Evaluation of Lead in Drinking Water at West Scranton Intermediate School

Parrott Avenue & Fellows Street
Scranton, PA 18504

Prepared for:

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

Prepared by:

Guzek Associates Inc.
401 Davis Street
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Mechanical, Electrical, Structural, Environmental, and Architectural Engineering

GAI Job No.: SSD.19_673

Sample Date: December 27, 2019
Report Date: January 20, 2020

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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 Intermediate 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 Intermediate 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 27, 2019 from the West Scranton Intermediate School:

Sample ID:	Sample Location Description:	Lead Concentration (mg/l)	Lead RTL* (mg/l)	Lead Action Level** (mg/l)	Exceeds Action Level
West I-01	Kitchen Water – Wash Sink (Right)	0.003	0.020	0.015	No
West I-02	Kitchen Water – Wash Sink (Left)	0.002	0.020	0.015	No
West I-03	Red House – Water Fountain	<0.001	0.020	0.015	No
West I-04	Blue House – Water Fountain	0.002	0.020	0.015	No
West I-05	Orange House – Water Fountain	0.001	0.020	0.015	No
West I-06	Pool (Girls Locker Room) – Water Fountain	0.005	0.020	0.015	No
West I-07	Pool (Boys Locker Room) – Water Fountain	<0.001	0.020	0.015	No
West I-08	Gym Hallway (Break room) – Sink	0.013	0.020	0.015	No
West I-09	**Band Room, Girls restroom – Sink**	**0.057**	**0.020**	**0.015**	**YES**
West I-10	Auditorium Side Entrance – Water Fountain	0.003	0.020	0.015	No
West I-11	**Band Room – Sink**	**0.080**	**0.020**	**0.015**	**YES**
West I-12	No Sample	-	-	-	-
West I-13	No Sample	-	-	-	-
West I-14	No Sample	-	-	-	-
West I-15	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.

Samples, West I-09 and West I-11, were reported by the laboratory as above the Action Level. 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 other 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 #: 1912-00996
Subject Line: West Intermediate 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 #:	1912-00996-001
Date Sampled:	12/27/2019	Time Sampled:	7:44	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-01
Client Sample ID:	WEST-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	0.00311 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00996-002
Date Sampled:	12/27/2019	Time Sampled:	7:44	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-02
Client Sample ID:	WEST-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	0.00232 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00996-003
Date Sampled:	12/27/2019	Time Sampled:	8:05	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-03
Client Sample ID:	WEST-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	<0.001 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00996-004
Date Sampled:	12/27/2019	Time Sampled:	8:03	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-04
Client Sample ID:	WEST-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	0.00194 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

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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 #:	1912-00996-005
Date Sampled:	12/27/2019	Time Sampled:	7:57	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-05
Client Sample ID:	WEST-05, 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	0.00104 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00996-006
Date Sampled:	12/27/2019	Time Sampled:	7:59	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-06
Client Sample ID:	WEST-06, 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	0.00547 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00996-007
Date Sampled:	12/27/2019	Time Sampled:	7:58	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-07
Client Sample ID:	WEST-07, 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 #:	1912-00996-008
Date Sampled:	12/27/2019	Time Sampled:	7:53	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-08
Client Sample ID:	WEST-08, 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	0.0125 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

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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 #:	1912-00996-009
Date Sampled:	12/27/2019	Time Sampled:	7:49	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-09
Client Sample ID:	WEST-09, 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	0.569 mg/L	10	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00996-010
Date Sampled:	12/27/2019	Time Sampled:	7:45	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-10
Client Sample ID:	WEST-10, 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	0.00255 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00996-011
Date Sampled:	12/27/2019	Time Sampled:	7:47	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-11
Client Sample ID:	WEST-11, 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	0.0798 mg/L	1	0.001	EPA 200.8		KLM	1/9/20 17:51	

Material Tested:	Potable Water			HawkMtn WO #:	1912-00996-012
Date Sampled:	12/27/2019	Time Sampled:	7:44	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-12
Client Sample ID:	WEST-12, 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	

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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 #:	1912-00996-013
Date Sampled:	12/27/2019	Time Sampled:	7:44	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-13
Client Sample ID:	WEST-13, 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 #:	1912-00996-014
Date Sampled:	12/27/2019	Time Sampled:	7:44	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-14
Client Sample ID:	WEST-14, 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 #:	1912-00996-015
Date Sampled:	12/27/2019	Time Sampled:	7:44	Sampler:	CLIENT
Date Received:	12/30/2019			Sample Point ID:	WEST-15
Client Sample ID:	WEST-15, 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.

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Jeff Gittleman, Lab Director

PA DEP 40-417
EPA PA00169

Work Order #: **1912-00996** 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: CIT

Approved By: AP

Checked By: HH

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

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

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	☑
007	Copper/Lead ~~1L Graduated~~	HNO3	☑
008	Copper/Lead ~~1L Graduated~~	HNO3	☑
009	Copper/Lead ~~1L Graduated~~	HNO3	☑
010	Copper/Lead ~~1L Graduated~~	HNO3	☐
011	Copper/Lead ~~1L Graduated~~	HNO3	☐
~~012~~	~~Copper/Lead 1L Graduated~~	~~HNO3~~	☐
~~013~~	~~Copper/Lead 1L Graduated~~	~~HNO3~~	☐
~~014~~	~~Copper/Lead 1L Graduated~~	~~HNO3~~	☐
~~015~~	~~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	WEST-01, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.5 °C	12/27/19	7:44 Am		mg/L	°C
002	WEST-02, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.3 °C		7:44		mg/L	°C
003	WEST-03, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.7 °C		8:05		mg/L	°C
004	WEST-04, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.7 °C		8:03		mg/L	°C
005	WEST-05, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.8 °C		7:59		mg/L	°C
006	WEST-06, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.8 °C		7:59		mg/L	°C
007	WEST-07, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.9 °C		7:58		mg/L	°C
008	WEST-08, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.9 °C		7:53		mg/L	°C
009	WEST-09, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.9 °C		7:49 Pm		mg/L	°C
010	WEST-10, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	1.9 °C		7:45		mg/L	°C

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

Sampled By: Brent m Tyson / Chris Nolan
Field Meter ID: N/A

Notes:
White out applied by client before receipt at HL.

All samples taken in 250mL plastic HNO3 preserved bottles.

		Date	Time
RELINQUISHED BY:	Brent m Tyson	12/30/19	12:05
RECEIVED BY:			
RELINQUISHED BY:			
RECEIVED AT LAB:	Jacob Gillum	12/30/19	1205
LOGGED IN AT LAB:	Marissa Jones	12/30/19	1347

Work Order #: **1912-00996** 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: QT

Approved By: AP
Checked By: MM

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

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

Smp #	Smp Site	Matrix/ Smp Type	Tests	Temp Upon Receipt	Sample Date	Sample Time	Field pH	Field Cl	Field Temp
011	WEST-11, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	2-0 °C	12/27/19	7:47Am		mg/L	°C
012	WEST-12, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	°C				mg/L	°C
013	WEST-13, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	°C				mg/L	°C
014	WEST-14, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	°C				mg/L	°C
015	WEST-15, Drinking Water Lead Analysis	Potable Water	DW-PB-MS	°C				mg/L	°C

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

Sampled By: Brent Tripp / Chris Nobri
Field Meter ID: NA

Notes:

All samples taken in 250mL plastic HNO3 preserved bottles.

		Date	Time
RELINQUISHED BY:	Brent Tripp	12/30/19	12:05
RECEIVED BY:			
RELINQUISHED BY:			
RECEIVED AT LAB:		12/30/19	1205
LOGGED IN AT LAB:		12/30/19	1347

QSP-008-F02B Rev 004

12/11/2019