



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. 106 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 106 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. 106 was conducted on March 17, 2022 by Jeff Smith 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 106. 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 | 0.7 µg/L | 15 µg/L |
| Copper | 2 µg/L | 140 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 106 ranged from 10.30 to 10.40 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 |
|---------------|--------------------------------------|------|-----------|--------------|---------|--------|-------|---------------|------|
| 106-DW-01 | Drinking fountain* | 10.4 | 14.8 | DF | Copper | 140 | µg/L | Below | 1300 |
| 106-DW-01 | Drinking fountain* | 10.4 | 14.8 | DF | Lead | 0.69 | µg/L | Below | 15 |
| 106-DW-02 | North side of guard shack, restroom* | 10.3 | 17.1 | Sink | Copper | 2.0 | µg/L | Below | 1300 |
| 106-DW-02 | North side of guard shack, restroom* | 10.3 | 17.1 | Sink | Lead | < 0.50 | µg/L | Below | 15 |
| 106-DW-03 | Duplicate of 106-DW-02* | 10.3 | 17.1 | Sink D | Copper | 1.8 | µg/L | Below | 1300 |
| 106-DW-03 | Duplicate of 106-DW-02* | 10.3 | 17.1 | Sink D | Lead | < 0.50 | µg/L | Below | 15 |

Notes:

* - Not first draw

DF - Drinking Fountain

D - Duplicate

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: 810-18593-1
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:
3/27/2022 9:49:21 PM*

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

LINKS

Review your project
results through
Total Access

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.

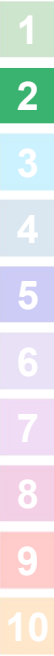


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Definitions/Glossary

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

Job ID: 810-18593-1

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 |
| REL | 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: Burns & McDonnell

Job ID: 810-18593-1

Client Sample ID: 106-DW-01

Lab Sample ID: 810-18593-1

Date Collected: 03/17/22 09:34

Matrix: Drinking Water

Date Received: 03/22/22 13:15

Method: 200.8 - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|------|---|----------|----------------|---------|
| Lead | 0.69 | | 0.50 | ug/L | | | 03/25/22 12:01 | 1 |
| Copper | 140 | | 1.0 | ug/L | | | 03/25/22 12:01 | 1 |

Client Sample ID: 106-DW-02

Lab Sample ID: 810-18593-2

Date Collected: 03/17/22 09:40

Matrix: Drinking Water

Date Received: 03/22/22 13:15

Method: 200.8 - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|------|---|----------|----------------|---------|
| Lead | <0.50 | | 0.50 | ug/L | | | 03/25/22 12:04 | 1 |
| Copper | 2.0 | | 1.0 | ug/L | | | 03/25/22 12:04 | 1 |

Client Sample ID: 106-DW-03

Lab Sample ID: 810-18593-3

Date Collected: 03/17/22 09:40

Matrix: Drinking Water

Date Received: 03/22/22 13:15

Method: 200.8 - Metals (ICP/MS)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|------|------|---|----------|----------------|---------|
| Lead | <0.50 | | 0.50 | ug/L | | | 03/25/22 12:06 | 1 |
| Copper | 1.8 | | 1.0 | ug/L | | | 03/25/22 12:06 | 1 |

Lab Chronicle

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

Job ID: 810-18593-1

Client Sample ID: 106-DW-01

Lab Sample ID: 810-18593-1

Date Collected: 03/17/22 09:34

Matrix: Drinking Water

Date Received: 03/22/22 13:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|-------|
| Total/NA | Analysis | 200.8 | | 1 | 15601 | 03/25/22 12:01 | JK | EA SB |

Client Sample ID: 106-DW-02

Lab Sample ID: 810-18593-2

Date Collected: 03/17/22 09:40

Matrix: Drinking Water

Date Received: 03/22/22 13:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|-------|
| Total/NA | Analysis | 200.8 | | 1 | 15601 | 03/25/22 12:04 | JK | EA SB |

Client Sample ID: 106-DW-03

Lab Sample ID: 810-18593-3

Date Collected: 03/17/22 09:40

Matrix: Drinking Water

Date Received: 03/22/22 13:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|-------|
| Total/NA | Analysis | 200.8 | | 1 | 15601 | 03/25/22 12:06 | JK | 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
Project/Site: Burns & McDonnell

Job ID: 810-18593-1

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: 810-18593-1

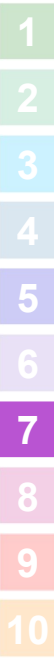
| Method | Method Description | Protocol | Laboratory |
|--------|--------------------|----------|------------|
| 200.8 | Metals (ICP/MS) | EPA | EA SB |

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

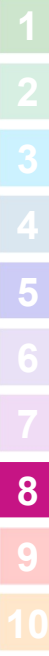


Sample Summary

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

Job ID: 810-18593-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|------------------|----------------|----------------|----------------|
| 810-18593-1 | 106-DW-01 | Drinking Water | 03/17/22 09:34 | 03/22/22 13:15 |
| 810-18593-2 | 106-DW-02 | Drinking Water | 03/17/22 09:40 | 03/22/22 13:15 |
| 810-18593-3 | 106-DW-03 | Drinking Water | 03/17/22 09:40 | 03/22/22 13:15 |





810-18593 Chain of Custody

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

Order # 433311
 Batch # _____

www.EurofinsUS.com/Eaton

CHAIN OF CUSTODY RECORD

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| REPORT TO: | | | | SAMPLER (Signature) | | | | PWS ID # | | STATE (sample origin) | | PROJECT NAME | | PO# | | |
|------------------------|------------|------|----|-----------------------|---------------|---------------|------------------|-------------------------|-------------|-----------------------|-----------------|---------------------|-----------------|-----------------|-------------|-----------------|
| eapulcher@burnsmcd.com | | | | | | | | | | MO | | GFC | | 121244 | | |
| BILL TO: | | | | COMPLIANCE MONITORING | | | | POPULATION SERVED | | SOURCE WATER | | Preservative Checks | | # OF CONTAINERS | MATRIX CODE | TURNAROUND TIME |
| Same | | | | Yes No | | | | | | | | | | | | |
| LAB Number | COLLECTION | | | | SAMPLING SITE | TEST NAME | pH acceptable? ✓ | Residual Chlorine (P/A) | CHLORINATED | | # OF CONTAINERS | MATRIX CODE | TURNAROUND TIME | | | |
| | DATE | TIME | AM | PM | | | | | YES | NO | | | | | | |
| 1 | 3/17/22 | 0934 | | | 106-DW-01 | Lead & Copper | | | X | X | 1 | DW SW | | | | |
| 2 | | 0940 | | | 106-DW-02 | | | | X | X | 1 | | | | | |
| 3 | | 0940 | | | 106-DW-03 | | | | X | X | 1 | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | |

| RELINQUISHED BY: (Signature) | DATE | TIME | RECEIVED BY: (Signature) | DATE | TIME | LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT |
|------------------------------|---------|------|--------------------------|------|------|---|
| (b) (6) | 3/21/22 | 1030 | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| | | | | | |
|---|--|---|--|---|--|
| 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% RV* = Rush Verbal: (5 working days) IV* = Immediate Verbal: (3 working days) IW* = 100% 50% RW* = Rush Written: (5 working days) 75% =Immediate Written: (3 working days) SP* = 125% * Please call, expedited service not available for all testing Weekend, Holiday STAT* = Less than 48 hours | | CONDITIONS UPON RECEIPT (check one): Iced: Wet/Blue Ambient °C Upon Receipt N/A 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.



E



810-18593 Chain of Custody

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

Order # 433311
Batch # _____

www.EurofinsUS.com/Eaton

CHAIN OF CUSTODY RECORD

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| | | | | | |
|---|---------------------|----------|------------------------------------|----------------------------|----------------------|
| REPORT TO: <u>lapulcher@burnsmcd.com</u> | SAMPLER (Signature) | PWS ID # | STATE (sample origin) <u>MO</u> | PROJECT NAME <u>GFC</u> | PO# <u>121244</u> |
|---|---------------------|----------|------------------------------------|----------------------------|----------------------|

| | | | | | | |
|-------------------------|-----------------------|-----|----|-------------------|--------------|---------------------|
| BILL TO: <u>Same</u> | COMPLIANCE MONITORING | Yes | No | POPULATION SERVED | SOURCE WATER | Preservative Checks |
|-------------------------|-----------------------|-----|----|-------------------|--------------|---------------------|

| LAB Number | COLLECTION | | | | SAMPLING SITE | TEST NAME | pH acceptable? <input type="checkbox"/> | Residual Chlorine (P/A) | CHLORINATED | | # OF CONTAINERS | MATRIX CODE | TURNAROUND TIME |
|------------|------------|------|----|----|---------------|---------------|---|-------------------------|-------------|----|-----------------|-------------|-----------------|
| | DATE | TIME | AM | PM | | | | | YES | NO | | | |
| 1 | 3/17/22 | 0934 | | | 106-DW-01 | Lead & Copper | | | X | | 1 | DW SW | |
| 2 | | 0940 | | | 106-DW-02 | | | | X | | 1 | | |
| 3 | | 0940 | | | 106-DW-03 | | | | X | | 1 | | |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
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| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |

| | | | | | | |
|--|------------------------|---------------------|---|---------------------------|---------------------|--------------|
| RELINQUISHED BY: (Signature) <u>(b) (6)</u> | DATE <u>3/21/22</u> | TIME <u>1030</u> | RECEIVED BY: (Signature) | DATE | TIME | LAB COMMENTS |
| RELINQUISHED BY: (Signature) | DATE | TIME | RECEIVED BY: (Signature) | DATE | TIME | |
| RELINQUISHED BY: (Signature) | DATE | TIME | RECEIVED FOR LABORATORY BY: <u>(b) (6)</u> | DATE <u>03-23-2022</u> | TIME <u>1315</u> | |

| | | | | |
|--|---|---|------------------------------|---|
| 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% 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* = Immediate Written: (3 working days) SP* = Weekend, Holiday STAT* = Less than 48 hours | 100% 125% CALL CALL | Samples received unannounced with less than 48 hours holding time remaining may be subject to additional charges. 06-LO-FD435 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.

Login Sample Receipt Checklist

Client: Burns & McDonnell

Job Number: 810-18593-1

Login Number: 18593

List Source: Eurofins Eaton South Bend

List Number: 1

Creator: Pehling-Wright, Penny

| 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. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| 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 | |

