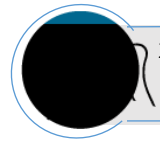


## Abstract

Established in 1873, Columbia Public Schools has a proud history of serving the city of Columbia, Missouri. With a history spanning more than 143 years, the district has gained a reputation as an educational pioneer for developing best practices and innovative i tortiv72.1 681tvr1 681tvr1 681tvr1 681tvr1 681tvr1 6814t3 470



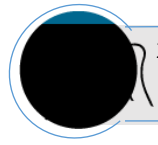


## 1.0 Executive Summary

On June 2, 2016 (initial water quality evaluation) and July 6, 2016 (follow-up water quality evaluation) Columbia Public Schools (CPS) Facilities and Construction Services Department (FCS) provided assis 1 72.024 6Dcartm) pfrv

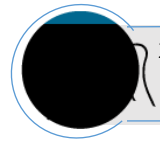






Sample No.	Description/Location	CPS-FCS Actions
19	Classroom Faucet (cold) in room 218	0
20	Classroom Faucet (cold) in room 223	0
21		



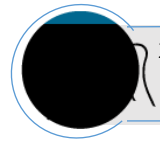


\*Follow-up Sample(s)

This sample is representative of the water that is in the plumbing upstream from the faucet or drinking water fountain. This sample shall be collected before the facility opens and before any water was used at the water tap. The water from the faucet or drinking water fountain should run for 30 seconds before collecting the sample. This is called a flush sample.

Part A of the PDC summary report supports that 98.1% of all the water samples collected/analyzed were at a none detect and/or below the EPA copper action level (copper action limit = 1,300 UG/L). Additionally, the PDC

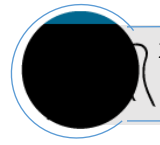




3. Post "NOTICE" signs (communication) instructing any user to "do not use the water from this tap for consumable purposes."







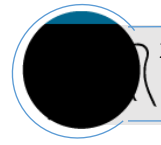
PDC Laboratories, Inc. role which involved: (1) transporting the water samples from the FCS location to their laboratory location, (2) insuring the field data form(s) were signed, accurate and true, (3) conducting the analysis of each water sample that was collected at the school, (4) providing an analytical laboratory report for each sample documented on the school's field data form, and (5) developing a summary report for each school.

The Summary reports include:

- 





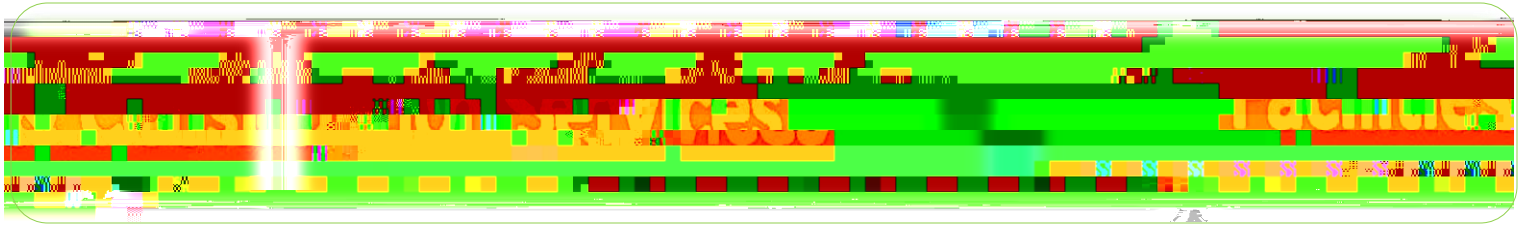


## 2.0 Limitations

The findings obtained and our recommendations were prepared in accordance with customary principles and practices in the field of environmental science and engineering. This statement is in lieu of other statements either expressed or implied. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated. Additionally, the passage of time may result in a change in the environmental characteristics at this school. This report does not warrant against future operations or conditions that could affect the recommendations made.

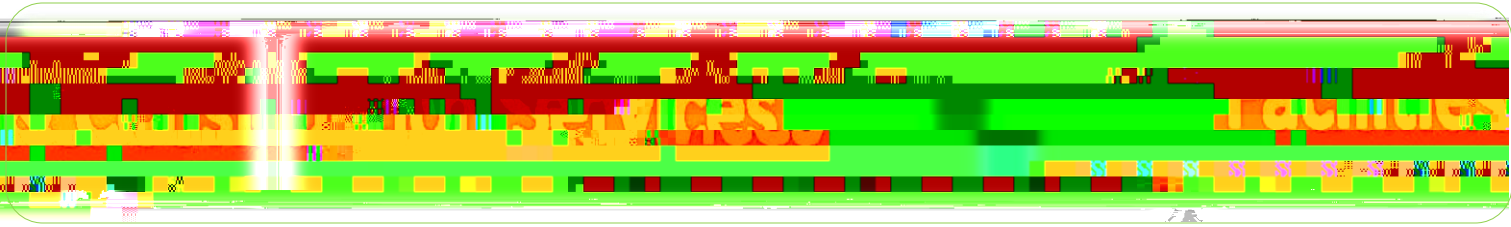
Water sampling evaluations are limited in the sense that conclusions and recommendations are developed from the United States Environmental Protection Agency (USEPA) Lead and Copper Rule (LCR) of 1991 (reference: 40 CFR Part 141 are





## Appendix A





PDC Laboratories Inc.

Summary Report  
, QLWLDO :DWHU 4XDOLW\ (YDOX



2016 Water Quality Evaluation  
Columbia Public Schools  
Columbia, Missouri



COLUMBIA PUBLIC SCHOOLS  
 COLUMBIA, MO  
 LEAD AND COPPER MONITORING  
 SUMMARY REPORT

DATE: June 23, 2016  
 FACILITY NAME: **ELLIOT BATTLE ELEMENTARY**

**PART A**

NUMBER OF SAMPLES COLLECTED AT THIS FACILITY:	53
PERCENTAGE OF SAMPLES BELOW COPPER ACTION LIMIT	98.1
COPPER ACTION LIMIT = 1,300 UG/L	
PERCENTAGE OF SAMPLES BELOW LEAD ACTION LIMIT	100.0
LEAD ACTION LIMIT = 15 UG/L	

(The requirement in the USEPA Lead and Copper Rule for public water supplies is 90% passing)

**PART B**

NUMBER OF SAMPLES EXCEEDING COPPER ACTION LIMIT	1
NUMBER OF SAMPLES EXCEEDING LEAD ACTION LIMIT	0

**CONCLUSIONS/COMMENTS**

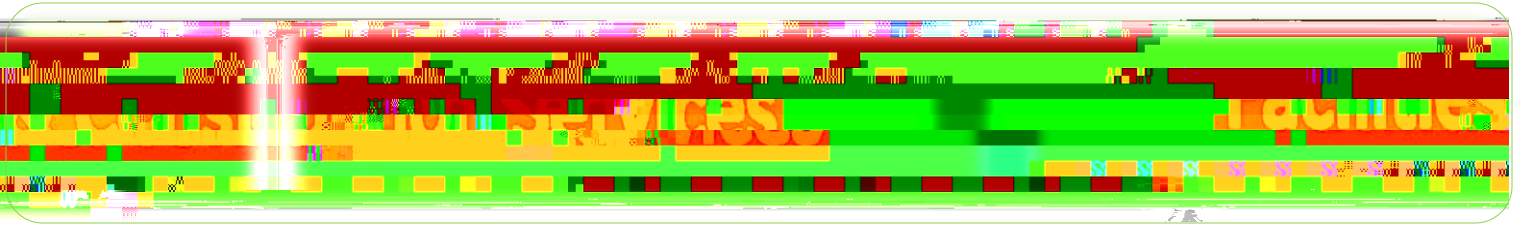
This facility meets the (recommended) requirements of the United States Environmental Protection Agency (USEPA) and the published Lead and Copper Rule(LCR) of 1991 (reference: 40 CFR Part 141 Subpart I). Public Run Water Suppliers must comply with the USEPA law and the LCR. Columbia Water & Light is the publicly run water utility that serves this school.

Although the Lead and Copper Rule may not directly apply to Columbia Public Schools and each of its schools or support buildings that are part of the 2016 Water Quality Assessment Reporting; it is a common practice for experts in the field and members of the known industry to use the standard as a guideline for water assessment studies.

If any of the laboratory analysis reveals that the sample has exceeded the action limit, then you may want to consider the options as outlined in the LCR. They include but are not limited to: flushing prior to use (make it a practice to run the water at each tap before use), repairing and/or replacing fixtures and/or piping and by not using the water for consumption. All are recommended by the Lead and Copper Rule.

PREPARED BY

KURT C STEPPING  
 SENIOR PROJECT MANAGER  
 PDC LABORATORIES, INC.



PDC Laboratories Inc.

Follow-up Sampling  
Summary Report



2016 Water Quality Evaluation  
Columbia Public Schools  
Columbia, Missouri



COLUMBIA PUBLIC SCHOOLS

SUMMARY REPORT-FOLLOW UP SAMPLE(FLUSH SAMPLE)

DATE: July 18, 2016  
FACILITY NAME: **ELLIOT BATTLE ELEMENTARY**

Sample Location: EBE-FS-CF-317

Followup Results:  
Lead ug/l <1.0  
Copper ug/l 28

Followup samples passed action limits:  
Lead(action limit 15 ug/l) YES  
Copper(action limit 1300 ug/l) YES

## CONCLUSIONS/COMMENTS

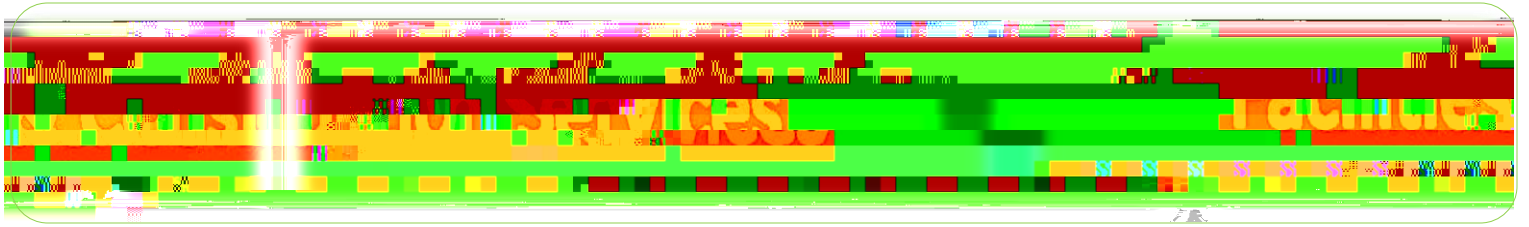
This location should be flushed for a minimum of 30 seconds prior to use.

This facility meets the (recommended) requirements of the United States Environmental Protection Agency (USEPA) and the published Lead and Copper Rule(LCR) of 1991 (reference: 40 CFR Part 141 Subpart I). Public Run Water Suppliers must comply with the USEPA law and the LCR. Columbia Water & Light is the publicly run water utility that serves this school.

Although the Lead and Copper Rule may not directly apply to Columbia Public Schools and each of its schools or support buildings that are part of the 2016 Water Quality Assessment Reporting; it is a common practice for experts in the field and members of the known industry to use the standard as a guideline for water assessment studies.

PREPARED BY

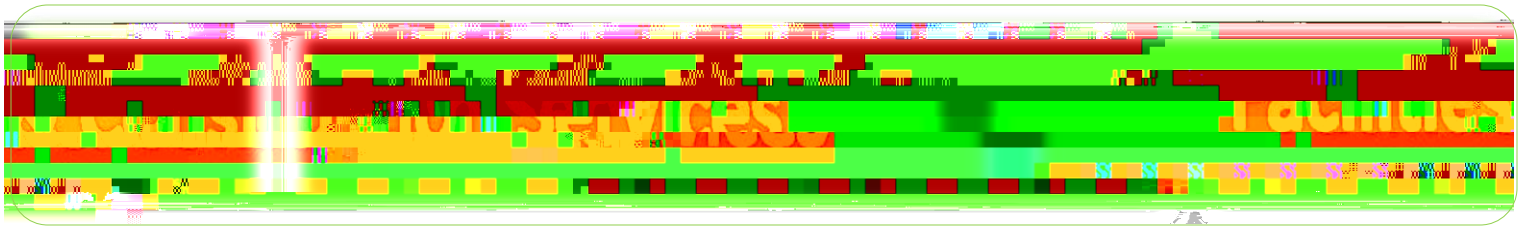
KURT C STEPPING  
SENIOR PROJECT MANAGER  
PDC LABORATORIES, INC.



## Appendix B



2016 Water Quality Evaluation  
Columbia Public Schools  
Columbia, Missouri



PDC Laboratories Inc. Laboratory Results  
Q L, W D D D I U 4 X Y D D D W D W L R Q

Field Data & Chain-of-Custody Forms

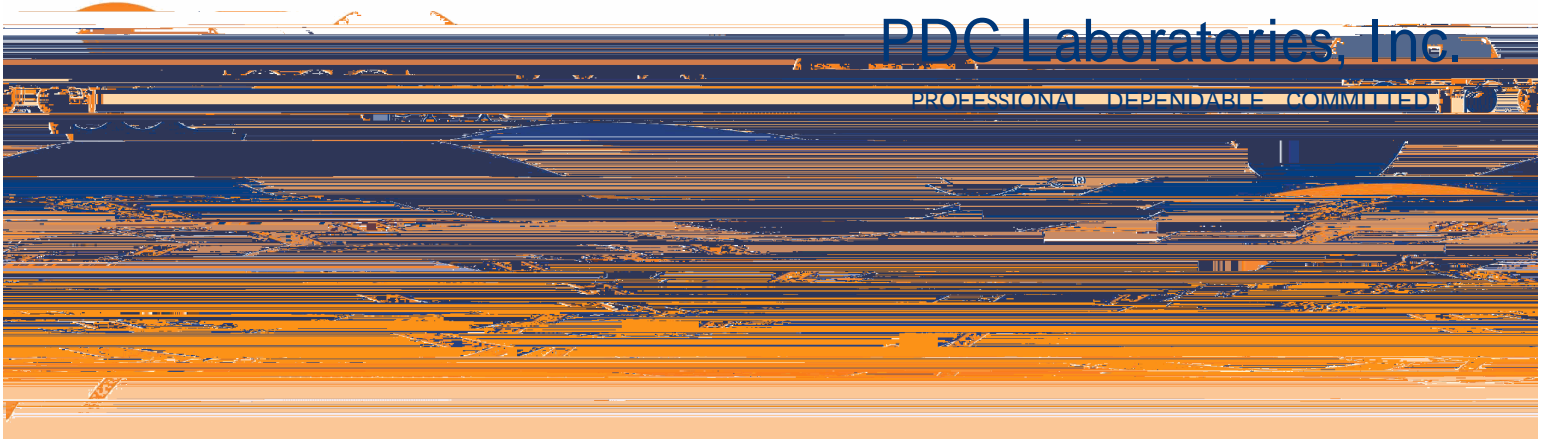


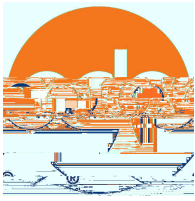
2016 Water Quality Evaluation  
Columbia Public Schools  
Columbia, Missouri



PDC Laboratories, Inc.

PROFESSIONAL DEPENDABLE COMMITTED





PDC Laboratories, Inc.  
2231 West Altorfer Drive  
Peoria, IL 61615  
(800) 752-6651

---

EBES-KF-124  
124 KITCHEN

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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---

Copper	120	ug/L	1300	06/23/16 11:09	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:09	KMC	EPA 200.8

---

---

EBES-EWC-122  
122 CAFETERIA

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	200	ug/L	1300	06/23/16 11:10	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:10	KMC	EPA 200.8

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EBES-EWC-NE  
NORTHEAST WASH AREA

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	140	ug/L	1300	06/23/16 11:11	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:11	KMC	EPA 200.8

---

---

EBES-CF-227  
227 CLASSROOM FAUCET

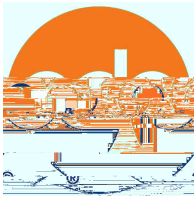
06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	48	ug/L	1300	06/23/16 11:13	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:13	KMC	EPA 200.8





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---

EBES-EWC-120  
120 GYM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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---

Copper	120	ug/L	1300	06/23/16 11:28	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:28	KMC	EPA 200.8

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EBES-KF-112  
112 WORKROOM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	85	ug/L	1300	06/23/16 11:30	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:30	KMC	EPA 200.8

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EBES-EWC-SW  
SOUTHWEST WASH

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	170	ug/L	1300	06/23/16 11:31	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:31	KMC	EPA 200.8

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EBES-DWF-WEST  
WEST DRINKING WATER

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

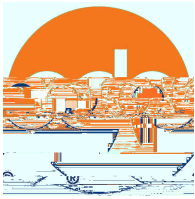
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Copper	130	ug/L	1300	06/23/16 11:32	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:32	KMC	EPA 200.8

---





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---

EBES-RRF-307  
307 RESTROOM FAUCET

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	140	ug/L	1300	06/23/16 11:34	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:34	KMC	EPA 200.8

---

---

EBES-TLF-123  
123 BREAKROOM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	130	ug/L	1300	06/23/16 11:38	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:38	KMC	EPA 200.8

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EBES-DWF-EAST  
EAST PLAYGROUND

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	150	ug/L	1300	06/23/16 11:44	KMC	EPA 200.8
Lead	15	ug/L	15	06/23/16 11:44	KMC	EPA 200.8

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EBES-CF-219  
219 CLASSROOM FAUCET

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

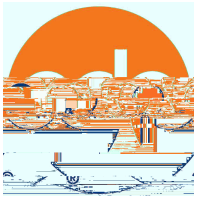
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Copper	110	ug/L	1300	06/23/16 11:46	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 11:46	KMC	EPA 200.8

---





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EBES-CF-216  
216 CLASSROOM FAUCET

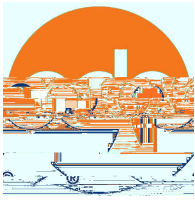
06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

Copper

130 ug/L

06/23/16 11:47 .000349998 EPA 2130 Td (EP)751R3e6s f





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---

EBES-CF-202  
202 CLASSROOM FAUCET

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	120	ug/L	1300	06/23/16 12:06	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 12:06	KMC	EPA 200.8

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EBES-CF-201  
201 CLASSROOM FAUCET

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	140	ug/L	1300	06/23/16 12:07	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 12:07	KMC	EPA 200.8

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EBES-CF-204  
204 CLASSROOM FAUCET

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	87	ug/L	1300	06/23/16 12:09	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 12:09	KMC	EPA 200.8

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EBES-CF-203  
203 CLASSROOM FAUCET

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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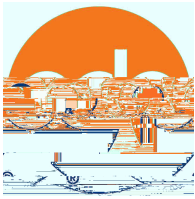
Copper	92	ug/L	1300	06/23/16 12:10	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 12:10	KMC	EPA 200.8

---









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---

EBES-CF-301  
301 CLASSROOM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	82	ug/L	1300	06/23/16 12:25	KMC	EPA 200.8
Lead	1.4	ug/L	15	06/23/16 12:25	KMC	EPA 200.8

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---

EBES-RRF-301  
301 RESTROOM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	150	ug/L	1300	06/23/16 12:26	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 12:26	KMC	EPA 200.8

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EBES-CF-302  
302 CLASSROOM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	120	ug/L	1300	06/23/16 12:27	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 12:27	KMC	EPA 200.8

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---

EBES-RRF-302  
302 RESTROOM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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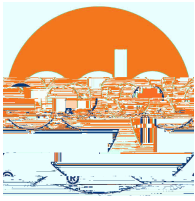
Copper	130	ug/L	1300	06/23/16 12:29	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 12:29	KMC	EPA 200.8

---









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---

EBES-CF-313  
313 CLASSROOM - 2

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	120	ug/L	1300	06/23/16 12:49	KMC	EPA 200.8
Lead	1.5	ug/L	15	06/23/16 12:49	KMC	EPA 200.8

---

---

EBES-CF-313  
313 CLASSROOM - 3

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

---

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Copper	73	ug/L	1300	06/23/16 13:03	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 13:03	KMC	EPA 200.8

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EBES-CF-313A  
313A CLASSROOM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	540	ug/L	1300	06/23/16 13:01	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 13:01	KMC	EPA 200.8

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---

EBES-CF-317  
317 CLASSROOM - 1

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

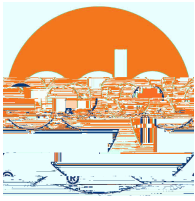
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Copper	2400	ug/L	**1300	06/23/16 13:09	KMC	EPA 200.8
Lead	3.3	ug/L	15	06/23/16 13:09	KMC	EPA 200.8

---





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2231 West Altorfer Drive  
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---

EBES-CF-317  
317 CLASSROOM - 2

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

---

---

Copper	460	ug/L	1300	06/23/16 13:10	KMC	EPA 200.8
Lead	1.0	ug/L	15	06/23/16 13:10	KMC	EPA 200.8

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---

EBES-RRF-344  
344 RESTROOM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	140	ug/L	1300	06/23/16 13:12	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 13:12	KMC	EPA 200.8

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EBES-CF-339  
339 CLASSROOM

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	430	ug/L	1300	06/23/16 13:13	KMC	EPA 200.8
Lead	1.3	ug/L	15	06/23/16 13:13	KMC	EPA 200.8

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---

EBES-RRF-SW  
SW STAFF/ADULT

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

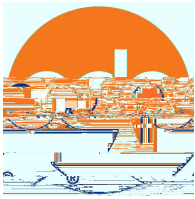
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Copper	120	ug/L	1300	06/23/16 13:14	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 13:14	KMC	EPA 200.8

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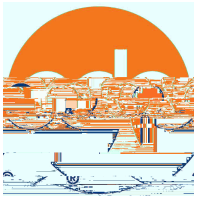
EBES-RRF-NE  
NE STAFF/ADULT

06/02/16 00:00  
06/07/16 08:00  
Drinking Water - Regular Sample

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Copper	140	ug/L	1300	06/23/16 13:16	KMC	EPA 200.8
Lead	< 1.0	ug/L	15	06/23/16 13:16	KMC	EPA 200.8



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Peoria, IL 61615  
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Specific method revisions used for analysis are available upon request.

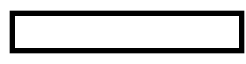
\*\* Indicates lab result exceeds a monitoring limit. Monitoring limits are either client permit limits or client requested action levels.

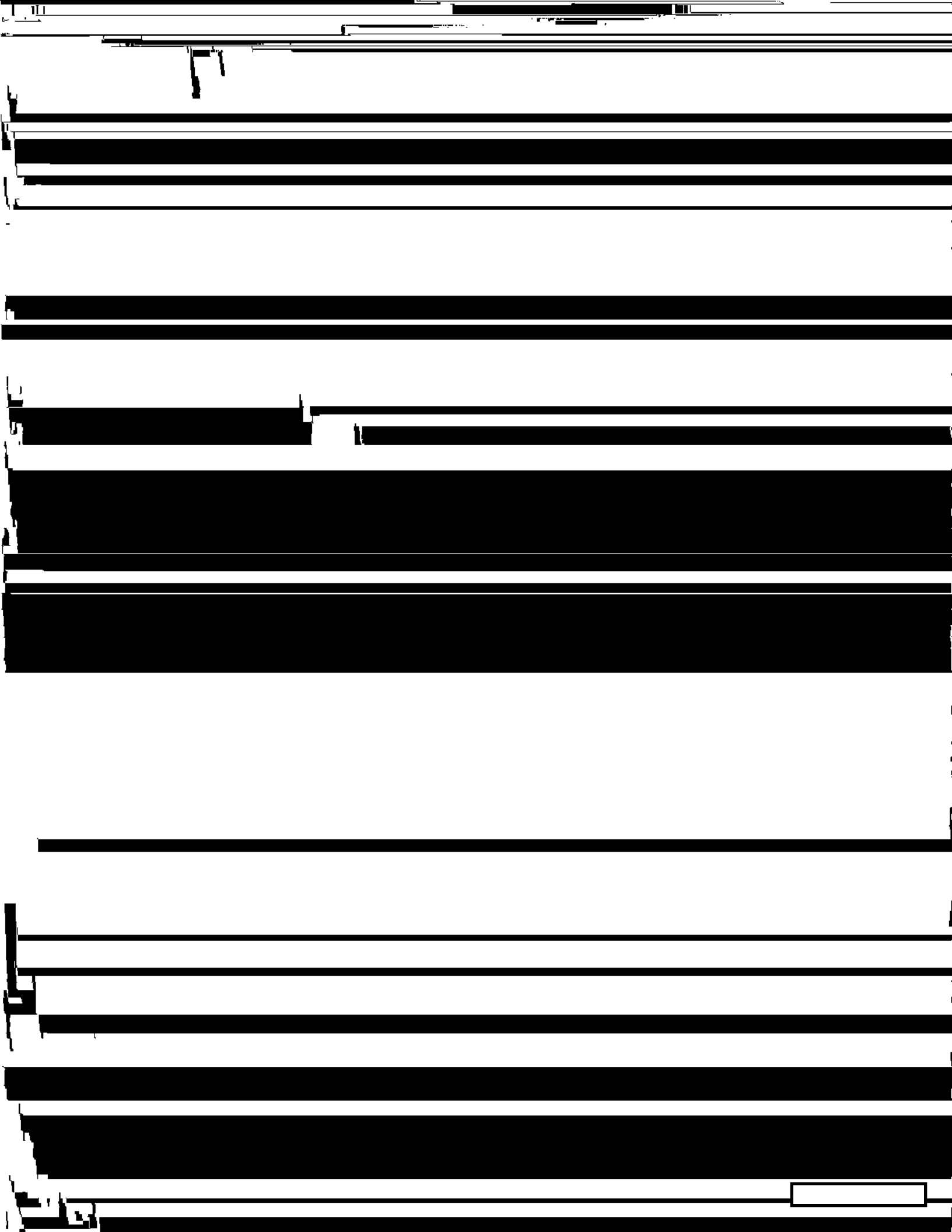


6/2/16  
Sampled 6/2/16  
1883-53 Unit

Locker
in Water Cooler
Faucet
Water Cooler
Water Cooler

	Date/Time: 6-2-10
	Date/Time: 6-6-16 1230
	Date/Time: 6/2/16 800







Facet

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Facet.3

Facet

Facet.1

*[Signature]*

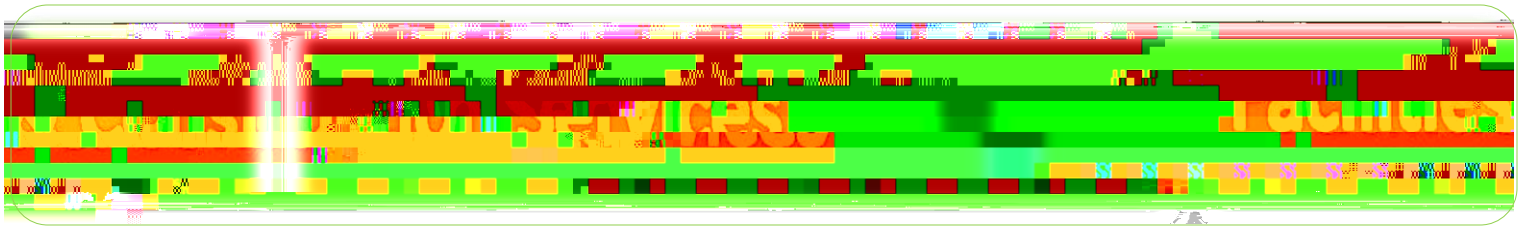
Date/Time: 6-2-16 AM

Date/Time: 6-6-16 12:30

Date/Time: 6-7-16 8:00

																	2-10AK	2-16 123	12/16 800
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PDC Laboratories Inc. Laboratory Results  
Follow-up Water Quality Evaluation  
Field Data & Chain-of-Custody Form



2016 Water Quality Evaluation  
Columbia Public Schools  
Columbia, Missouri

July 18, 2016

Randy Jackson  
Columbia Public Schools  
5909 Paris Road  
Columbia, MO 65202

Dear Randy Jackson:

Please find enclosed the analytical results for the sample(s) the laboratory received on 7/11/16 4:00 pm and logged in under work order 6071514. All testing is performed according to our current TNI certifications unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of PDC Laboratories, Inc.

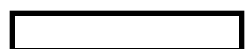
If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

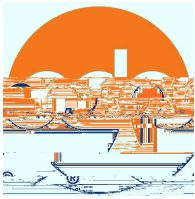
PDC Laboratories, Inc. appreciates the opportunity to provide you with analytical expertise. We are always trying to improve our customer service and we welcome you to contact the Vice President, John LaPayne with any feedback you have about your experience with our laboratory.

Sincerely,



Kurt Stepping  
Senior Project Manager  
(309) 692-9688 x1719  
kstepping@pdclab.com





PDC Laboratories, Inc.  
2231 West Altorfer Drive  
Peoria, IL 61615  
(800) 752-6651

## ANALYTICAL RESULTS

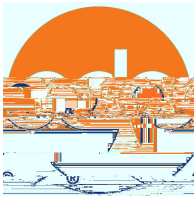
Sample: 6071514-01  
Name: EBE-FS-CF-317  
Alias: CLASSROOM FAUCET (COLD) IN ROOM 317

Sampled: 07/07/16 00:00  
Received: 07/11/16 16:00  
Matrix: Drinking Water - Regular Sample

Parameter	Result	Unit	Qualifier	MCL	Analyzed	Analyst	Method
<u>Total Metals - PIA</u>							
Copper	28	ug/L		1300	07/15/16 13:15	KMC	EPA 200.8
Lead	< 1.0	ug/L		15	07/15/16 13:15	KMC	EPA 200.8







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## NOTES

Specific method revisions used for analysis are available upon request.

\*\* Indicates lab result exceeds a monitoring limit. Monitoring limits are either client permit limits or client requested action levels.

### Certifications

#### PIA - Peoria, IL

TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230  
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553  
Missouri Department of Natural Resources Certificate of Approval for Microbiological Laboratory Service No. 870  
Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)  
Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)  
Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

#### SPMO - Springfield, MO

USEPA DMR-QA Program

#### STL - St. Louis, MO

TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389  
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050  
Drinking Water Certifications: Missouri (1050)  
Missouri Department of Natural Resources

Eliot Battle Elementary

SAMPLING METHOD

The hot water sampling method was a "first-draw" sample. The first-draw sample was

Revised Version: February, 2010

Revised 400 C.F.R. Sections 141.80 to 141.110

The following sample revealed


EBE

60775441 11/9

Sample	Species	Location	Page
1	Classroom	Forest (old)	in room 215

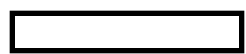


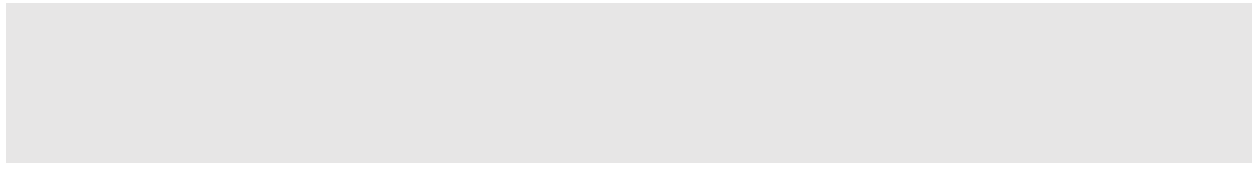
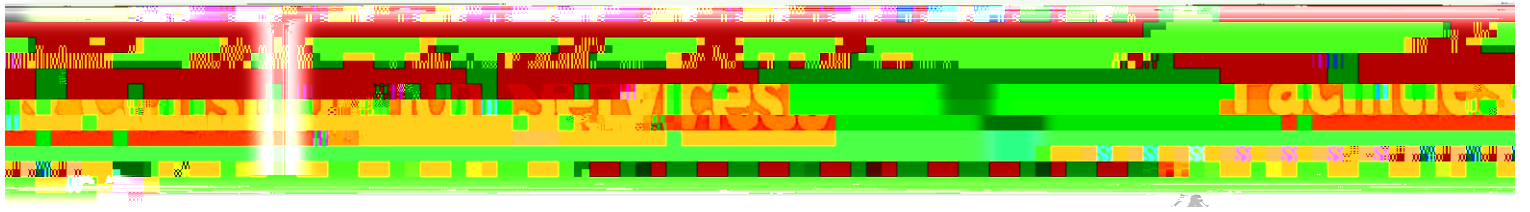
Page 1 of 1  
 Title: Classroom Forest (old)  
 Author: [illegible]

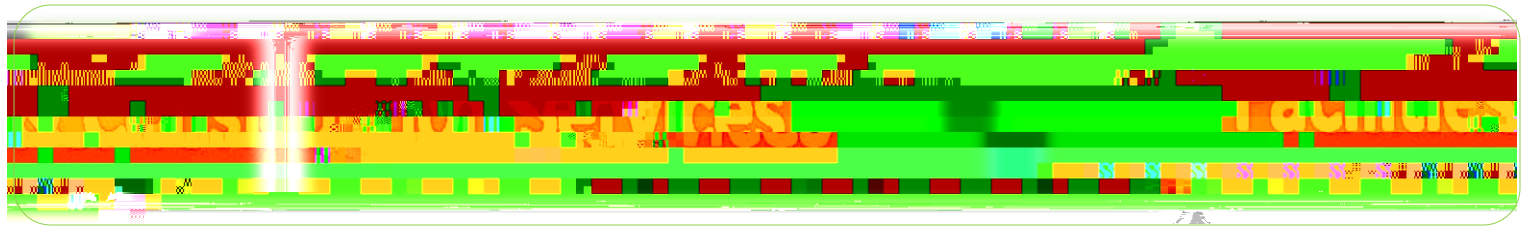


**Do not use the water from this tap for:**

- Drinking
- Food preparation
- Hand washing







## PDC Laboratory Certifications



2016 Water Quality Evaluation  
Columbia Public Schools  
Columbia, Missouri



MISSOURI DEPARTMENT OF NATURAL RESOURCES

DRINKING WATER LABORATORY

CERTIFIED PARAMETER LIST

This is to certify that

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located at

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has been approved to perform the indicated procedures on drinking water under the Missouri Public Drinking Water Regulations (10 CSR 60-5.020). Specific method numbers or references are included in parenthesis when appropriate.

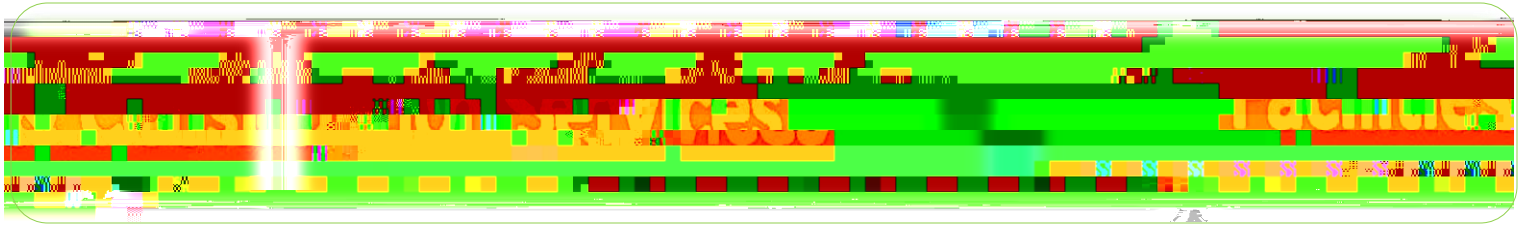
METALS

EPA 200.7 – Aluminum, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Hardness (calculated), Iron, Magnesium, Manganese, Nickel, Silica, Sodium, Silver, Zinc;  
EPA 200.8– Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thal.967(i)-2.533(u)-0.958(m)









## Lead and Copper Rule



2016 Water Quality Evaluation  
Columbia Public Schools  
Columbia, Missouri



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

FEB 29 2016

OFFICE OF  
WATER

**MEMORANDUM**

SUBJECT: Clarification of Record  
Copper Rule

FROM: Peter C. Grevat, Director  
Office of Ground Water & Drinking Water

TO: Water Division Directors  
Regions I - X

The Lead and Copper Rule, 40 C.F.R. § 141.60, requires public water systems to identify levels of lead in drinking water that may result from corrosion of lead-bearing components in a public water system's distribution system or in household plumbing. These samples help assess the need for, or the effectiveness of, corrosion control treatment. The purpose of this memorandum is to provide recommendations for public water systems that should address the removal and cleaning of aerators, pre-stagnation flushing, and other actions to reduce lead levels in drinking water.

Removal and Cleaning of Aerators

EPA issued a memorandum with the Lead and Copper Rule that states that public water systems should not recommend the removal or cleaning of aerators during the collection of tap samples gathered for purposes of the Lead and Copper Rule. EPA continues to recommend this approach. The removal or cleaning of aerators may potentially mask the addition of lead at the tap, which may potentially lead to taking additional actions needed to reduce exposure to lead in drinking water. EPA's recommendations about the removal and cleaning of aerators during sample collection apply only to monitoring for lead and copper conducted pursuant to 40 C.F.R. 141.60.

Pre-Stagnation Flushing

EPA is aware that some sampling instructions provide instructions include flushing the tap for a specified period of time prior to starting samples collected under the Lead and Copper Rule. This practice is called pre-stagnation flushing. Pre-stagnation flushing may potentially lower the lead levels as compared to when it is not practiced.

Flushing water that may have been in contact with the lead service line for extended periods, which is not typically included in drinking water. Therefore, EPA recommends that instructions not contain a pre-stagnation flush.

### Bottle Configuration

EPA recommends that wide-mouth bottles be used to collect Lead and Copper samples. It has become clear that narrow-mouth bottles are not representative of the flow that a consumer may use to fill up a glass of water. In addition, a higher flow rate can result in greater lead concentrations, which may lead to erroneous results in identifying lead concentrations.

### Conclusion

EPA is providing this information to the states to ensure that the recommendations discussed above may potentially lead to samples that erroneously reflect lower levels of lead concentrations. The recommendations provided by the EPA's Flint Task Force. For more information about the Task Force please view EPA's website at: <http://www.epa.gov/flint>.

To provide further information on this topic, EPA included an annexed "Suggested Directions for Homeowner Tap Sample Collection Procedures" in Appendix D of the *Copper Rule Monitoring and Reporting Guidance*. This document can be found at: <http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100DP2P.txt>

Please share these recommendations with your state drinking water program director. If you have any questions, please contact Anna Thompson at [thompsona@epa.gov](mailto:thompsona@epa.gov).

### Attachment

cc: James Taft, Association of State Drinking Water Administrators





# Columbia Missouri Water and Light: 2015

CONTAMINANT	CONCENTRATION (milligrams per liter)	MAXIMUM CONTAMINANT LEVEL (milligrams per liter)
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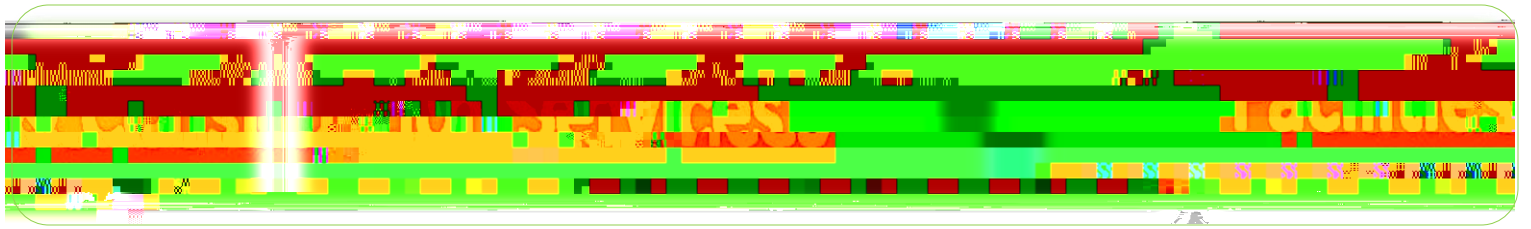
INORGANIC CHEMICALS CONTINUED:

Nickel	NONE DETECTED	0.1
Zinc**	1.95	5
Thallium	NONE DETECTED	0.002
Beryllium	NONE DETECTED	0.004
Cyanide	NONE DETECTED	0.2

SYNTHETIC ORGANIC CHEMICALS:

TTHM	0.0499	0.25 EMC /P3(05)]7>>BDC 0.006 Tc -0.006 T
Endrin	NONE DETECTED	0.002
Lindane	NONE DETECTED	0.0002
Methoxychlor	NONE DETECTED	0.04
Toxaphene	NONE DETECTED	0.003
2,4-D	NONE DETECTED	0.07
2,4,5-TP (silvex)	NONE DETECTED	0.05
Aldicarb	NONE DETECTED	0.003
Chlordane	NONE DETECTED	0.002
Dalapon	NONE DETECTED	0.2
Diquat	NONE DETECTED	0.02
Endothall	NONE DETECTED	0.1
Glyphosate	NONE DETECTED	0.7
Carbofuran	NONE DETECTED	0.04
Vydate	NONE DETECTED	0.1
Simazine	NONE DETECTED	0.004
PAHs	NONE DETECTED	
PCBs	NONE DETECTED	
Atrazine	NONE DETECTED	
Heptachlor	NONE DETECTED	0.6 <</MCID 170 >>BDC 0.001 TcD
Pentachlorophenol	NONE DETECTED	
Picloram	NONE DETECTED	
Dinoseb	NONE DETECTED	
Alachlor	NONE DETECTED	
Hexachlorocyclopentadiene	NONE DETECTED	
2,3,7,8TCDD	NONE DETECTED	
HAA5	0.022	





EPA  
Drinking Water  
Best Management Practices



2016 Water Quality Evaluation  
Columbia Public Schools  
Columbia, Missouri

# Drinking Water Best Management Practices

For Schools and Child Care Facilities Served by  
Municipal Water Systems



# Drinking Water Best Management Practices

For Schools and Child Care Facilities Served by  
Municipal Water Systems

This guide is intended for use by school officials and child care providers responsible for the maintenance and/or safety

# What Decision Makers Should Know

On any given day in America nearly 50 million public school students spend a

VLJQLÀFDQW SRUWLRQ RI WKHLU GD\ LQ VFKRRO buildings. Exposure to environmental hazards

LQ VFKRROV FDQ QHJDWLYHO\ LPSDFW WKH KHDOWK RI FKLOGUHQ DQG VFKRRO VWDII 0RUHRYHU VWXGLHV

have shown that poor indoor environments in schools have negative impacts on teacher

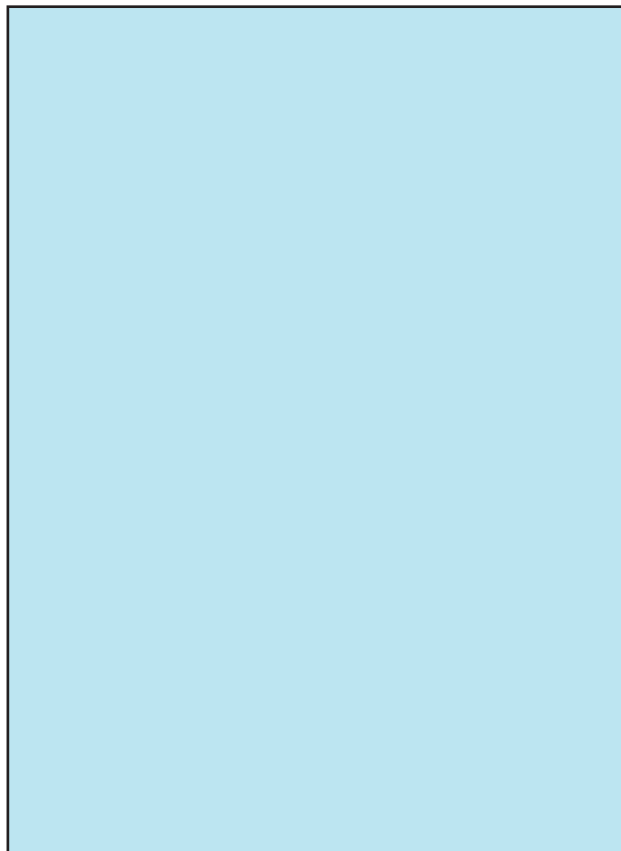
SURGXFWLYLW\ DQG <sup>2</sup>VWXGHQW SHUIRUPDQFH

6FKRROV DQG FKLOG FDUH IDFLOLWLHV UHFHLYH WKHLU GULQNLQJ ZDWHU IURP QHDUE\ PXQLFLSDO ZDWHU systems or their own on-site water system.

)DFLOLWLHV WKDW UHFHLYH WKHLU ZDWHU IURP D ZDWHU provider can be assured that the water is

UHJXODUO\ WHVWHG WR HQVXUH LW PHHWV IHGHUDO DQG VWDWH GULQNLQJ ZDWHU VWDQGDUGV VXFK DV IRU

bacteria and chemicals.



# Bacteria



%DFWHULD DUH SUHVHQW WKH LQVWLPXUHQW environment. They have adapted to live DQG UHSURGXFH LQ D YDULHWLQJ SURYH QYQURQLF HQTXDOLW\ G LQFOXGLQJ LQVLGH DQLPDEOXWDFHQ RYHQWDO WKH YDU LQ ZDWHU VRLO DQG IRRUGHQWV WKH LQVWLPXUHQW LQ GULQNLQJ ZDWHU WKH GLVLQIHFWLRQ SURFHVV +RZHYHU VRPH PDLVXUYLGHU WKH GLVWULEXWLRQ V\WHP WKH EXLOGLQJ VSLSHV DQG SOXPELQJ %DFWHULD FDQ DGOVHQW ERZVLW KHUQRXKHDOY SOXPELQJ V\WHP ZDWHUHQWV LQVWLPXUHQW DQG IRRUGHQWV 7KHUHIRUH LW LV LPSRUWDQW WRXUHQWV XODUORFHIDRWV D \RXU IDFLOLW\ V ZDWHU IRUHQW DLQV IDXFHWV DQG KRW ‡,QIDQWV \RXQJ FKLOGUHQ DQG DUH DW JUHDWHVW ULVN WR O ‡,QFUHDVHG OHDG OHYHOV KDYL FDXVH GDPDJH WR WKH EUDLQ ‡,QFUHDVHG OHDG OHYHOV LQW SURGXFWLRQ RI UHG EORRG FH R[\JHQ WR DOO SDUWV RI \RXU

# Lead

## Understanding Lead Exposure

6FKRRO RIÀFLDOV DQG FKLOG FD NQRZ ZKHWKHU WKH VWXGHOV FRQVXP HQYDWHG OHYHOV RI ZDWHU LQ WKHLU IDFLOLW\ EHF FDQ FDXVH VHULRXV KHDWK SU IRU \RXQJ FKLOGUHQ

/HDG LQ GULQNLQJ ZDWHU LV SU materials and components associated with

environment. The municipal water supplier is responsible for ensuring that the water contained in the plumbing components used

in homes and businesses is safe to drink. The following components are commonly found in plumbing systems:

• Lead pipes and solder  
• Galvanized steel pipes  
• Brass faucets and valves  
• Lead solder used in pipe joints

• Lead-based paint in older homes  
• Lead-based dust in older buildings  
• Lead-based soil in older homes  
• Lead-based paint on old toys and jewelry

• Lead-based paint on old cars and trucks  
• Lead-based paint on old boats and ships  
• Lead-based paint on old furniture and appliances  
• Lead-based paint on old toys and children's products

• Lead-based paint on old windows and doors  
• Lead-based paint on old walls and ceilings  
• Lead-based paint on old floors and carpets  
• Lead-based paint on old roofs and gutters

• Lead-based paint on old pipes and conduits  
• Lead-based paint on old electrical wiring  
• Lead-based paint on old electrical equipment  
• Lead-based paint on old electrical components

• Lead-based paint on old electrical boxes and panels  
• Lead-based paint on old electrical switches and outlets  
• Lead-based paint on old electrical meters and transformers  
• Lead-based paint on old electrical conduits and raceways

• Lead-based paint on old electrical wiring and cables  
• Lead-based paint on old electrical wires and cables  
• Lead-based paint on old electrical wires and cables  
• Lead-based paint on old electrical wires and cables

## Reduction of Lead in Drinking Water Act

\$ QHZ UHTXLUHPPHQW VLJQHG LQWR ODZ E\ 3UHV LGHQW 2 OHDG LQ SLSHV SLSH ÀWWLQJV SOXPELQJ ÀWWLQJV DQ SHUFHQW 7KH 5HGXFWRQ RI /HDG LQ 'ULQNLQJ :DWHU 'ULQNLQJ :DWHU \$FW WR PHDQ QRW FRQWDLQLQJ PRUH V UHVSHFW WR VROGHU DQG ÁX[ WKH FDWKLHUW DFXVH VHGWWO DQG QRW PRUH WKHQ D ZHLSKWHFHQW OHDG ZKHQ XVHG ZL ZHWWHG VXUIDFHV RI SLSHV SLSH ÀWWLQJV SOXPELQJ ZLOO EHFRPH HIIHFWLYH LQ -DQXDU\

‡6FLHQWL VWV KDYH OLQNHG WKH HIIHFWV RI OHDG RQ  
WKH EUDLQ ZLWK ORZHUHG LQWHOOLJHQFH TXRWLHQW  
,4 LQ FKLOGUHQ  
‡\$GXOWV ZLWK NLGQH\ SUREOHPV DQG KLJK EORRG  
SUHVXUH FDQ ~~EHU DIHYFON~~ GRE\ ORZ  
OHDG PRUH WKDQ KHDOWK\ DGXOWV  
‡/HDG LV VWRUHG LQ WKH ERQH V DQG LW FDQ EH  
UHOHDVHG ODWHU LQ OLIH DQG  
‡'XULQJ SUHJQDQF\ WKH IHWXV UHFHLYHV OHDG  
IURP WKH PRWKIPD\ ~~DRQH~~ FWZKLF  
brain development.



Copper pipes joined by lead solder.

## Copper

and copper than the average adult because  
 RI WKHLU UDSLQ GHYHORS PHQW  
 LQWR ZDWHU WKURXJK FRUURVL  
 V\ VWHP <sup>2</sup> SULPDULO\ IURP SLSHV  
 IDXFHWV DQG ÁWWLQJV PDGH RI  
 D VRXUFH 7KH DPRXQW RI FRSS  
 strongly depends on the acidity and types and  
 DPRXQWV RI PLQHDOV LQ WKH  
 QRW LW LV R[\JHQDWHG RU GLVL  
 WKH ZDWHU VWD\ V LQ WKH SLSH  
 WKH SLSHV KDYH EHHQ LQ XVH D  
 WHPSHUDWXUH (VSHFLDOO\ ZKH  
 EHORZ QHXWUDO DQG ZKHQ W  
 ZDWHU ELFDUERQDWH FRQWHQV  
 FRQFHQWUDWLRQV RI FRSSHU FI  
 &RSSHU LV ZLGHQ\ XVHG LQ D KRXVH QKRRG S O XSLHQJ DQG ÁW  
 VRPHWLPHV ZLWKRXW SURWHFWLRQ and introduced or re-nated  
 ZDWHU TXDOLW\ ([FHVV FRPSOHQJ S RV% O KH D W DLQLQJ RI  
 FDXVH VWRPDFK DQG LQW ÁWWLQDO FOLQ W H HQ\ LQGLFDWRU  
 NLGQH\ GDPDJH DQG FRPSOHQJ WRROV RI :LOVRQ\ V  
 GLVHDVH &KLOGUHQ\ V ERGLHV DEVRUE PRUH OHDG



# Drinking Water Best Management Practices

## Bacteria

### Drinking Water Fountains

'ULQNLQJ ZDWHU IRXQWDLQV VKRXOG EH FOHDQHG



## Hot Water Tanks

+RW ZDWHU WDNQV DUH VXVFHSHWLEOH WR WKH GHYHORSFHQW RI ELRÀOP ZKLFK LV D VXUIDFH GHSRVLW RI EDFWHULD WKDW DFFXPXODWHV FUHDWLQJ D VOLPH OD\HU 6LPLODU WR WKH SODTXH WKDW IRUPV RQ WHHWK ELRÀOPV DFFXPXODWH RYHU WLPH ,W is recommended that you consult with an H[SHULHQFHG SURIHVVLRQDO WR KDYH \RXU KRW ZDWHU tank periodically cleaned to remove existing ELRÀOPV DQG VHGLPHQWV



A cross connection between a dishwasher drain (copper pipe) and a main pipe.

‡

‡

‡%ULHCZS PPÀ€•ZDWHU A@ @ p0 @ `

## Cross Connections

A cross connection is an actual or potential FRQQHFWRQ EHWZH HQ \RXU IDFLOLW\·V GULQNLQJ ZDWHU V\ VWHP DQG RWKHU OLTXLGV RU VXEVWDQFHV ,W LV LPSRUWDQW WR EH DZDUH RI FURVV FRQQHFWRQV ZLWKLQ \RXU IDFLOLW\ DV FRQWDPLQDWLRQ FDQ RFFXU &URVV FRQWDPLQDWLRQ IURP EDFNÀRZ RI KDUPIXO VXEVWDQFHV PD\ RFFXU DV D UHVXOW RI UHGXFHG SUHVXUH LQ WKH GULQNLQJ ZDWHU V\ VWHP RU EHFDXVH RI LQFUHDVHG SUHVXUH LQ WKH FRQWDPLQDWLRQ VRXUFH %H DZDUH FURVV contamination may not be immediately apparent because a contaminant may not have a VWURQJ WDVWH RGRU RU FRORU

<sup>2</sup> 1DWLRQDO (QYLURQPHQWDO 6HUYLFHV &HQWHU 7HFK %ULHI %LRÀOP &RQWURO LQ 'LVWULEXWLRQ 6\ VWHPV 6XPPHU 9RO ,VXXH

2WKHU VRXUFHV RI SRWHQWLDO FURVV FRQWDPLQDWLRQ include cross connections between the drinking ZDWHU V\WHP DQG KHDWLQJ V\WHP ERLOHUV ZDWHU FRROHUV ODZQ VSULQNOHU V\WHPV ÀUH VSULQNOHU V\WHPV RU VRIW GULQN PDFKLQHV

Cross contamination can be prevented by

XVLQJ EDFNÁRZ SUHYHQWLQJ GHYLFHV WKDW RQO\ DOORZ ZDWHU WR ÁRZ LQ RQH GLUHFWRU IURP WKH VRXUFH WR WKH WDS VR OLTXLG FDQQRW ÁRZ EDFN down the tap and contaminate the water in WKH GLVWULEXWRU V\WHP %DFNÁRZ SUHYHQWLQJ GHYLFHV VKRXOG EH WHVWHG DQQXDOO\ ,I \RX KDYH TXHVWLQJ DERXW FURVV FRQQHFWRU DQG FRQWDPLQDWLRQ FRQWDFW WKH ORFDO EXLOGLQJ SOXPELQJ LQVSHFWRU RU IRU PRUH LQIRUPDWLRQ RQ cross contamination please visit <http://water.hsdny.gov>

HSD JRY LQIUDVWUXFWXUH GULQNLQJZDWHU SZV FURVVFRQQHFWRUFRQWURO LQGH[ FIP

/DVWO\ LQVSHFW \RXU IDFLOLW\·V SLSHV WR PDNH VXUH WKHUH DUH QR OHDNV RU RXWVLGH LQGLFDWLQJ RI FRUURVLRQ /HDNV LQ \RXU SOXPELQJ V\WHP FDQ EH D ZD\ IRU EDFWHULD WR JHW LQWR \RXU ZDWHU

## Lead

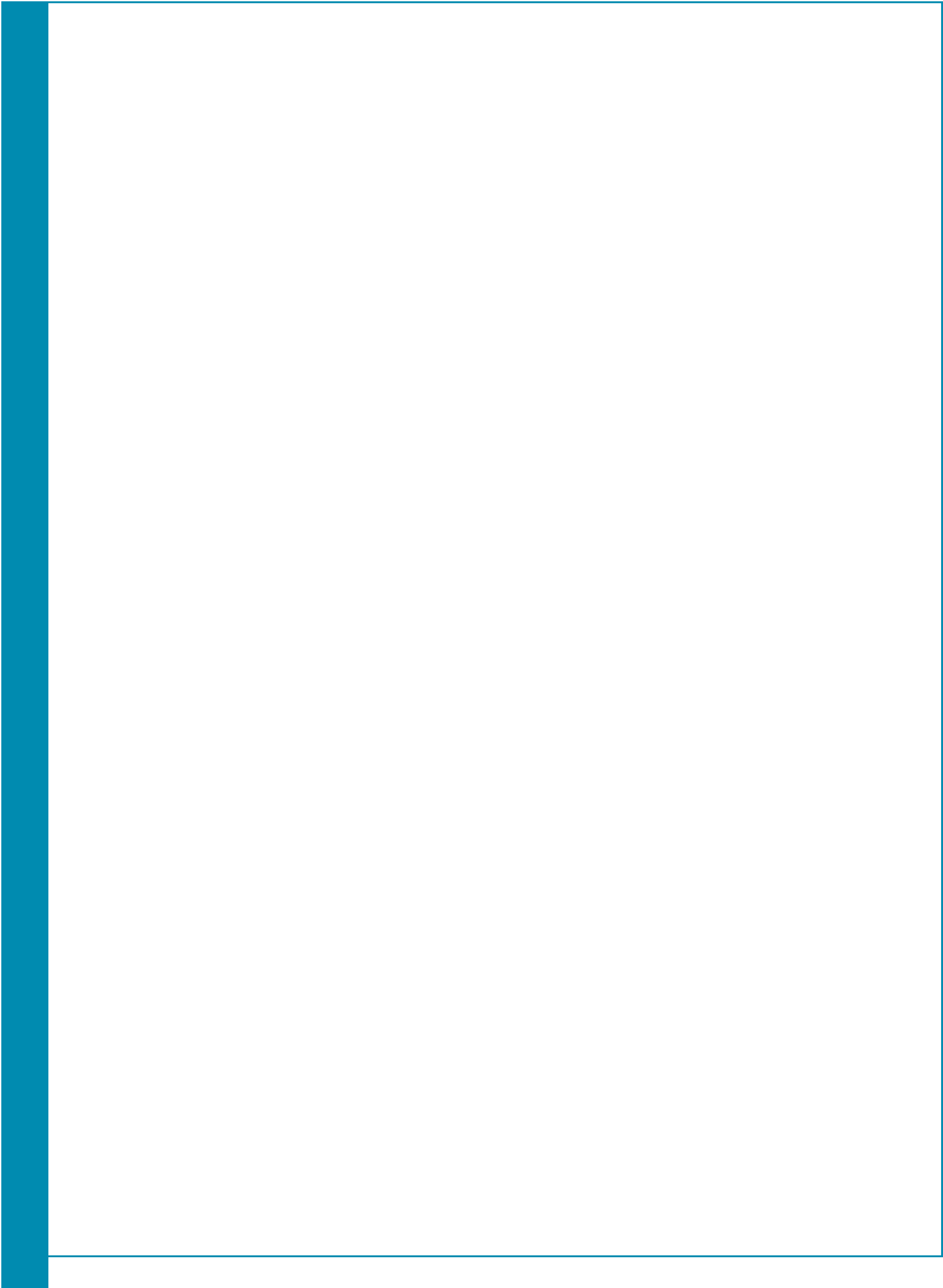
‡

### Voluntary Testing of Lead in Drinking Water

<RX FDQQRW VHH WDVWH RU VPHOO OHDG LQ \RXU GULQNLQJ ZDWHU \$V VXFK WHVWLQJ WKH IDFLOLW\·V ZDWHU LV WKH RQO\ VXUH ZD\ WR NQRZ LI WKHUH DUH HOHYDWHG OHYHOV RI OHDG LQ WKH ZDWHU

‡

(3\$ GHYHORSHG WKH 7V IRU 5HGXFHQJ /HDG LQ 'ULQNLQJ :DWHU LQ 6FKRROV 5HYLVHG 7HFKQLFDO \*XLGDQFH 7UDLQLQJ 7HVWLQJ DQG 7HOOLQJ WR KHOS VFKRROV DQG FKLOG FDUH IDFLOLWLHV LPSOHPHQW VLPSON VWUDWHJLHV IRU PDQDJLQJ WKH KHDOWK ULNVN RI OHDG LQ GULQNLQJ ZDWHU 7KH 7V LQFOXGH



‡, GHQWLI\ WKH GULQNLQJ ZDWHU IRU DRINKING OR FOR THE PREPARATION OF FOOD OR BEVERAGES. USE ONLY COLD WATER TO PREPARE FOOD AND DRINKS.

‡ 'HWHUPLQH WKH EHVW RUGHWWRU RSHUHQGLDWRU ÁXVK OHDG P GULQNLQJ ZDWHU IRU DRINKING OR FOR THE PREPARATION OF FOOD OR BEVERAGES. USE ONLY COLD WATER TO PREPARE FOOD AND DRINKS.

‡, GHQWLI\ RSWLRQV IRU FROTHING BEVERAGES OR FOR THE PREPARATION OF FOOD OR BEVERAGES. USE ONLY COLD WATER TO PREPARE FOOD AND DRINKS.

‡ 'HYHORS D V\ VWHP IRU DEVELOPING A RECORD KEEPING SYSTEM. CLEAN DEBRIS OUT OF ALL OUTLET SCREENS OR AERATORS ON A REGULAR BASIS.

Flush all water outlets used for drinking or food preparation

Clean debris out of all outlet screens or aerators on a regular basis

‡ \$W WKH VWDUW RI HDFK GD\ EHIRUH XVLQJ DQ\ ZDWHU IRU DRINKING OR FOR THE PREPARATION OF FOOD OR BEVERAGES. USE ONLY COLD WATER TO PREPARE FOOD AND DRINKS.

‡ )OXVKLQJ RU RSHQLQJ XS D WDS DQG OHWWLQJ WKH ZDWHU UXQ UHSODFHV WKH VWDJQDQW ZDWHU that may have been in contact with lead- FRQWDLQLQJ SOXPQLQJ Á[WXUHV RYHUQLJKW or over the weekend. The longer water is exposed to lead pipes or solder the greater

WKH OLNHOLKRRG RI OHDG FRQWDPDQDWRU ‡ )OXVKLQJ WLVHV YDULGHSHQGLQJ RQ \ EXLOGLQJV SLSHV DQG RXWOHWV UHIULJHUDWHG ZDWHU IRXQWDLQV FDQ WDNH DV ORQJ DV PLQXWHV WR SURSHUO\ ÁXVK RXW WKH UHVHUYRLU

‡, I PDQ\ WDSV QHHG ÁXVKLQJ WKH WDS IDUWKHVV IURP WKH PDLQ SLSH VKRXOG EH RSHQHG IRU DSSUR[LPDWHO\ WHQ PLQXWHV WR ÁXVK RXW WKH PDLQ SLSHQ LQGLYLGXDO GULQNLQJ ZDWHU WDSV VKRXOG EH ÁXVKHG WR ULG VWDJQDQW ZDWHU IURP WKH SLSHV .HHS LQ PLQG WKDW LI \RXU IDFLOLW\ KDV PRUH WKDQ RQH ZLQJ WKHUH PD\ EH





# Additional Considerations

International to remove lead.

‡0DLQWDLQLQJ 328 WUHDWPHQW GHYLFHV LV YHU\ LPSRUWDQW 5HIHU WR WKH PDQXIDFWXUHU\ V LQVWUXFWLRQV IRU PD\QWHQDQFH SURFHGXUHV QRW PDLQWDLQH SURSHU\ V RPH WUHDWPHQW devices may increase lead and other contaminant levels.

‡,I XVLQJ D 328 GHYLFH \RX VKRXOG CB IRORZ up testing to make sure that water is still below the action level.

‡:LWK WKH XVH RI D 328 GHYLFH AXV\KLO\ LV not necessary

‡,I XVLQJ 328 GHYLFHV RQ V RPH IDXEHVV\ EXW QRW DOO PDNH VXUH WKDW IDXFHV\ ZLWKRXV\ 328 GHYLFH DUH FOHDUO\ ODERHOHG WKDW WKH DUH QRW IRU GULQNDWURU FRRNLOJZ

ZHVWLQJ IRU FRSSHU PD\ EH DSS ZDWHU LV V RPH ZKDW DFLGLF ZL DQG ZKHQ LW LV GLVLQIHFWHG decreases steadily over time under normal water conditions. FDO SHUVLVW IRU PDQ\ \HDUV LO\ V RPH IDXEHVV\ EXW ZDWHU V\QV ZLWKRXV\ LV JURZLQJ EOXH HQFUXV\ DWLFR DAU\ HSLGU D@RI \VC-ZDP QIHFL @FWHG,I \RX DUH H[SHULHQFV

## Communicate with Your Community about the Voluntary Lead Testing Program

,W LV LPSRUWDQW WR FRPPXQLFDWH HDUO\ DQG RIWHQ DERXW \RXU WHVWLQJ SODQ UHVXOWV DQG QH[W VWHSV 7HOOLQJ SDUHQWV DQG VWDII DERXW \RXU YROXQWU\ lead testing program will demonstrate your proactive commitment to protecting the health RI \RXU VWXGHQWV DQG VWDII DQG EXLOG FRQÀGHQFH LQ \RXU IDFLOLW\ V DELOLW\ WR QME\ \$R YFGH\ XW\ ERN\ DQG RQW KHADOWK\ HQYLURQPHQW ZKHWKHU RU QRW HOHYDWHG OHDG OHYHOV DUH IRXQG LQ \RXU IDFLOLW\

7KH /HDG DQG &RSSHU 5XOH 4XLFN 5HIHUHQFH \*XLGH IRU 6FKRROV DQG &KLOG &DUH )DFLOLWLHV WKDW DUH 5HJXODWHG 8QGHU WKH 6DIH 'ULQNLQJ :DWHU \$FW DYDLO- able at: KWWS ZDWHU HSD JRY LQIUDVWUXFWXUH GULQN LQJZDWHU VFKRROV XSORDG B B BVFKRROVB OHDGBVTUJBOFUBVFKRROV SGI

## Water Conservation

6FKRROV DQG FKLOG FDUH IDFLQLWLHV XVH ODUJH  
DPRXQWV RI ZDWHU HYHU\ GD\ IRU KHDWLQJ DQG  
FRROLQJ V\VWHPV UHVWURRPV GULQNLQJ ZDWHU  
FRNLQJ ORFNHU URRPV FDIHWHULDV ODERUDWRULHV  
DQG RXWGRRU SOD\LQJ ÀHOGV DQG ODZQV 2SWLRQV  
WR FRQVHUYH ZDWHU IRU WKH VH IDFLQLWLHV LQFOXGH

‡ &RQVLGHU UHSODFLQJ ROG HTXLSPHQW VXFK DV  
dishwashers with energy and water saving

GHYLFHV

‡ 5HSDLU ZDWHU OHDNV DQG OHDN\ WRLOHWV

‡ ,QVWDOO DHUDWRUV DQG DXWRPDWLF VKXW RII

GHYLFHV RQ IDXFHWV

‡ 8VLQJ ORZ ÁRZ VKRZHU KHDGV DQG WLFHU

VKXW RII GHYLFHV WR UHGXFH ZDWHU XVH GXULQJ

VKRZHU

‡ ,QVWDOOLQJ WLFHUV RQ VSULQNOHUV

‡ ,QVWDOOLQJ WRLOHW GDPV RQ ROGHU PRGHV

‡

‡



# Resources

## 3Ts for Reducing Lead in Drinking Water in Schools

3URYLGHV GHWDLOHG JXLGDQFH IRU VFKRROV WKDW UHFHLYH WKHLU GULQNLQJ ZDWHU IURP PXQLFLSDO water supplies regarding training and testing IRU DQG FRPPXQLFDWLQJ DERXW OHDG LQ GULQNLQJ water.

:HEV LKWHWS ZDWHU HSD JRY LQIUVDWUXFWXUH GULQNLQJZDWHU VFKRROV JXLGDQFH FIP WV

## 3Ts for Reducing Lead in Drinking Water in Child Care Facilities

3URYLGHV GHWDLOHG JXLGDQFH IRU VFKRROV WKDW UHFHLYH WKHLU GULQNLQJ ZDWHU IURP municipal water supplies regarding training and appropriate plumbing. WHVWLQJ IRU DQG FRPPXQLFDWLQJ DERXW OHDG LQ drinking water.

:HEV LKWHWS ZDWHU HSD JRY LQIUVDWUXFWXUH GULQNLQJZDWHU VFKRROV JXLGDQFH FIP WV

EPA's Website on Lead  
<http://www.epa.gov/lead/>

EPA's Website on Lead in Drinking Water  
KWWS ZDWHU HSD JRY GULQNLQJZDWHU VFKRROV JXLGDQFH FIP

EPA's Website on Reducing Lead in Drinking Water in Schools and Day Care Centers  
KWWS ZDWHU HSD JRY GULQNLQJZDWHU VFKRROVBLQGH[FIP

Centers for Disease Control and Prevention's Website on Lead  
<http://cdc.gov/lead/>

National Lead Information Center Hotline:  
/(\$'

EPA's Safe Drinking Water Hotline:

Are You Providing Safe Drinking Water at Your School or Child Care Facility?

)RU 6FKRROV DQG &KLOG &DUH ) 7KHLU 2ZO 'ULQNLQJ :DWHU 6RX

Caring for Our Children: National Health and Safety Performance Standards Guidelines for Early Care and Education Programs, 3rd Edition (2011)

Provides national standards that represent the

EHVW HYLGHQFH H[SHUWLHV DQ FRXQWU\ RQ TXDOLW\ KHDOWK D

DQG SROLFLHV WKDW VKRXOG EH early care and education settings. Chapter 5

FRYHU\ GULQNLQJ ZDWHU IURP municipal water supplies regarding training and appropriate plumbing.

:HEV LKWHWS ZDWHU HSD JRY LQIUVDWUXFWXUH GULQNLQJZDWHU VFKRROV JXLGDQFH FIP WV

## State Drinking Water and Lead Prevention Information Sources

State drinking water programs can describe

VWDWH VSHFLĀF UHTXLUHPHQWV DGGWLWRQDO JXLGDQFH PDWHUL

FRPSOHWH OLVW RI 6WDWH 'ULQNLQJZDWHU VFKRROVBLQGH[FIP

FRQWDFWV DQG OHDG SUHYHQWV VFXUFHV VHH

Implementing the Lead Public Education Provision of the Lead and Copper Rule for Non Transient, Non Community Water Systems, Appendix C:

<http://water.epa.gov/lawsregs/rulesregs/> VGZD OFU XSORDG ,PSOHPHQWLO

3XEOLF (GXFDWLRQ 3URYLVLRQV &RSSHU 5XOH \$ \*XLGH IRU 1RQ 7

&RPPXQLW\ :DWHU 6\ VWHPV SGI

Implementing the Lead Public Education Provision of the Lead and Copper Rule for Community Water Systems, Appendix C:

<http://water.epa.gov/lawsregs/rulesregs/>

VGZD OFU XSORDG ,PSOHPHQWLQJ WKH /HDG  
3XEOLF (GXFDWLRQ 3URYLVRU RI WKH /HDG DQG  
&RSSHU 5XOH \$ \*XLGH IRU & RFRXQW\FDWHU  
6\ VWHPV SGI

Backwashing:

7KH SURFHVV RI UHYHUVLQJ WKH EDFN WKURXJK WKH ÀOWHU PHGL entrapped solids.

Bacteria

0\ RFRXQW\FDWHU RI D VLQJOH FHOO %DFWHULD FD

## Glossary

Acidic:

7KH FRQGLWLRQ RI ZDWHU RU VRLO ZKLFK FRQWDLQV D VXIÀFLHQW DPRXQW RI DFLGLF VXEWDQFHV WR ORZHU WKH S+ EHORZ

Action Level:

7KH OHYHO RI OHDG RU FRSSHU ZKLFK LI H[FHHGHG WULJJHUV WUHDWPHQW RU RWKHU UHTXLUPHQWV WKDW D ZDWHU V\ VWHP PXVW IROORZ

Alkalinity:

7KH FDSDFLW\ RI ZDWHU WR QHXWUDOL]H DFLGV 7KLV FDSDFLW\ LV FDXVHG E\ WKH ZDWHU\ V FRQWHQW RI FDUERQDWH ELFDUERQDWH K\GUR[LGH DQG RFFDVLRQDOO\ ERUDWH VLOLFDWH DQG SKRVSKDWH \$ONDOLQLW\ LV H[SUHVVHG LQ PLOOLJUDPV SHU OLWHU RI HTXLYDOHQW FDOFLXP FDUERQDWH \$ONDOLQLW\ LV QRW WKH VDPH DV S+ EHFDXVH ZDWHU GRHV QRW KDYH WR EH VWURQJO\ EDVLF KLJK S+ WR KDYH D KLJK DONDOLQLW\ \$ONDOLQLW\ LV D PHDVXUH RI KRZ PXFK DFLG FDQ EH DGGHG WR D OLTXLG ZLWKRXW FDXVLQJ D VLJQLÀFDQW FKDQJH LQ S+

Alloy:

\$ VROXWLRQ PDGH RI WZR RU PRUH HOHPHQWV DW OHDVW RQH RI ZKLFK LV D PHWDO

Back ow:

\$ UHYHUVH ÁRZ FRQGLWLRQ FUHDWHG E\ D GLIIHUHQFH LQ ZDWHU SUHVXUHV ZKLFK FDXVHV ZDWHU WR ÁRZ EDFN LQWR WKH GLVWULEXWLRQ SLSHV RI D SRWDEOH ZDWHU VXSSO\ IURP DQ\ VRXUFH RU VRXUFHV RWKHU than an intended source.

