November 9, 2018

Mr. Bernie Bowers
Operations Supervisor
Wyandotte Public Schools
639 Oak Street
Wyandotte, Michigan 48192
Bbowers@wy.k12.mi.us

RE: **AEG Project #AE180812**
Lead Drinking Water Sampling
Taft Elementary School

Dear Mr. Bowers:

Pursuant to the request of Wyandotte Public Schools, Arch Environmental Group, Inc. (AEG) collected five (5) representative first draw drinking water lead samples on October 13, 2018, at Taft Elementary School.

General Information about Lead

There is no federal law requiring testing of drinking water in schools and childcare facilities, except for those that have and/or operate their own public water system and therefore are subject to comply with the Safe Drinking Water Act (SDWA). Drinking water programs are conducted on a voluntary basis.

Lead enters drinking water:

1. *Through Corrosion*
   Most lead gets into drinking water after the water leaves the local well or treatment plant and comes into contact with plumbing materials containing lead. These include lead pipe and lead solder (commonly used until 1986) as well as faucets, valves, and other components made of brass. The physical/chemical interaction that occurs between the water and plumbing is referred to as corrosion. The extent to which corrosion occurs contributes to the amount of lead that can be released into the drinking water.

2. *Faucet Aerators*
   Many taps that are used to provide water for human consumption have an aerator as part of the faucet assembly. Screens are not intended to remove contaminants in the water but may trap sediment or debris as water passes through the faucet. Lead bearing sediment may end up in drinking water from physical corrosion of leaded solder and can build up in the aerator over time.

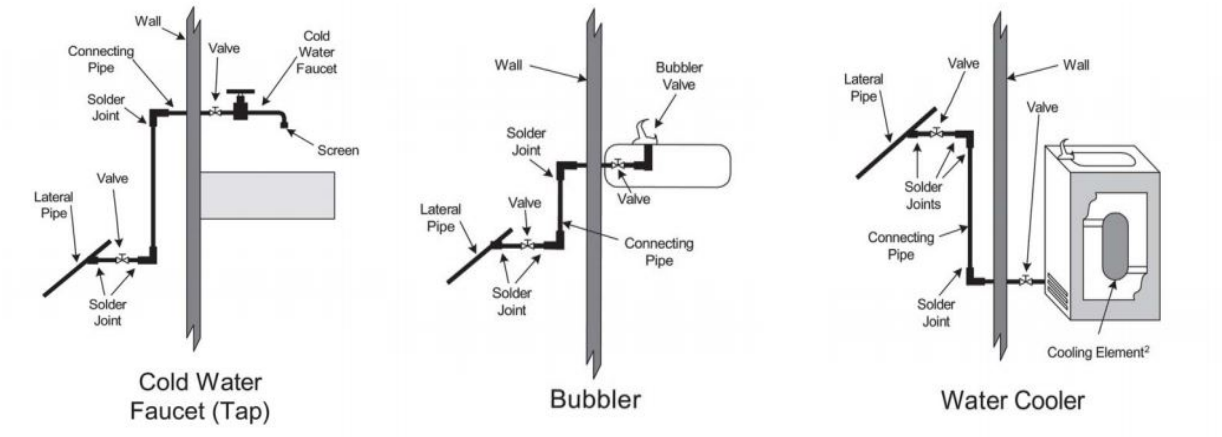
3. *Galvanized Piping*
   Additionally, galvanized pipes are old iron pipes that were installed in many homes built before the 1960s. Over many years, old corrosion scales build up inside the walls of galvanized pipes. These pipes can cause discolored water and pressure issues. Galvanized pipes can also release lead in water if you have or ever have had a lead service pipe.

4. *Brass Pipes, Faucets Fittings and Valves*
   Brass devices passing the test can contribute to lead levels at the tap.

Action Levels

The Lead and Copper Rule (LCR) is a treatment technique rule. Instead of setting a maximum contaminant level (MCL) for lead or copper, the rule requires public water systems to take certain actions to minimize lead and copper in drinking water. The Action Level for lead is 15 ug/L (15 ppb). Beginning January 1, 2025, the action level for lead in the State of Michigan will be lowered to 12 ug/L (12 ppb). In August 2016, the MDEQ recommended school districts use the contaminate level goal of 5 ug/L (5 ppb). For this sampling event, the District shall utilize 15 ug/L (ppb) as the Action Level.

Common Drinking Water Outlets



Collection Procedures

All water samples were collected utilizing 250 milliliters (mL) sample bottles as recommended in the August 1, 2016, Version 3.0 "*MDEQ Guidance on Drinking Water Sampling for Lead and Copper at Schools and Daycares on Community Water Supplies*".

First Draw Sampling:

AEG collected first draw samples. A first draw is the water that is the first to come out of the tap after the period of 8-24 hours of inactivity.

Locations below Action Level

- Taft-01: Kitchen, 2-Compartment Food Preparation Sink.
- Taft-02: In Hallway, Across from Room 108, Water Cooler.
- Taft-03: In Hallway, Across from Room 108, Bottle Fill.
- Taft-04: Room 203, Bubbler.
- Taft-05: In Hallway, Right of Room 205, Left Water Cooler.
-

If you have any questions regarding the report, please feel free to contact the cleanWATER team at (248) 426-0165 [office].

Sincerely,

Arch Environmental Group, Inc.

Environmental Services

Alec Staber

Alec Staber

Attachments: Results Table
Analytical Results & Chain of Custody

Wyandotte Public Schools
Lead Drinking Water Analysis
Project Number: AE180812

Taft Elementary School/The Lincoln Center

Date of Sampling: 10/13/2018

Sampler: Lindsey Eveleth

Sample #	Location	Type[1]	Time Collected	Lead EPA Action Level (ug/L)	Lead Results (ug/L)	Aerator Present Y/N	Notes
Taft-01	Kitchen, 2-Compartment Food Preparation Sink	KF	10:25 AM	15	ND[3]	Y	First Draw
Taft-02	In Hallway, Across from Room 108, Water Cooler	BT	10:30 AM	15	ND	N	First Draw. Water cooler was reviewed against the EPA Fact Sheet to determine that it is not lead lined.
Taft-03	In Hallway, Across from Room 108, Bottle Fill	BT	10:32 AM	15	ND	N	First Draw
Taft-04	Room 203, Bubbler	B	10:40 AM	15	3	N	First Draw
Taft-05	In Hallway, Right of Room 205, Left Water Cooler	BT	10:43 AM	15	ND	N	First Draw. Water cooler was reviewed against the EPA Fact Sheet to determine that it is not lead lined.

1) Type: B = Bubbler, BT = Bottle Fill/Cooler, WC = Water Cooler, C = Combination Sink, F = Faucet, KF = Kitchen Faucet, I = Ice Machine,
KK = Kitchen Kettle, PC = Plumed Coffee
2) https://www.epa.gov/your-drinking-water/table-regulated-drinking-water-contaminante
3) ND = Non Detected at Reported Detection Limit of 1 ug/L
4) NT = Not Tested

Brighton Analytical L.L.C. ™

2105 Pless Drive Brighton, Michigan 48114 Phone (810)229-7575 Fax (810)229-8650 E-mail bai-brighton@sbcglobal.net

October 22, 2018

Arch Environmental Group
37720 Interchange Dr.
Farmington Hills, MI 48335

Subject: Taft Elementary School/Lincoln Center IFD
AE180812-WPS

Dear Ms. Koloski :

Thank you for making Brighton Analytical, L.L.C. your laboratory of choice. Attached are the results for the samples submitted on 10/15/2018 for the above mentioned project. NELAP/TNI Accredited Analysis and MDEQ Drinking Water Certified Analysis will be identified in their respective reporting formats. Hard copies can be supplied at your request for a fee of $20.00 per copy.

The invoice for this project will be emailed separately. If you have any questions concerning the data or invoice, please don't hesitate to contact our office. We welcome your comments and suggestions to improve our quality systems. Please reference Brighton Analytical, L.L.C. Project ID 53456 when calling or emailing. We thank you for this opportunity to partner with you on this project and hope to work with you again in the future.

Sincerely,
Brighton Analytical, L.L.C.

Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail:bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 10/13/2018 10:25
Submit Date/Time: 10/15/2018 12:40
Report Date: 10/22/2018

Arch Environmental Group
37720 Interchange Dr.
Farmington Hills, MI 48335

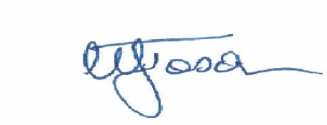
BA Project # **53456**
BA Sample ID **CI05043**

Project Name: **Taft Elementary School/Lincoln Center IFD**
Project Number: **AE180812-WPS**
Sample ID: **Taft-ES-01 Kit 2-Comp Food Prep Snk**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	16:05	10/18/2018

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.
Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by 

Date 10/22/2018

Brighton Analytical LLC
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Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail:bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 10/13/2018 10:30
Submit Date/Time: 10/15/2018 12:40
Report Date: 10/22/2018

Arch Environmental Group
37720 Interchange Dr.
Farmington Hills, MI 48335

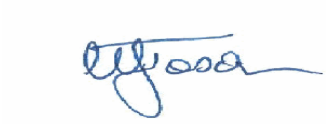
BA Project # **53456**
BA Sample ID **CI05044**

Project Name: **Taft Elementary School/Lincoln Center IFD**
Project Number: **AE180812-WPS**
Sample ID: **Taft-ES-02 Across from Room 108**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	16:08	10/18/2018

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.
Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by 

Date 10/22/2018

Brighton Analytical LLC
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Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
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NELAC Accredited #176507

Sample Date/Time: 10/13/2018 10:32
Submit Date/Time: 10/15/2018 12:40
Report Date: 10/22/2018

Arch Environmental Group
37720 Interchange Dr.
Farmington Hills, MI 48335

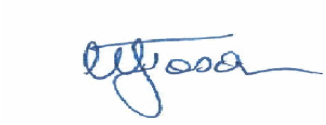
BA Project # **53456**
BA Sample ID **CI05045**

Project Name: **Taft Elementary School/Lincoln Center IFD**
Project Number: **AE180812-WPS**
Sample ID: **Taft-ES-03 Acrs Rm 108 Bottle Fill**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	16:11	10/18/2018

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.
Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by 

Date 10/22/2018

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Phone: (810)229-7575 (810)229-8650
e-mail:bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 10/13/2018 10:40
Submit Date/Time: 10/15/2018 12:40
Report Date: 10/22/2018

Arch Environmental Group
37720 Interchange Dr.
Farmington Hills, MI 48335

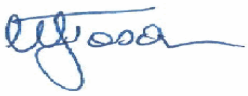
BA Project # **53456**
BA Sample ID **CI05046**

Project Name: **Taft Elementary School/Lincoln Center IFD**
Project Number: **AE180812-WPS**
Sample ID: **Taft-ES-04 Room 103, Bubbler**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Lead (Drinking Water)	3	ug/L	1	15	EPA 200.8 rev5.4	16:14	10/18/2018

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.
Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by 

Date 10/22/2018

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Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail:bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 10/13/2018 10:43
Submit Date/Time: 10/15/2018 12:40
Report Date: 10/22/2018

Arch Environmental Group
37720 Interchange Dr.
Farmington Hills, MI 48335

BA Project # **53456**
BA Sample ID **CI05047**

Project Name: **Taft Elementary School/Lincoln Center IFD**
Project Number: **AE180812-WPS**
Sample ID: **Taft-ES-05 L Water Cooler, R Rm205**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	16:17	10/18/2018

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.
Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date 10/22/2018

Brighton Analytical, L.L.C.™

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2105 Pless Drive
Brighton, MI 48114
Phone: 810-229-7575
Fax: 810-229-8650

BA PROJECT #: 53456

PAGE 1 OF 1

ABBREVIATIONS FOR MATRIX
S = Solid
L = Liquid
DW = Drinking H_20
O = Oil
P = Wipe
A = Air (Tedlar Bag)
F = Filter
T = Tube
M = Misc.

PROJECT NAME: Taft Elementary School/The Lincoln center

PROJECT #: A2180812 IFD

PO #: (PLEASE NOTE IF DIFFERENT BILLING ADDRESS) Wyandotte Public Schools

Sample collected by: Lindsey Eveleth

REQUESTED TURNAROUND: (circle one)
Rush: 1 -3 business days (verify with lab & specify date needed)
1 Day = 2.5X Cost 2 Day = 2X Cost 3 Day = 1.5X Cost
Standard: 5 business days

If RUSH, approved by: _____

Sample Coll.

Brighton ID #	Sample Description	Date	Time	VOA'S (PRES) Y N N/A	HDPE UNPRESERVED	HDPE HNO_3	HDPE H_2SO_4	HDPE NAOH	AMBER PRESERVED?	GLASS, NO PRESERVATIVE	STERILIZED BACTERIA	MEOH Preserved Y N	Sample Matrix	Analysis Requested/Method
CLIENT 5043	Taft ES-01 kitchen 2-comp food prep sink	10/13	1025			X							X	X
2) 44	Taft ES-02 across from Room 108	10/13	1030			↓							↓	↓
3) 45	Taft ES-03 across from room 108 bottle fill	10/13	1032											
4) 46	Taft ES-04 Room 203, Bubbler	10/13	1040											
5) 47	Taft ES-05 left water cooler, right of Room 205	10/13	1043											
6)														
7)														
8)														
9)														
10)														

PW PW

COMPANY/MAILING ADDRESS: Arch Environmental Group

ATTN: Lauren Kolodki

PHONE:

FAX OR EMAIL: labs@archenvgroup.com

Samples received within hold time? yes ☑ no ☐

Temperature of samples °C: ON ICE

pHs verified in login? yes ☑ no ☐

Headspace/bubbles in VOA's? yes ☐ no ☐ n/a ☑

Sample containers and COC match? yes ☑ no ☐

BILLING ADDRESS (IF REQUIRED):

Drinking H_2O:
Fax to LCHD? yes ☐ no ☒
Chlorinated Water Supply? yes ☒ no ☐
AMT.: _____

MCL Failure: yes ☐ no ☐
Client Notified (date/time/initials): _____

Special Instructions:

Please fill out the Chain of Custody completely and review. Incorrect or incomplete information will result in a "hold" on all analyses.

Trans. #	RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	Trans. #	RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:
1		KC/Lil	10/15/18	10:40	3				
2	KC/Lil		10/15/18	12:40	4				

Brighton Analytical L.L.C.

BRIGHTON ANALYTICAL, LLC

QUALITY ASSURANCE/QUALITY CONTROL

ICP-MS
METHOD 200.8/6020

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: 10/18/2018 Standard ID: 092618 H2O Batch: 10/17/2018 B3

Matrix Spike Lab ID: CI05040 Matrix: Total Analyst: LT

Metals	Matrix Spike - Precision *			Matrix Spike - Accuracy**				Miscellaneous***		
	Matrix Spike (ug/kg)	Matrix Spike Dup (ug/kg)	RPD (%)	Spk Conc (ug/kg)	MS Recovery (%)	MSD Recovery (%)	Sample Conc (ug/kg)	Method Blk (ug/kg)	LCS-Method STD (%)	Ind. Std. (%)
Lead	961	982	2.2	1000	95.8	97.9	3	<1	105.9	100.1

* Matrix spike precision range +/- 20% RPD
** Matrix spike accuracy range +/- 20% recovery
*** LCS accuracy range +/- 15% recovery / Ind std accuracy range +/- 10% recovery

Comments: _____