environmental group

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April 20, 2016

Mr. Ken Kreszyn
Supervisor of Facilities
Trenton Public Schools
2601 Veterans Parkway
Trenton, Michigan 48183
kreszynk@trentonschools.com

RE: **AEG Project # AE160330**
Drinking Water Sampling
5 District Buildings

Dear Mr. Kreszyn:

Pursuant to the request of Trenton Public Schools, Arch Environmental Group, Inc. representative service connection lead samples on April 9, 2016, at Anderson Elementary School, Arthurs Middle School, Hedke Elementary School, Service Building, and Trenton High School. The results of the sampling are detailed in the attached report.

If you have any questions regarding the report, please feel free to contact Jenna Sendra at (248) 426-0165 [office] or (734) 239-1424 [mobile].

Sincerely,

Arch Environmental Group, Inc.
Environmental Services

Erica Volanksy
Project Consultant

Attach.

File: AE160330
Drinking Water Sampling

1.0 / Introduction

Pursuant to the request of Trenton Public Schools, Arch Environmental Group, Inc. (AEG), a licensed environmental consulting firm collected twenty (20) first draw drinking water samples throughout Anderson Elementary School, Arthurs Middle School, Hedke Elementary School, the Service Building, and Trenton High School on April 9, 2018. Samples were collected from high priority water outlets. These outlets may include food prep sinks and student drinking fountains. All drinking water samples collected by AEG as part of a lead in drinking water testing program are collected and interpreted with the Environmental Protection Agencies (EPA) guidance manual *"3Ts for Reducing Lead in Drinking Water in Schools Revised Technical Guidance, October 2006"*; not to be confused with the protocol employed by public water suppliers. All samples were delivered to Certified Laboratory, Brighton Analytical, L.L.C., for analysis.

1.1 / Qualifications

Arch Environmental Group, Inc. is a full spectrum environmental services firm specializing in environmental health and safety consulting. Ms. Lauren Koloski collected first draw drinking water samples under the direct supervision of Ms. Christine Caddick who is accredited by the Michigan Department of Environmental Quality as a Certified Waterworks System Operator, Classification D-5, Operator Number 18412.

2.0 / Contaminant Information

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

<u>Lead</u>

Lead enters into drinking water in two ways:

1. *At the Source*
   Most sources of drinking water have no lead or very low levels of lead (i.e., under 5 ug/L). However, lead is a naturally occurring metal and in some instances can get into well water. Lead can enter surface waters (waters from rivers, lakes, or streams) through direct or indirect discharges from industrial or municipal wastewater treatment plants or when lead in air settles into water or onto city streets and eventually, via rain water, flows into storm sewers, or waterways, which may enter the water supply. Lead from these sources can be easily removed by existing treatment plant technologies.

2. *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.

3. 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 had, a lead service pipe.

Even though your public water supplier may deliver water that meets all federal and state public health standards for lead, you may end up with too much lead in your drinking water because of the plumbing in your facility. The potential for lead to leach into water can increase the longer the water remains in contact with lead in plumbing. As a result, areas with intermittent water use patterns, may have elevated lead concentrations. Additionally, some lead may get into the water from the distribution system – the network of pipes that carry the water to homes, businesses, and schools in the community. Some communities have lead components in their distribution systems, such as lead joints in cast iron mains, service connections, pigtails, and goosenecks.

Public Water Supply Testing vs. Testing at Schools (15 ug/L vs. 20 ug/L)

Lead is regulated in public drinking water supplies under a federal law known as the Safe Drinking Water Act (SDWA). The requirements developed by EPA apply to public water systems. Schools that are served by a public water system (i.e., a drinking water system that they do not own or operate) are not subject to the SDWA monitoring and treatment requirements, because those schools do not meet the definition of a public water system.[1] Schools served by a Public Water System can implement a voluntary lead reduction program.[2] It is important to note that the lead testing protocol utilized by public water systems is aimed at identifying system-wide problems rather than problems at outlets in individual buildings. Moreover, the protocols for sample size and sampling procedures are different. The EPA's action level of 15 ug/L for lead is for Public Water Systems.[3] The EPA recommends that all water outlets in all schools that receive water from a public water systems meet a standard of 20 ug/L lead or less.[4] An action level exceedance is not a violation but triggers other actions to minimize exposure to lead.[5]

3.0 / Sampling

All sampling was conducted referencing EPA's guidance manual *"3Ts for Reducing Lead in Drinking Water in Schools Revised Technical Guidance, October 2006"*; not to be confused with the protocol employed by public water suppliers.

The representative first draw drinking water samples collected in Anderson Elementary School, Arthurs Middle School, Hedke Elementary School, the Service Building, and Trenton High School on April 9, 2016, identified lead levels below the EPA's 3T's drinking water level of 20 ug/L. Specific sample information is located in Appendix B.

4.0 / Conclusion

AEG collected twenty (20) representative first draw drinking water samples throughout Anderson Elementary School, Arthurs Middle School, Hedke Elementary School, the Service Building, and Trenton High School on April 9, 2016.

The representative first draw drinking water samples collected in Anderson Elementary School, Arthurs Middle School, Hedke Elementary School, the Service Building, and Trenton High School on April 9, 2016, identified lead levels below the EPA's 3T's drinking water level of 20 ug/L.

It is the opinion of Arch Environmental Group, Inc. that the results indicate that no additional actions are necessary at the locations sampled.

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[1] United States Environmental Protection Agency's manual *"3T's for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance, October 2006"*, pg. 12.

[2] https://www.epa.gov/dwreginfo/testing-schools-and-child-care-centers-lead-drinking-water#sampleresults.

[3] https://www.epa.gov/dwreginfo/testing-schools-and-child-care-centers-lead-drinking-water#sampleresults.

[4] United States Environmental Protection Agency's manual *"3T's for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance, October 2006"*, pg. 28.

[5] https://www.michigan.gov/deq/0,4561,7-135-3313_3675_3691-9677--,00.html.

Trenton Public Schools
Drinking Water Lead Analysis
Project Number: AE160330

Anderson Elementary School
Date of Sampling: 4/9/2016
Sampler: Lauren Koloski

Sample #	Location	Type	Time Collected	EPA Level ug/L	Results (ug/L)	Notes
Anderson-01	1-compartment food prep sink	KS	7:24 AM	20	2	First Draw
Anderson-02	Fountain outside RM #A102	B	7:27 AM	20	3	First Draw
Anderson-03	Fountain in RM #B132	B	7:32 AM	20	4	First Draw

Arthur: Middle School
Date of Sampling: 4/9/2016
Sampler: Lauren Koloski

Sample #	Location	Type	Time Collected	EPA Level ug/L	Results (ug/L)	Notes
Arthur-01	Left fountain outside of RM #B26	WC	8:05 AM	20	ND	First Draw
Arthur-02	3-compartment sink, left faucet	KS	8:10 AM	20	1	First Draw
Arthur-03	Left fountain, left of RM #1215	B	8:15 AM	20	ND	First Draw
Arthur-04	Right fountain, right of RM #2206	WC	8:19 AM	20	ND	First Draw
Arthur-05	Right fountain, between RMS #1116-5	WC	8:23 AM	20	ND	First Draw

Hedke Elementary School
Date of Sampling: 4/9/2016
Sampler: Lauren Koloski

Sample #	Location	Type	Time Collected	EPA Level ug/L	Results (ug/L)	Notes
Hedke-01	1-compartment food prep sink	KS	7:45 AM	20	4	First Draw
Hedke-02	Right fountain, right of RM #104	B	7:49 AM	20	3	First Draw
Hedke-03	Fountain outside RM #409	B	7:53 AM	20	1	First Draw

Service Building
Date of Sampling: 4/9/2016
Sampler: Lauren Koloski

Sample #	Location	Type	Time Collected	EPA Level ug/L	Results (ug/L)	Notes
Service BLD-01	Sink by back door	Sink	8:37 AM	20	6	First Draw
Service BLD-02	Garage sink	Sink	8:41 AM	20	2	First Draw

1) Type: B = Bubbler; WC = Water Cooler; CF = Classroom Faucet; KS = Kitchen Sink; BF = Bathroom Faucet; NS = Nurse Sink "3T's for Reducing Lead in Drinking Water in Schools", pg. 28.

2) EPA manual "3T's for Reducing Lead in Drinking Water in Schools", pg. 28.

3) ND = Not Detected at Reported Detection Limit of 1 ug/L

Trenton Public Schools
Drinking Water Lead Analysis
Project Number: AE160330

Trenton High School

Date of Sampling: 4/9/2016

Sampler: Lauren Koloski

Sample #	Location	Type[1]	Time Collected	EPA Level ug/L[2]	Results (ug/L)	Notes
Trenton HS-01	Right fountain, across RM #C143	B	6:43 AM	20	4	First Draw
Trenton HS-02	First floor, main lobby, fountain	WC	6:46 AM	20	ND[3]	First Draw
Trenton HS-03	Board office drinking fountain	WC	6:50 AM	20	ND	First Draw
Trenton HS-04	Fountain across from RM #F222	WC	6:55 AM	20	ND	First Draw
Trenton HS-05	1-compartment food prep sink	KS	6:59 AM	20	3	First Draw
Trenton HS-06	Southwest wall of gym	B	7:04 AM	20	3	First Draw
Trenton HS-07	Fountain outside of cafeteria	WC	7:13 AM	20	4	First Draw

1) Type: B = Bubbler; WC = Water Cooler; CF = Classroom Faucet; KS = Kitchen Sink; BF = Bathroom Faucet; NS = Nurse Sink "3T's for Reducing Lead in Drinking Water in Schools", pg. 28.

2) EPA manual "3T's for Reducing Lead in Drinking Water in Schools", pg. 28.

3) ND = Not Detected at Reported Detection Limit of 1 ug/L