Evaluation of Lead in Drinking Water at West Scranton High School

1201 Luzerne Street
Scranton, PA 18504

Prepared for:

SCRANTON SCHOOL DISTRICT
425 N. Washington Ave.
Scranton, PA 18503

Guzek Associates Inc.
401 Davis Street
Clarks Summit, PA 18411
Phone: (570) 586-9700
FAX: (570) 586-6728
Mechanical, Electrical, Structural, Environmental, and Architectural Engineering

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INTRODUCTION

Under the 2018 Act 39 Pennsylvania School Code (Section 742) beginning in the 2018-2019 school year and every year thereafter, School Districts in Pennsylvania shall either analyze their drinking water for lead or conduct public meetings to discuss why testing was not conducted.

BACKGROUND

Lead is a naturally occurring heavy metal that is toxic when ingested or absorbed into the body. Children in particular are more susceptible to lead poisoning because they absorb more lead into their systems as they grow.

According to the United States Environmental Protection Agency (EPA), "even low levels of lead in the blood of children can result in:

- Behavior and learning problems
- Lower IQ and Hyperactivity
- Slowed growth
- Hearing problems
- Anemia

In rare cases, ingestion of lead can cause seizures, coma and even death" (Available at www.epa.gov/lead/learn-about-lead, April 4, 2016). Although, there are several ways that lead poisoning can occur in children, this report evaluates potential lead exposure only from drinking water within the **West Scranton High School**.

There are basically two (2) ways in which lead can enter drinking water. The first and least common route would be lead that is present in the source water. This route is extremely rare and would only be addressed if high levels of lead were discovered in the secondary flushed samples.

The second route for lead to enter drinking water (and most common), would be lead that has been leached out of the plumbing material as water passes through it. Although lead is no longer used in pipes or solder, it can still be found in older fittings, fixtures, and plumbing components. The ability of water to leach chemicals from piping and plumbing materials is known as corrosivity. Therefore, the more corrosive the water, the more potential there is for lead to be leached out of the plumbing material. Additionally, as the length of time the water is in contact with the plumbing material increases, so does the potential for the leaching of lead.

SAMPLING PROCEDURES

Both the Environmental Protection Agency [EPA] and the Pennsylvania Department of Environmental Protection Agency [PADEP] have programs to evaluate and reduce the concentration of lead in drinking water. The Federal (EPA) Program, the **3Ts for Reducing Lead in Drinking Water,** was developed for schools and daycare centers. The State (PADEP) Program is directed toward public drinking water suppliers (*Lead Copper Rule, 1991*). The programs differ slightly in sample quantity. However, because EPA's program is geared specifically toward schools, EPA's 3Ts sampling protocols were utilized.

A lead sampling plan was developed by Guzek Associates, Inc. [GAI] with the assistance of school maintenance staff in accordance with **EPA's 3Ts for Reducing Lead in Drinking Water Toolkit** (available at: www.epa.gov/ground-water-and-drinking-water/3ts-reducing-lead-drinking-water-toolkit). Representative samples of water fountains and/or faucets with the likelihood of ingestion by children were located and sampled. For example, if a classroom has two identical water fountains, only one was sampled; or, if a faucet was located in a maintenance room where children had no access, it would not be sampled.

One sample was taken at each designated location at the West Scranton High School, according to EPA's 3T's Toolkit sampling protocols. The sample was taken under worst case scenario condition. All samples were taken as First Draw after the water sat (unused) in the pipes for a minimum of eight (8) hours.

Clean/new sample bottles containing a preservative were supplied by a local laboratory. Samples were transported to the laboratory on ice within the specified holding times.

SAMPLE RESULTS

The sample results were compared to both EPA's Remediation Trigger Level [RTL] of 0.020 mg/l and PADEP's Lead Action Level of 0.015 mg/l.

The following table summarizes the First Draw lead results sampled on December 26, 2019 from the West Scranton High School:

Sample ID:	Sample Location Description:	Lead Concentration (mg/l)	Lead RTL* (mg/l)	Lead Action Level** (mg/l)	Exceeds Action Level
WH-01	Kitchen, Fruit & Veg. – Left Wash Sink	<0.001	0.020	0.015	No
WH-02	Kitchen, Fruit & Veg. – Right Wash Sink	<0.001	0.020	0.015	No
WH-03	Kitchen – Ecolab Wash Sink	0.002	0.020	0.015	No
WH-04	Kitchen – Ecolab Solitaire Sink	0.012	0.020	0.015	No
WH-05	No Sample	-	-	-	-
WH-06	No Sample	-	-	-	-

* RTL is defined by EPA as the level at which remedial action should be taken to reduce potential exposure to lead in public school drinking water.
** Action Level is defined by EPA as the level at which action should be taken to reduce the concentration of lead in drinking water.

If any sample result exceeded PADEP's Action Level (which is the most stringent), the School was contacted and it was recommended that the fountain/faucet be immediately taken out of service or signage be posted stating, "NOT FOR DRINKING/COOKING".

No samples exceeded either EPA's Remediation Trigger Level [RTL] of 0.020 mg/l and PADEP's Lead Action Level of 0.015 mg/l.

The Laboratory Analytical Reports (with Chain-of-Custody Forms) are found in Appendix A of this report.

RECOMMENDATIONS

As previously stated, if a sample concentration of 0.015 mg/l of lead was exceeded, GAI contacted the School District and it was recommended that the drinking fountain or faucet of concern be immediately taken out of service or signage be posted stating, “NOT FOR DRINKING/COOKING”. If no sample results exceeded the PADEP’s Action Level or EPA’s RTL, no remediation action was recommended.

As permanent control measure, GAI recommends the following:

1). Any fountain or faucet used for drinking with elevated lead content should be permanently removed and replaced with a bottled water cooler.

2). It is strongly recommended that any faucet with elevated lead be immediately taken out of service or be posted “NOT FOR DRINKING/COOKING”. Because there is a possibility that Lead may be present in faucets that have not been tested, it is therefore recommended that untested faucets be posted as well. Postings should be inspected monthly and replaced as needed.

3). As a safeguard, a schedule of flushing drinking water fountains and cooking faucets should be established by the School at the beginning of each school year and after long holidays (e.g. Christmas/New Year, Thanksgiving).

4). Results of lead sampling and remediation actions should be posted on the School District’s Website and in the Administrative Offices of the School. Also, according to the PA Public School Code No. 2018-39, an elevated lead level “shall be reported to the Department of Education and posted on the Department’s publicly accessible Internet Website”.

APPENDIX A: SAMPLE CHAIN OF CUSTODY & ANALYTICAL RESULTS

HAWKMTN LABS INC

201 West Clay Avenue / Hazle Township, PA 18202

PHONE (570) 455-6011 - FAX (570) 455-6321
www.hawkmtnlabs.com

Report Narrative

Customer: Guzek Associates, Inc.
401 Davis Street
Clarks Summit, PA 18411

Report Date: 1/17/2020

HawkMtn WO #: 1912-00995
Subject Line: West High School Drinking Water Lead Analysis

Any information provided by client (CLT) has not been performed by HML and is not within the HML scope of accreditation.

All solid samples are reported on an "as received" basis unless otherwise noted.

The test results meet the requirements of 25 PA Code and Chapter 252, except where noted.
The information contained in this analytical report is the sole property of Hawk MTN Laboratories, Inc.
and that of the client. It cannot be reproduced in any form without the consent of Hawk MTN Labs, Inc. or the client for which this report was issued. The results contained in this report(s) are only representative of the sample(s) received. Conditions are dependant on location and time of the sampling event.
Hawk MTN Laboratories, Inc. is not responsible for use or interpretation of the data included herein.

PA DEP 40-417
EPA PA00169

HAWKMTN LABS INC

201 West Clay Avenue / Hazle Township, PA 18202

PHONE (570) 455-6011 - FAX (570) 455-6321
www.hawkmtnlabs.com

Certificate of Analysis

Customer: Guzek Associates, Inc.
401 Davis Street
Clarks Summit, PA 18411

Report Date: 1/17/2020

Material Tested:	Potable Water			HawkMtn WO #:	1912-00995-001
Date Sampled:	12/26/2019	Time Sampled:	13:29	Sampler:	Client
Date Received:	12/30/2019			Sample Point ID:	WH-01
Client Sample ID:	WH-01, Drinking Water Lead Analysis				

Test Name	Test Results	Dilution Factor	Quant Limit	Method	Qual	Tech	Start Date/Time	End Date/Time
Lead, DW ICP-MS	<0.001 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00995-002
Date Sampled:	12/26/2019	Time Sampled:	13:29	Sampler:	Client
Date Received:	12/30/2019			Sample Point ID:	WH-02
Client Sample ID:	WH-02, Drinking Water Lead Analysis				

Test Name	Test Results	Dilution Factor	Quant Limit	Method	Qual	Tech	Start Date/Time	End Date/Time
Lead, DW ICP-MS	<0.001 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00995-003
Date Sampled:	12/26/2019	Time Sampled:	13:32	Sampler:	Client
Date Received:	12/30/2019			Sample Point ID:	WH-03
Client Sample ID:	WH-03, Drinking Water Lead Analysis				

Test Name	Test Results	Dilution Factor	Quant Limit	Method	Qual	Tech	Start Date/Time	End Date/Time
Lead, DW ICP-MS	0.00182 mg/L	1	0.001	EPA 200.8		KLM	1/7/20 22:31	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00995-004
Date Sampled:	12/26/2019	Time Sampled:	13:32	Sampler:	Client
Date Received:	12/30/2019			Sample Point ID:	WH-04
Client Sample ID:	WH-04, Drinking Water Lead Analysis				

Test Name	Test Results	Dilution Factor	Quant Limit	Method	Qual	Tech	Start Date/Time	End Date/Time
Lead, DW ICP-MS	0.0123 mg/L	1	0.001	EPA 200.8		KLM	1/7/20 22:31	

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Certificate of Analysis

Customer: Guzek Associates, Inc.
401 Davis Street
Clarks Summit, PA 18411

Report Date: 1/17/2020

Material Tested:	Potable Water			HawkMtn WO #:	1912-00995-005
Date Sampled:	12/26/2019	Time Sampled:	13:29	Sampler:	Client
Date Received:	12/30/2019			Sample Point ID:	WH-05
Client Sample ID:	WH-05, Drinking Water Lead Analysis				

Test Name	Test Results	Dilution Factor	Quant Limit	Method	Qual	Tech	Start Date/Time	End Date/Time
Not Sampled			0				0:00	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00995-006
Date Sampled:	12/26/2019	Time Sampled:	13:29	Sampler:	Client
Date Received:	12/30/2019			Sample Point ID:	WH-06
Client Sample ID:	WH-06, Drinking Water Lead Analysis				

Test Name	Test Results	Dilution Factor	Quant Limit	Method	Qual	Tech	Start Date/Time	End Date/Time
Not Sampled			0				0:00	

ND = Non Detect

These results relate only to the sample noted above.

This certificate is not to be reproduced except in full, without the written approval of HawkMtn Labs

Jeff Gittleman, Lab Director

PA DEP 40-417
EPA PA00169

Work Order #: **1912-00995** Purchase Order:

Site Name: **Guzek Associates, Inc.**

Contact: **learl.gai@gmail.com**

Chain of Custody & Analysis Record

HawkMtn Labs, Inc.
201 West Clay Ave, Hazle Township, PA 18202
Ph.(570) 455-6011 Fax (570) 455-6321

Pick Up Date:

Printed By: AH

Bottles made by: CLT

Approved By: ACP

Checked By: HH

Composite
Start Date: _____ Time: _____
End Date: _____ Time: _____

Grab
Date: _____ Time: _____
Date: _____ Time: _____
Date: _____ Time: _____
Date: _____ Time: _____

Smp#	Bottle	Preservative	Rcvd	Smp#	Bottle	Preservative	Rcvd
001	Copper/Lead ~~1L Graduated~~	HNO3	☑				
002	Copper/Lead ~~1L Graduated~~	HNO3	☑				
003	Copper/Lead ~~1L Graduated~~	HNO3	☑				
004	Copper/Lead ~~1L Graduated~~	HNO3	☐				
~~005~~	~~Copper/Lead 1L Graduated~~	~~HNO3~~	☐				
~~006~~	~~Copper/Lead 1L Graduated~~	HNO3	☐				

Smp #	Smp Site	Matrix/ Smp Type	Tests	Temp Upon Receipt	Sample Date	Sample Time	Field pH	Field Cl	Field Temp
001	WH-01, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	9.4 °C	12/26/19	1:29 pm		mg/L	°C
002	WH-02, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	9.5 °C		1:29		mg/L	°C
003	WH-03, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	9.6 °C		1:32		mg/L	°C
004	WH-04, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	9.6 °C		1:32		mg/L	°C
005	WH-05, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	°C				mg/L	°C
006	WH-06, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	°C				mg/L	°C

Receipt Info: Recieved on ice? (Y) / N Samples intact? (Y) / N COC intact and complete? (Y) / N Correct containers? (Y) / N Adquate samples? (Y) / N Volatiles: Headspace present? ~~Y~~ / ~~N~~ Completed by: SG Samples/COC/Analysis agree? (Y) / N

Sampled By: Chris Nestair / Brad McGinn

Field Meter ID: MX

Notes:
Client applied white out.
SG 12/30/19

All samples taken in 250mL plastic HNO3 preserved bottles.

		Date	Time
RELINQUISHED BY:	Brad McGinn	12/30/19	1113
RECEIVED BY:			
RELINQUISHED BY:			
RECEIVED AT LAB:		12/30/19	1113
LOGGED IN AT LAB:		12/30/19	1258