	TIME
		AM PM	(b) (6) [redacted]	3/15/22	0900 AM PM

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

LAB COMMENTS

CONDITIONS UPON RECEIPT (check one):
Iced: Wet/Blue ____ Ambient X °C Upon Receipt K 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) - SCHEDULING
SW = Standard Written: (15 working days) 0% RV* = Rush Verbal: (5 working days)
50% RW* = Rush Written: (5 working days) 75%
* Please call, expedited service not available for all testing

IV* = Immediate Verbal: (3 working days) IW* = 100%
=Immediate Written: (3 working days) SP* = 125%
Weekend, Holiday CALL
STAT* = 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 8.0 Effective Date: 2020-05-15

Sample analysis will be provided according to the standard EEA/Water Services Terms, which are available upon request. Any other terms proposed by Customer are deemed material alterations and are rejected unless expressly agreed to in writing by EEA.