# Evaluation of Lead in Drinking Water at Robert Morris Elementary School

1824 Boulevard Avenue Scranton, PA 18509

# Prepared for:

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

# Prepared by:



GAI Job No.: SSD.19\_673 Sample Date: December 26, 2019

Report Date: January 27, 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 <a href="https://www.epa.gov/lead/learn-about-lead">www.epa.gov/lead/learn-about-lead</a>, 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 Robert Morris Elementary 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 Robert Morris Elementary 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 Robert Morris Elementary School:

Sample	Sample Location Description:	Lead	Lead	Lead	Exceeds
ID:		Concentration	RTL*	Action Level**	Action
		(mg/l)	(mg/l)	(mg/l)	Level
MOR-01	1 <sup>st</sup> Floor, Cafeteria – Right Sink	0.005	0.020	0.015	No
MOR-02	Basement Hallway – Water Fountain – Left	<0.001	0.020	0.015	No
MOR-03	Basement Hallway – Water Fountain – Right	<0.001	0.020	0.015	No
MOR-04	Basement, Art Room Sink	0.010	0.020	0.015	No
MOR-05	1 <sup>st</sup> Floor, Room 108 – Right Sink	0.010	0.020	0.015	No
MOR-06	1 <sup>st</sup> Floor, Room 103 Sink	0.009	0.020	0.015	No
MOR-07	1 <sup>st</sup> Floor, Room 102 Sink	0.007	0.020	0.015	No
MOR-08	2nd Floor, Health Room – Sink (In Restroom)	0.005	0.020	0.015	No
MOR-09	2nd Floor, Health Room – Sink	0.003	0.020	0.015	No
MOR-10	2nd Floor Hallway, Water Fountain (Outside Health Room)	<0.001	0.020	0.015	No
MOR-11	2nd Floor Hallway, Water Fountain (Across from Room 204)	<0.001	0.020	0.015	No
MOR-12	2 <sup>nd</sup> Floor, Room 204 – Sink	0.006	0.020	0.015	No
MOR-13	2 <sup>nd</sup> Floor, Room 208 – Sink	0.005	0.020	0.015	No
MOR-14	1 <sup>st</sup> Floor Cafeteria – Left Sink	0.002	0.020	0.015	No
MOR-15	1 <sup>st</sup> Floor, Room 108 – Left Sink	0.003	0.020	0.015	No

<sup>\*</sup> 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.

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.

<sup>\*\*</sup> Action Level is defined by EPA as the level at which action should be taken to reduce the concentration of lead in drinking water.

#### 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



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**Report Narrative** 

Customer:

Guzek Associates, Inc.

401 Davis Street

Clarks Summit, PA 18411

Report Date: 1/27/2020

Page 1 of 5

HawkMtn WO#:

1912-00986

Subject Line:

Morris 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.



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# **Certificate of Analysis**

Customer: Guzek Associates, Inc.

401 Davis Street

Clarks Summit, PA 18411

Report Date: 1/27/2020

Material Tested:

Potable Water

Date Sampled:

12/26/2019

Time Sampled:

Dilution

**Factor** 

HawkMtn WO#:

1912-00986-001

12/30/2019

11:43

Sampler:

CLIENT

Date Received: Client Sample ID:

MOR-01, Drinking Water Lead Analysis

Sample Point ID:

MOR-01

Test Name

Quant Limit

Qual **Tech** 

Start Date/Time

17:18

End

Lead, DW ICP-MS

Test Results 0.00460 mg/L

0.001

Method EPA 200.8

KLM

1/14/20

Date/Time

Material Tested:

Date Received:

Potable Water

Date Sampled:

12/26/2019

Time Sampled:

HawkMtn WO#:

1912-00986-002

12/30/2019

11:46 Sampler: **CLIENT** 

Sample Point ID:

MOR-02

Client Sample ID:

MOR-02, Drinking Water Lead Analysis

Dilution **Factor** 

Quant

Method

Qual

Start Date/Time End

Test Name Lead, DW ICP-MS Test Results <0.001 mg/L <u>Limit</u> 0.001

EPA 200.8

**Tech** KLM

1/14/20 17:18 Date/Time

Potable Water

Material Tested: Date Sampled: Date Received:

Client Sample ID:

12/26/2019 12/30/2019 Time Sampled:

11:46

HawkMtn WO#:

1912-00986-003

Sampler:

CLIENT

MOR-03

Test Name

Test Results

Dilution Quant **Factor** 

Sample Point ID:

Start

17:18

**End** 

Lead, DW ICP-MS

<0.001 mg/L

MOR-03, Drinking Water Lead Analysis

1

Limit 0.001

Method EPA 200.8

Qual

<u>Tech</u>

KLM

Date/Time

1/14/20

Date/Time

Material Tested:

Potable Water

12/26/2019

Time Sampled:

1I:47

HawkMtn WO#:

1912-00986-004

Date Sampled: Date Received:

12/30/2019

Sampler: Sample Point ID: CLIENT MOR-04

Client Sample ID:

MOR-04, Drinking Water Lead Analysis

Dilution **Factor** 

Quant Limit

Method

<u>Qual</u>

<u>Tech</u>

Start Date/Time

End Date/Time

Test Name Lead, DW ICP-MS Test Results 0.0107 mg/L

0.001

EPA 200.8

KLM

1/14/20

17:18



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# **Certificate of Analysis**

Customer: Guzek Associates, Inc.

401 Davis Street

Clarks Summit, PA 18411

Report Date: 1/27/2020

Material Tested:

Potable Water

Date Sampled:

12/26/2019

Time Sampled:

HawkMtn WO#:

1912-00986-005

11:49

Sampler:

CLIENT

Date Received:

12/30/2019

Sample Point ID:

MOR-05

Client Sample ID:

MOR-05, Drinking Water Lead Analysis

Dilution **Factor** 

Quant

KLM

<u>Start</u> **End** 

Test Name Lead, DW ICP-MS Test Results 0.01045 mg/L <u>Limit</u> 0.001

Method EPA 200.8 Qual **Tech** 

1/14/20

Date/Time

Potable Water

Material Tested: Date Sampled:

12/26/2019 12/30/2019 Time Sampled:

HawkMtn WO #: 11:52 Sampler:

1912-00986-006

CLIENT MOR-06

Qual

Date Received: Client Sample ID:

MOR-06, Drinking Water Lead Analysis

**Dilution** 

Quant

Sample Point ID:

Start

17:18

Date/Time

17:18

End

Test Name Lead, DW ICP-MS

<u>Factor</u> Test Results

0.00917 mg/L

<u>Limit</u>

0.001

Method EPA 200.8

KLM

**Tech** 

Date/Time 1/14/20

Date/Time

Material Tested:

Date Sampled:

Potable Water 12/26/2019 12/30/2019

Time Sampled:

11:53

HawkMtn WO#:

1912-00986-007

Sampler: Sample Point ID: CLIENT

MOR-07

Date Received: Client Sample ID:

MOR-07, Drinking Water Lead Analysis

Dilution **Factor** 

Quant Limit

Start

17:18

End

Test Name Lead, DW ICP-MS Test Results 0.00728 mg/L

1

0.001

Method EPA 200.8

Qual

<u>Tech</u> KLM

Date/Time

1/14/20

Date/Time

Material Tested:

Potable Water

Date Sampled: Date Received: 12/26/2019 12/30/2019

Time Sampled:

11:58 Sampler:

HawkMtn WO#:

1912-00986-008

Sample Point ID:

**CLIENT** MOR-08

Client Sample ID:

MOR-08, Drinking Water Lead Analysis

**Dilution** Factor

Quant Limit

Method

Qual Tech Date/Time

End Page 1985 Date/Time

Test Name Lead, DW ICP-MS Test Results 0.00488 mg/L

0.001

EPA 200.8

KLM

1/14/20

17:18

Start



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# Certificate of Analysis

Customer:

Guzek Associates, Inc.

401 Davis Street

Clarks Summit, PA 18411

Report Date: 1/27/2020

Material Tested:

Potable Water

Date Sampled:

12/26/2019

Time Sampled:

HawkMtn WO#:

1912-00986-009

12/30/2019

11:55

Sampler:

CLIENT

Date Received:

Client Sample ID:

MOR-09, Drinking Water Lead Analysis

Sample Point ID:

MOR-09

Dilution

**Factor** 

Quant Limit

Qual

Tech

End Start | Date/Time

Test Name Lead, DW ICP-MS Test Results 0.00333 mg/L

0.001

Method EPA 200.8

KLM

1/14/20

Date/Time

Material Tested:

Potable Water

Date Sampled: Date Received: 12/26/2019 12/30/2019 Time Sampled:

HawkMtn WO#: 12:00

1912-00986-010

Sampler:

**CLIENT** 

MOR-10

Client Sample ID:

MOR-10, Drinking Water Lead Analysis

**Dilution Factor** 

Quant

Sample Point ID:

Qual

Start

17:18

17:18

End

Test Name Lead, DW ICP-MS **Test Results** 

<0.001 mg/L

Limit

0.001

Method EPA 200.8

KLM

**Tech** 

Date/Time

1/14/20

Date/Time

Material Tested:

Potable Water

Date Sampled: Date Received: 12/26/2019 12/30/2019 Time Sampled:

HawkMtn WO #: 11:50

1912-00986-011

Sampler:

**CLIENT** 

Sample Point ID:

MOR-11

Client Sample ID:

MOR-11, Drinking Water Lead Analysis

**Dilution Factor** 

Quant

Test Name

Test Results

Limit Method Qual

<u>Tech</u>

Start Date/Time

17:18

**End** 

Lead, DW ICP-MS

<0.001 mg/L

1

0.001

EPA 200.8

KLM

1/14/20

Date/Time

Material Tested:

Potable Water

12/26/2019

Time Sampled:

11:57

HawkMtn WO #:

1912-00986-012

Date Sampled: Date Received:

12/30/2019

Sampler: Sample Point ID: **CLIENT** MOR-12

Client Sample ID:

MOR-12, Drinking Water Lead Analysis

Dilution

Quant Limit

Qual

Tech

Start Date/Time

End Date/Time

Test Name Lead, DW ICP-MS Test Results 0.00594 mg/L Factor

0.001

Method EPA 200.8

KLM

1/14/20

17:18



www.hawkmtnlabs.com

# Certificate of Analysis

Customer: Guzek Associates, Inc.

401 Davis Street

Clarks Summit, PA 18411

Report Date: 1/27/2020

Material Tested: Potable Water

Date Sampled: Date Received: 12/26/2019 12/30/2019

Time Sampled:

12:01

HawkMtn WO#:

1912-00986-013

Sampler:

**CLIENT** 

Sample Point ID:

MOR-13

Client Sample ID: MOR-13, Drinking Water Lead Analysis Dilution

**Factor** 

Quant Limit

Method

Qual

<u>Tech</u>

Start Date/Time

Lead, DW ICP-MS

Test Name

Test Results 0.00492 mg/L

0.001

EPA 200.8

KLM

1/14/20 17:18

End Date/Time

Material Tested:

Potable Water

Date Sampled: Date Received: 12/30/2019

12/26/2019

Time Sampled:

HawkMtn WO#: 11:43

1912-00986-014 CLIENT

Sampler: Sample Point ID:

MOR-14

Client Sample ID:

MOR-14, Drinking Water Lead Analysis

**Dilution Factor** 

Quant Limit

Method Qual <u>Tech</u>

Start Date/Time

1/14/20

End

Lead, DW ICP-MS

Test Name

0.00238 mg/L

Test Results

0.001

EPA 200.8

KLM

17:18

Date/Time

Material Tested:

Potable Water

Date Sampled:

12/26/2019 12/30/2019

Time Sampled:

11:51

HawkMtn WO#: Sampler:

1912-00986-015

**CLIENT** 

Sample Point ID:

MOR-15

Date Received: Client Sample ID:

MOR-15, Drinking Water Lead Analysis

**Dilution Factor** Test Results

Quant Limit

Qual

**Tech** 

Start Date/Time

22:31

End

Test Name Lead, DW ICP-MS

0.00281 mg/L

1

0.001

Method EPA 200.8

KLM

1/7/20

Date/Time

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

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Field Temp Page 2 of 2 Approved By: ALP mp/L Checked By: 14 Field Cl Sample Field Time pH 12,01 AM 11.51 02 11.43 AM 51.11 SI12/21 Temp Upon Sample Receipt Date Bottles made by: ( Pick Up Date: ၁ ပ Printed By: ပ ပ 6.0 7.01 10.3 10.4 6,7 201 West Clay Ave, Hazle Township, PA 18202 Chain of Custody & Analysis Record Ph.(570) 455-6011 Fax (570) 455-6321 HawkMtn Labs, Inc. DW-PB-MS DW-PB-MS DW-PB-MS DW-PB-MS DW-PB-MS Tests Potable Water Potable Water Potable Water Potable Water Potable Water Smp Type Purchase Order: Vlatrix Guzek Associates, Inc. learl.gai@gmail.com Time: Time: Time: Time: Time: Time: MOR-11, Drinking Water Lead Analysis MOR-13, Drinking Water Lead Anatysis MOR-14, Drinking Water Lead Analysis MOR-15, Drinking Water Lead Analysis MOR-12, Drinking Water Lead 1912-00986 Smp Site Analysis Work Order #: Composite Start Date: End Date: Site Name: Contact: Date: Date: Date: Date: Grab Smp # 011 012 013 014 015

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RELINQUISHED BY:

LOGGED IN AT LAB: RECEIVED AT LAB:

plastic HNO3 preserved bottles.

All samples taken in 250mL

QSP-008-F02B Rev 004

पट खाळाल

Prior to HML.

12/11/2019

13,00 120

12/30/19 2/30/19