

May 4, 2018

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. # 105 Drinking Water Sampling
Project # 918004.002**

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, OCCU-TEC conducted drinking water sampling and testing for the presence of lead and copper at Building #105 of the Goodfellow Federal Center located at 4300 Goodfellow Federal Center in St. Louis, Missouri. Sampling was completed in response to the ongoing environmental condition assessment at the Goodfellow Federal Center complex 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. #105 was conducted on April 10, 2018 by Mr. 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.

Drinking water sampling for the presence of lead and copper was conducted at forty (40) distinct locations within Building #105. A total of forty-four (44) samples were obtained. After each drinking water sample was collected, OCCU-TEC filled a separate sample cup with approximately 2 inches of water. OCCU-TEC placed an Oakton model PHTester30 pH meter into the sample cup. After readings stabilized, OCCU-TEC 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 tables below.

Water Sample Summary

Analysis	Lowest Concentration	Highest Concentration	Action Level*
Lead	< 0.001 mg/L	0.012 mg/L	0.015 mg/L
Copper	0.011 mg/L	0.140 mg/L	1.3 mg/L

Samples with a “<” sign indicate that the results were below the reportable limit.

*As per EPA Lead and Copper Rule (40 CFR Part 141 Subpart I)

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

LEAD

All samples were below the Action Level (AL) for lead.

COPPER

All samples were below the AL for copper.

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 #105 ranged from 9.10 to 9.50 indicating the drinking water is slightly alkaline.

LIMITATIONS

The scope of this assessment was limited in nature. OCCU-TEC 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. OCCU-TEC is not responsible for potential contaminants not identified in this report.

This report was prepared for the sole use of GSA. Reliance by any party other than GSA is expressly forbidden without OCCU-TEC's written permission. Any parties relying on the report, with OCCU-TEC's written permission, are bound by the terms and conditions outlined in the original proposal as if said proposal was prepared for them.

OCCU-TEC appreciates the opportunity to work with the General Services Administration 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)

Jeff T. Smith
Senior Project Manager

(b) (6)

Kevin Heriford
Project Manager (QA/QC)

ATTACHMENTS

Appendix A, Water Sample Location Diagrams
Appendix B, Results Summary by Location
Appendix C, Water Sample Laboratory Report



Appendix A
Water Sample Location Diagrams

(b) (7)(F)

Figure 1: Drinkwater Sample Location Maps—1st Floor bldg. 105
Goodfellow Federal Center
4300 Goodfellow Boulevard
St. Louis, Missouri
Project Number: 918004

(b) (7)(F)

Figure 2: Drinkwater Sample Location Maps—2nd Floor bldg. 105
Goodfellow Federal Center
4300 Goodfellow Boulevard
St. Louis, Missouri
Project Number: 918004

Appendix B
Results Summary by Location

Goodfellow Federal Center - Building 105

Sample Number	Location	Water Source	Temperature	pH	Analyte	Result	Units	Above/Below	AL
105-DW18-01	Hallway outside 364M at H-52	Bottle Filler	16.0	9.27	Copper	0.056	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-02	Hallway outside 364M at H-52	Drinking Fountain	16.1	9.29	Copper	0.037	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-03	Lab 360 - middle fixture at J-48	Sink	22.1	9.40	Copper	0.086	mg/L	Below AL	1.3
					Lead	0.0075	mg/L	Below AL	0.015
105-DW18-04	Lab 347 - left fixture at G-48	Sink	20.7	9.37	Copper	0.041	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-05	Lab 359 - south counter-middle at H-48	Sink	21.3	9.27	Copper	0.02	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-06	Lab 348 - west counter at G-46	Sink	22.4	9.30	Copper	0.045	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-07	Lab 349 - East counter at F-46	Sink	20.4	9.32	Copper	0.082	mg/L	Below AL	1.3
					Lead	0.011	mg/L	Below AL	0.015
105-DW18-08	Lab 356 - NW corner at J-45	Sink	21.7	9.42	Copper	0.077	mg/L	Below AL	1.3
					Lead	0.0033	mg/L	Below AL	0.015
105-DW18-09	Lab 328 - South counter at D-51	Sink	19.9	9.50	Copper	0.039	mg/L	Below AL	1.3
					Lead	0.012	mg/L	Below AL	0.015
105-DW18-10	Lab 340 - North counter at F-49	Sink	22.4	9.39	Copper	0.076	mg/L	Below AL	1.3
					Lead	0.011	mg/L	Below AL	0.015
105-DW18-11	Lab 339 - N counter at E-48	Sink	23.7	9.34	Copper	0.087	mg/L	Below AL	1.3
					Lead	0.0029	mg/L	Below AL	0.015
105-DW18-12	Break Room 323 - left sink at C-47	Sink	20.7	9.36	Copper	0.054	mg/L	Below AL	1.3
					Lead	0.003	mg/L	Below AL	0.015
105-DW18-13	Break Room 323 - right sink at C-46	Sink	20.9	9.35	Copper	0.051	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-14	Lab 321 - middle counter east end at C-45	Sink	23.8	9.32	Copper	0.069	mg/L	Below AL	1.3
					Lead	0.0039	mg/L	Below AL	0.015
105-DW18-15	Break Area in 317 at D-48	Sink	22.3	9.27	Copper	0.045	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-16	Lab 315 - south counter at D-39	Sink	22.4	9.26	Copper	0.081	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-17	Lab 314 - southeast counter at E-41	Sink	22.6	9.27	Copper	0.045	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-18	Lab 311 - north counter at H-37	Sink	22.3	9.34	Copper	0.071	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-19	Lab 312 - south counter at F-41	Sink	22.4	9.32	Copper	0.045	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015

Goodfellow Federal Center - Building 105

Sample Number	Location	Water Source	Temperature	pH	Analyte	Result	Units	Above/Below	AL
105-DW18-20	East Hall by #315-left upper at B-43	Drinking Fountain	16.1	9.28	Copper	0.064	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-21	East Hall by #315-right lower at B-43	Drinking Fountain	16.1	9.29	Copper	0.047	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-22	Lab 306 - center south at G-43	Sink	23.7	9.34	Copper	0.011	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-23	1st Floor - South Lobby - left upper at H-51	Drinking Fountain	16.0	9.29	Copper	0.03	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-24	1st Floor - South Lobby - right lower at H-51	Drinking Fountain	16.1	9.29	Copper	0.029	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-25	Lab Sample Prep Area - NE at B-46	Sink	22.8	9.35	Copper	0.072	mg/L	Below AL	1.3
					Lead	0.001	mg/L	Below AL	0.015
105-DW18-26	Duplicate				Copper	0.056	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-27	Lab - Sample Prep Area - East middle	Sink	22.7	9.10	Copper	0.12	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-28	Lab - Sample Prep Area - East counter, south	Sink	22.5	9.10	Copper	0.091	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-29	Hall at B-42 - left upper	Drinking Fountain	16.4	9.20	Copper	0.088	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-30	Hall at B-42 - right lower	Drinking Fountain	16.3	9.10	Copper	0.069	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-31	Duplicate				Copper	0.045	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-32	Hall at B-30 - left upper	Drinking Fountain	16.3	9.20	Copper	0.048	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-33	Hall at B-30 - right lower	Drinking Fountain	16.1	9.20	Copper	0.028	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-34	Break Room at B-20	Sink	17.9	9.10	Copper	0.011	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-35	Hall at B-19 - left upper	Drinking Fountain	16.4	9.20	Copper	0.046	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-36	Duplicate				Copper	0.036	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-37	Hall at B-19 - right lower	Drinking Fountain	16.5	9.20	Copper	0.025	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-38	Break Room at B-9	Sink	17.7	9.00	Copper	0.14	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015

Goodfellow Federal Center - Building 105

Sample Number	Location	Water Source	Temperature	pH	Analyte	Result	Units	Above/Below	AL
105-DW18-39	Duplicate				Copper	0.14	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-40	Hall at B-6 - left upper	Drinking Fountain	16.2	9.20	Copper	0.089	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-41	Hall at B-6 - right lower	Drinking Fountain	16.3	9.20	Copper	0.061	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-42	Hall at G-27 - left upper	Drinking Fountain	17.0	9.10	Copper	0.087	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-43	Hall at G-27 - right lower	Drinking Fountain	16.8	9.10	Copper	0.074	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015
105-DW18-44	Hall at H-9 - right lower	Drinking Fountain	16.5	9.20	Copper	0.021	mg/L	Below AL	1.3
					Lead	< 0.001	mg/L	Below AL	0.015

Highlight indicates results at or above the Action Level (AL)

Appendix C
Water Sample Laboratory Report

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

This report may not be reproduced, except in full, without written approval from EEA.

STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Missouri	880
Alaska	IN00035	Montana	CERT0026
Arizona	AZ0432	Nebraska	NE-OS-05-04
Arkansas	IN00035	Nevada	IN00035
California	2920	New Hampshire*	2124
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New Mexico	IN00035
Connecticut	PH-0132	New York*	11398
Delaware	IN035	North Carolina	18700
Florida*	E87775	North Dakota	R-035
Georgia	929	Ohio	87775
Hawaii	IN035	Oklahoma	D9508
Idaho	IN00035	Oregon (Primary AB)*	4074-001
Illinois*	200001	Pennsylvania*	68-00466
Illinois Microbiology	17767	Puerto Rico	IN00035
Illinois Radiochemistry	IN00035	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA180008	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
EPA	IN00035		

*NELAP/TNI Recognized Accreditation Bodies

110 South Hill Street
 South Bend, IN 46617
 Tel: (574) 233-4777
 Fax: (574) 233-8207
 1 800 332 4345

Laboratory Report

Client: OCCU-TEC Inc.

Attn: Kevin Heriford
 100 NW Business Park Lane
 Riverside, MO 64150

Report: 414008
 Priority: Standard Written
 Status: Final
 PWS ID: Not Supplied

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3914705	105-DW18-01	200.8	04/10/18 04:51	Client	04/18/18 08:30
3914706	105-DW18-02	200.8	04/10/18 04:52	Client	04/18/18 08:30
3914707	105-DW18-03	200.8	04/10/18 05:01	Client	04/18/18 08:30
3914708	105-DW18-04	200.8	04/10/18 05:04	Client	04/18/18 08:30
3914709	105-DW18-05	200.8	04/10/18 05:07	Client	04/18/18 08:30
3914710	105-DW18-06	200.8	04/10/18 05:11	Client	04/18/18 08:30
3914711	105-DW18-07	200.8	04/10/18 05:17	Client	04/18/18 08:30
3914712	105-DW18-08	200.8	04/10/18 05:22	Client	04/18/18 08:30
3914713	105-DW18-09	200.8	04/10/18 05:30	Client	04/18/18 08:30
3914714	105-DW18-10	200.8	04/10/18 05:36	Client	04/18/18 08:30
3914715	105-DW18-11	200.8	04/10/18 05:40	Client	04/18/18 08:30
3914716	105-DW18-12	200.8	04/10/18 05:44	Client	04/18/18 08:30
3914717	105-DW18-13	200.8	04/10/18 05:45	Client	04/18/18 08:30
3914718	105-DW18-14	200.8	04/10/18 05:47	Client	04/18/18 08:30
3914719	105-DW18-15	200.8	04/10/18 05:51	Client	04/18/18 08:30
3914720	105-DW18-16	200.8	04/10/18 05:57	Client	04/18/18 08:30
3914721	105-DW18-17	200.8	04/10/18 05:59	Client	04/18/18 08:30
3914722	105-DW18-18	200.8	04/10/18 06:00	Client	04/18/18 08:30
3914723	105-DW18-19	200.8	04/10/18 06:03	Client	04/18/18 08:30
3914724	105-DW18-20	200.8	04/10/18 06:05	Client	04/18/18 08:30
3914725	105-DW18-21	200.8	04/10/18 06:06	Client	04/18/18 08:30
3914726	105-DW18-22	200.8	04/10/18 06:11	Client	04/18/18 08:30
3914727	105-DW18-23	200.8	04/10/18 06:25	Client	04/18/18 08:30
3914728	105-DW18-24	200.8	04/10/18 06:26	Client	04/18/18 08:30
3914729	105-DW18-25	200.8	04/10/18 06:38	Client	04/18/18 08:30
3914730	105-DW18-26	200.8	04/10/18 06:38	Client	04/18/18 08:30
3914731	105-DW18-27	200.8	04/10/18 06:40	Client	04/18/18 08:30
3914732	105-DW18-28	200.8	04/10/18 06:41	Client	04/18/18 08:30
3914733	105-DW18-29	200.8	04/10/18 06:43	Client	04/18/18 08:30
3914734	105-DW18-30	200.8	04/10/18 06:43	Client	04/18/18 08:30
3914735	105-DW18-31	200.8	04/10/18 06:43	Client	04/18/18 08:30

3914736	105-DW18-32	200.8	04/10/18 06:50	Client	04/18/18 08:30
3914737	105-DW18-33	200.8	04/10/18 06:50	Client	04/18/18 08:30
3914738	105-DW18-34	200.8	04/10/18 06:55	Client	04/18/18 08:30
3914739	105-DW18-35	200.8	04/10/18 07:00	Client	04/18/18 08:30
3914740	105-DW18-36	200.8	04/10/18 07:00	Client	04/18/18 08:30
3914741	105-DW18-37	200.8	04/10/18 07:01	Client	04/18/18 08:30
3914742	105-DW18-38	200.8	04/10/18 07:10	Client	04/18/18 08:30
3914743	105-DW18-39	200.8	04/10/18 07:10	Client	04/18/18 08:30
3914744	105-DW18-40	200.8	04/10/18 07:15	Client	04/18/18 08:30
3914745	105-DW18-41	200.8	04/10/18 07:15	Client	04/18/18 08:30
3914746	105-DW18-42	200.8	04/10/18 07:21	Client	04/18/18 08:30
3914747	105-DW18-43	200.8	04/10/18 07:22	Client	04/18/18 08:30
3914748	105-DW18-44	200.8	04/10/18 07:35	Client	04/18/18 08:30

Report Summary

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Blackburn at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

(b) (6)

ASM

Authorized Signature

Title

04/26/2018
Date

Client Name: OCCU-TEC Inc.

Report #: 414008

Sampling Point: 105-DW18-01

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	56	ug/L	---	04/24/18 15:42	3914705
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 15:42	3914705

Sampling Point: 105-DW18-02

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	37	ug/L	---	04/24/18 15:45	3914706
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 15:45	3914706

Sampling Point: 105-DW18-03

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	86	ug/L	---	04/24/18 15:52	3914707
7439-92-1	Lead	200.8	15 !	1.0	7.5	ug/L	---	04/24/18 15:52	3914707

Sampling Point: 105-DW18-04

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	41	ug/L	---	04/24/18 15:59	3914708
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 15:59	3914708

Sampling Point: 105-DW18-05

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	20	ug/L	---	04/24/18 16:01	3914709
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 16:01	3914709

Sampling Point: 105-DW18-06

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	45	ug/L	---	04/24/18 16:04	3914710
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 16:04	3914710

Sampling Point: 105-DW18-07

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	82	ug/L	---	04/24/18 16:06	3914711
7439-92-1	Lead	200.8	15 !	1.0	11	ug/L	---	04/24/18 16:06	3914711

Sampling Point: 105-DW18-08

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	77	ug/L	---	04/24/18 16:08	3914712
7439-92-1	Lead	200.8	15 !	1.0	3.3	ug/L	---	04/24/18 16:08	3914712

Sampling Point: 105-DW18-09

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	39	ug/L	---	04/24/18 16:11	3914713
7439-92-1	Lead	200.8	15 !	1.0	12	ug/L	---	04/24/18 16:11	3914713

Sampling Point: 105-DW18-10

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	76	ug/L	---	04/24/18 16:13	3914714
7439-92-1	Lead	200.8	15 !	1.0	11	ug/L	---	04/24/18 16:13	3914714

Sampling Point: 105-DW18-11

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	87	ug/L	---	04/24/18 16:16	3914715
7439-92-1	Lead	200.8	15 !	1.0	2.9	ug/L	---	04/24/18 16:16	3914715

Sampling Point: 105-DW18-12

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	54	ug/L	---	04/24/18 16:18	3914716
7439-92-1	Lead	200.8	15 !	1.0	3.0	ug/L	---	04/24/18 16:18	3914716

Sampling Point: 105-DW18-13

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	51	ug/L	---	04/24/18 17:21	3914717
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:21	3914717

Sampling Point: 105-DW18-14

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	69	ug/L	---	04/24/18 17:28	3914718
7439-92-1	Lead	200.8	15 !	1.0	3.9	ug/L	---	04/24/18 17:28	3914718

Sampling Point: 105-DW18-15

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	45	ug/L	---	04/24/18 17:31	3914719
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:31	3914719

Sampling Point: 105-DW18-16

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	81	ug/L	---	04/24/18 17:33	3914720
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:33	3914720

Sampling Point: 105-DW18-17

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	45	ug/L	---	04/24/18 17:36	3914721
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:36	3914721

Sampling Point: 105-DW18-18

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	71	ug/L	---	04/24/18 17:38	3914722
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:38	3914722

Sampling Point: 105-DW18-19

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	45	ug/L	---	04/24/18 17:40	3914723
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:40	3914723

Sampling Point: 105-DW18-20

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	64	ug/L	---	04/24/18 17:43	3914724
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:43	3914724

Sampling Point: 105-DW18-21

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	47	ug/L	---	04/24/18 17:45	3914725
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:45	3914725

Sampling Point: 105-DW18-22

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	11	ug/L	---	04/24/18 17:47	3914726
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:47	3914726

Sampling Point: 105-DW18-23

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	30	ug/L	---	04/24/18 17:54	3914727
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 17:54	3914727

Sampling Point: 105-DW18-24

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	29	ug/L	---	04/24/18 18:02	3914728
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:02	3914728

Sampling Point: 105-DW18-25

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	72	ug/L	---	04/24/18 18:04	3914729
7439-92-1	Lead	200.8	15 !	1.0	1.0	ug/L	---	04/24/18 18:04	3914729

Sampling Point: 105-DW18-26

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	56	ug/L	---	04/24/18 18:06	3914730
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:06	3914730

Sampling Point: 105-DW18-27

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	120	ug/L	---	04/24/18 18:09	3914731
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:09	3914731

Sampling Point: 105-DW18-28

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	91	ug/L	---	04/24/18 18:11	3914732
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:11	3914732

Sampling Point: 105-DW18-29

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	88	ug/L	---	04/24/18 18:13	3914733
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:13	3914733

Sampling Point: 105-DW18-30

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	69	ug/L	---	04/24/18 18:16	3914734
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:16	3914734

Sampling Point: 105-DW18-31

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	45	ug/L	---	04/24/18 18:18	3914735
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:18	3914735

Sampling Point: 105-DW18-32

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	48	ug/L	---	04/24/18 18:21	3914736
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:21	3914736

Sampling Point: 105-DW18-33

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	28	ug/L	---	04/24/18 18:32	3914737
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:32	3914737

Sampling Point: 105-DW18-34

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	11	ug/L	---	04/24/18 18:40	3914738
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:40	3914738

Sampling Point: 105-DW18-35

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	46	ug/L	---	04/24/18 18:42	3914739
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:42	3914739

Sampling Point: 105-DW18-36

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	36	ug/L	---	04/24/18 18:44	3914740
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:44	3914740

Sampling Point: 105-DW18-37

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	25	ug/L	---	04/24/18 18:47	3914741
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:47	3914741

Sampling Point: 105-DW18-38

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	140	ug/L	---	04/24/18 18:49	3914742
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:49	3914742

Sampling Point: 105-DW18-39

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	140	ug/L	---	04/24/18 18:51	3914743
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:51	3914743

Sampling Point: 105-DW18-40

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	89	ug/L	---	04/24/18 18:54	3914744
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:54	3914744

Sampling Point: 105-DW18-41

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	61	ug/L	---	04/24/18 18:56	3914745
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:56	3914745

Sampling Point: 105-DW18-42

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	87	ug/L	---	04/24/18 18:58	3914746
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 18:58	3914746

Sampling Point: 105-DW18-43

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	74	ug/L	---	04/24/18 19:06	3914747
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 19:06	3914747

Sampling Point: 105-DW18-44

PWS ID: Not Supplied

Lead and Copper									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID #
7440-50-8	Copper	200.8	1300 !	1.0	21	ug/L	---	04/24/18 19:13	3914748
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/24/18 19:13	3914748

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



Eaton Analytical

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

Order # 341078
Batch # 414008

www.EurofinsUS.com/Eaton

CHAIN OF CUSTODY RECORD

Page 1 of 4

REPORT TO: Shaded area for EEA use only

Jeff Smith

BILL TO: Occu-Tec
100 NW Business Park Lane
Riverside, MO 64150

LAB NUMBER	COLLECTION		SAMPLER (Signature)	COMPLIANCE MONITORING		PWS ID #	STATE (sample origin)	PROJECT NAME	PO#	# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME
	DATE	TIME		AM	PM							
1	3914705	4-10-18	0451	X		DW	MO	918004, 02				
2	706		0452					GFC				
3	707		0501					105				
4	708		0504					105				
5	709		0507					105				
6	710		0511					105				
7	711		0517					105				
8	712		0522					105				
9	713		0530					105				
10	714		0536					105				
11	715		0540					105				
12	716		0544					105				
13	717		0545					105				
14	718		0547					105				

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME	LAB COMMENTS
						LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT
						LAB COMMENTS
						CONDITIONS UPON RECEIPT (check one): Iced: Wet/Blue <input checked="" type="checkbox"/> Ambient: <input type="checkbox"/> °C Upon Receipt: <input type="checkbox"/> 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%
- RV = Rush Verbal: (5 working days) 50%
- RW* = Rush Written: (5 working days) 75%

- IV* = Immediate Verbal: (3 working days) 100%
- IW* = Immediate Written: (3 working days) 125%
- SP* = Weekend, Holiday CALL
- STAT* = Less than 48 hours CALL

* Please call, expedited service not available for all testing

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.

