



April 19, 2024

Mr. Johnny Mills  
Operations Manager  
1617 JFK Blvd., Suite 580  
Philadelphia, PA 19103

RE: Lead (Pb) in Water Testing  
Freire Charter Middle School  
1026 Market Street, Philadelphia, PA  
IEC Project # 2024.059.2

Dear Mr. Mills:

Indoor Environmental Concepts, LLC (IEC) was retained by the Freire Charter Schools to perform an assessment and testing of the drinking water outlets servicing the Freire Middle School for the presence of lead (Pb). The lead in water testing was performed pursuant to the regulations and guidance documents from the Bureau of Safe Drinking Water of the Pennsylvania Department of Environmental Protection having principal responsibility to administer the programs and activities of the Federal Safe Drinking Water Act (40 CFR 141, 142 & 143) and the United States Environmental Protection Agency (EPA) protocols as recommended in their publication 3Ts for Reducing Lead in Drinking Water in Schools, Revised Technical Guidance. The EPA developed the 3Ts for Reducing Lead in Drinking Water in Schools, Revised Technical Guidance, which has been incorporated into this sampling protocol because the Agency is concerned about the potential for elevated lead levels in drinking water in schools.

### **Safe Drinking Water Compliance**

The EPA recommends that schools collect 250 mL first-draw samples from water fountains, water bottle filler stations and potable water outlets for the analysis for lead (Pb). The EPA also recommends that these potable water outlets do not exceed 20 parts per billion (ppb) or 0.020 milligrams of lead per liter of water (mg/L). However, to guarantee that students have access to safe drinking water at Philadelphia schools, Philadelphia Codes Section A-703 (Ordinance Bill No. 180700 and Bill No. 160618) requires water testing at every school on a five-year cycle. The action level used by the Philadelphia Codes is **10 parts per billion** (ppb) of lead. The action level of 10 ppb of lead or less was used in the interpretation of results for the samples collected and analyzed at the Freire Charter Schools.

### **Lead Sampling Collection and Results**

A trained technician collected samples from water outlets and the samples were sent to a laboratory certified by the Pennsylvania Department of Environmental Protection (PA DEP) for analysis. The samples were collected after an 8-to-18-hour stagnation period. All samples were taken before the facility opened and before any water was used by building occupants. Where practical and feasible,

samples were first collected at drinking water outlets that were as close as possible to the building water main. Cold water lines were sampled when possible. All water samples were collected in laboratory supplied, pre-cleaned 250 milliliter (mL) bottles preserved or treated at the laboratory with nitric acid (HNO<sub>3</sub>). The bottles were labeled with a unique sample identification number and the sample location and time sampled were recorded on the chain of custody form. All samples were sealed immediately after collection and delivered to a PA DEP certified laboratory, in laboratory provided coolers, for the analysis of lead content via ICP/MS by EPA Method 200.8 or ASTM Method D3559-15D. A copy of the laboratory analytical reports, certifications, and chain of custody forms can be found as attachments to this report.

**First-draw sampling was performed by IEC at twenty-nine (29) drinking water outlets on April 10, 2024. Of those outlets, sample 0410-11 collected from the basement men lavatory #023, adjacent to janitorial closet #025, failed. All other sampled outlets were reported to have a lead concentration below the action level of 10 ppb.**

In general, an ongoing flushing program should be implemented as a routine practice to improve the overall water quality at this facility. Flushing involves opening taps and letting the water run to remove water that has been standing in the interior pipes and/or the outlets. The flushing time can vary by the type of outlet being cleared. The degree to which flushing helps reduce lead levels can also vary depending upon the age and condition of the plumbing and the corrosiveness of the water. Flushing individual outlets immediately prior to use is recommended in conjunction with signage and flushing schedules. In addition, EPA recommends locating the faucet furthest away from the service line on each wing and floor of the building, opening the faucets, and let the water run for 10 minutes.

In summary, the assessment and testing performed indicate that the lead levels of the drinking water outlets servicing the school currently meet federal and City of Philadelphia guidelines, following the recommendations and provisions described herein.

## **Background**

The Philadelphia Codes Section A-703 (Ordinance Bill No. 180700 and Bill No. 160618) provides lead paint and water testing requirements for educational facilities as follows:

- That all schools and day care facilities in Philadelphia test all potable water outlets for lead and ensure that pipes and fixtures connecting schools and day care centers to the city's water supply do not compromise children's health.
- That all educational facilities areas that are regularly occupied by children within school buildings built prior to 1978 must be assessed as safe from lead paint hazards by a certified lead inspector. The educational facilities must initially be in compliance with the water testing before April 1, 2018 and the subsequent test results are due every 5 years.
- All water outlet tests must be analyzed by certified PA Department of Environmental Protection laboratory.
- Any water outlet determined to exceed 10 ppb or more shall be taken out of service within 24 hours of the notification of the relevant test and an action plan must be submitted the Philadelphia Department of Public Health Lead and

Healthy Homes Program (LHHP) for review.

- All educational areas where children occupy shall be safe from lead paint hazards and free from any condition that may cause exposure to lead contaminant paint dust or debris.
- Institution Management shall ensure no fewer than 10 days to notify pending inspection and scope of work to staff employees and parents of children.

Given the health effects of lead, EPA advocates that any school conducting sampling for lead make public any test results. In addition, such schools should identify activities they are pursuing to correct any lead problems. Advice, suggestions, and samples to assist in the public notification process is available from the EPA in their 3Ts for Reducing Lead in Drinking Water in Schools. This publication is available online on the EPA's website.

Indoor Environmental Concepts, LLC



Michael P. Menz, CIH, CHMM  
President  
Attachments



Project Name: Freire Middle School

File #: 2024.059.2

Laboratory: ~~ENVI~~ Eurofins IRL

Analysis: Lead in Drinking Water - 800-86000A

ASTM D3559

Turnaround Time: 2 week

Collected by: Michael Menz

Date: April 10, 2024

Transmitted by: mm

Date: 4/10/24

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

cm/15/24

Sample #	Location	Fixture Type	Time sampled
7748023	0410-01 Basement water fountain left by room 016	WC	7:24
7748024	0410-02 Basement water fountain right by room 016	WC	7:24
7748025	0410-03 Basement restroom 013 sink	S	7:26
7748026	0410-04 Basement restroom 014 sink	S	7:27
7748027	0410-05 Basement restroom 015 sink	S	7:28
7748028	0410-06 Basement women's restroom <del>019 left side</del> <u>023 left</u>	S	7:30
7748029	0410-07 Basement women's restroom 021 right side	S	7:31
7748030	0410-08 Basement kitchen 018 1 <sup>st</sup> sink on left	S	7:32
7748031	0410-09 Basement kitchen 018 1 <sup>st</sup> middle sink	S	7:33
7748032	0410-10 Basement kitchen 018 1 <sup>st</sup> sink on right <u>(hand washing)</u>	S	7:33
7748033	0410-11 Basement men's restroom 023 <u>by janitor closet 025</u>	S	7:34
7748034	0410-12 Basement staff lounge 011 sink	S	7:38
7748035	0410-13 Cafeteria 010 water fountain <del>left high</del>	WC	7:39
7748036	0410-14 Cafeteria 010 <del>water fountain right low</del> <u>bottle filler</u>	BF	7:39
7748037	0410-15 3 <sup>rd</sup> floor nurse office 317 sink	S	7:48
7748038	0410-16 3 <sup>rd</sup> floor water fountain left high <u>(by 316)</u>	WC	7:46
7748039	0410-17 3 <sup>rd</sup> floor water fountain right low	WC	7:46
7748040	0410-18 3 <sup>rd</sup> floor water bottle filling station	BF	7:47



CERTIFICATE OF ANALYSIS

Client: Indoor Environmental Concepts, LLC  
117 N Black Horse Pike  
Runnemede NJ 08078  
  
Client: IND601

Report Date: 4/16/2024  
Report No.: 698746 - Lead Water  
Project: Freire Middle School  
Project No.: 2024.059.2

LEAD WATER SAMPLE ANALYSIS SUMMARY

Lab No.: 7748023 Client No.: 0410-01	Location: Basement Water Fountain Left By Room 016 * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748024 Client No.: 0410-02	Location: Basement Water Fountain Right By Room 016 * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748025 Client No.: 0410-03	Location: Basement Restroom 013 Sink * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748026 Client No.: 0410-04	Location: Basement Restroom 014 Sink * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748027 Client No.: 0410-05	Location: Basement Restroom 015 Sink * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748028 Client No.: 0410-06	Location: Basement Women's Restroom 023 Left * Sample acidified to pH <2.	Result(ppb): 4.10
Lab No.: 7748029 Client No.: 0410-07	Location: Basement Women's Restroom 021 Right Side * Sample acidified to pH <2.	Result(ppb): 2.60
Lab No.: 7748030 Client No.: 0410-08	Location: Basement Kitchen 018 1st Sink Of Left * Sample acidified to pH <2.	Result(ppb): 2.30
Lab No.: 7748031 Client No.: 0410-09	Location: Basement Kitchen 018 1st Middle Sink * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748032 Client No.: 0410-10	Location: Basement Kitchen 018 1st Sink On Right (Hand Washing Sink) * Sample acidified to pH <2.	Result(ppb): <1.00

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 4/10/2024  
Date Analyzed: 04/16/2024  
Signature:   
Analyst: Chad Shaffer

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

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LEAD WATER SAMPLE ANALYSIS SUMMARY

Lab No.: 7748033 Client No.: 0410-11	Location: Basement Men's Restroom 023 By Janitor Closet 025 * Sample acidified to pH <2.	Result(ppb): 344
Lab No.: 7748034 Client No.: 0410-12	Location: Basement Staff Lounge 011 Sink * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748035 Client No.: 0410-13	Location: Cafeteria 010 Water Fountain * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748036 Client No.: 0410-14	Location: Cafeteria 010 Bottle Filler * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748037 Client No.: 0410-15	Location: 3rd Floor Nurse Office 317 Sink * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748038 Client No.: 0410-16	Location: 3rd Floor Water Fountain Left High (By 316) * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748039 Client No.: 0410-17	Location: 3rd Floor Water Fountain Right Low * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748040 Client No.: 0410-18	Location: 3rd Floor Water Bottle Filling Station * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748041 Client No.: 0410-19	Location: 3rd Floor Men's Restroom 315 Sink * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7748042 Client No.: 0410-20	Location: 3rd Floor Restroom 314 Sink (All Gender) * Sample acidified to pH <2.	Result(ppb): <1.00

Please refer to the Appendix of this report for further information regarding your analysis.

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Client: IND601

LEAD WATER SAMPLE ANALYSIS SUMMARY

Lab No.: 7748043                      Location: 3rd Floor Women's Restroom 313                      Result(ppb): <1.00  
Client No.: 0410-21                      \* Sample acidified to pH <2.

Lab No.: 7748044                      Location: 3rd Floor Restroom 312 Sink                      Result(ppb): <1.00  
Client No.: 0410-22                      \* Sample acidified to pH <2.

Lab No.: 7748045                      Location: 3rd Floor Water Fountain Near 310                      Result(ppb): <1.00  
Client No.: 0410-23                      \* Sample acidified to pH <2.

Lab No.: 7748046                      Location: 3rd Floor Water Fountain Near 310 Bottle Filler                      Result(ppb): <1.00  
Client No.: 0410-24                      \* Sample acidified to pH <2.

Lab No.: 7748047                      Location: Bottle Filler A/W Right Fountain By Room 016                      Result(ppb): <1.00  
Client No.: 0410-26                      \* Sample acidified to pH <2.

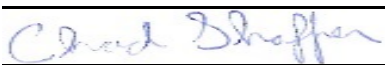
Lab No.: 7748048                      Location: Left Fountain Near Bsmt. Room 037                      Result(ppb): <1.00  
Client No.: 0410-25                      \* Sample acidified to pH <2.


Lab No.: 7748049                      Location: Right Fountain Near Bsmt. Room 037                      Result(ppb): <1.00  
Client No.: 0410-27                      \* Sample acidified to pH <2.

Lab No.: 7748050                      Location: Bottle Filler Near Bsmt. Room 037                      Result(ppb): <1.00  
Client No.: 0410-28                      \* Sample acidified to pH <2.

Lab No.: 7748051                      Location: Bathroom Across SW Disabled/Staff Bsmt.                      Result(ppb): <1.00  
Client No.: 0410-29                      Storage Room  
\* Sample acidified to pH <2.

Please refer to the Appendix of this report for further information regarding your analysis.

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Client: IND601

## Appendix to Analytical Report:

**Customer Contact:** Lab Results  
**Analysis:** AAS-GF - ASTM D3559-15D

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

**iATL Customer Service:** customerservice@iatl.com  
**iATL Office Manager:** ?wchampion@iatl.com  
**iATL Account Representative:** Shirley Clark  
**Sample Login Notes:** See Batch Sheet Attached  
**Sample Matrix:** Water  
**Exceptions Noted:** See Following Pages

### General Terms, Warrants, Limits, Qualifiers:

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### Information Pertinent to this Report:

Analysis by AAS Graphite Furnace:

- ASTM D3559-15D

Certification:

- NYS-DOH No. 11021

- NJDEP No. 03863

### Note: These methods are analytically equivalent to iATL's accredited method;

- USEPA 40CFR 141.11B

- USEPA 200.9 Pb, AAS-GF, RL <2 ppb/sample

- USEPA SW 846-7421 - Pb(AAS-GF, RL <2 ppb/sample)

Regulatory limit for lead in drinking water is 15.0 parts per billion as cited in EPA 40 CFR 141.11 National Primary Drinking Water Regulations, Subpart B: Maximum contaminant levels for inorganic chemicals.

All results are based on the samples as received at the lab. iATL assumes that appropriate sampling methods have been used and that the data upon which these results are based have been accurately supplied by the client.

Sample results are not corrected for contamination by field or analytical blanks.

PPB = Parts per billion. 1 µg/L = 1 ppb MDL = 0.24 PPB Reporting Limit (RL) = 1.0 PPB

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**Disclaimers / Qualifiers:**

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a complete list with highlighted disclaimers pertinent to this project. For a full explanation of these and other disclaimers, please inquire at [customerservice@iatl.com](mailto:customerservice@iatl.com).

Matrix spiking is performed on each client batch to determine if interferences could impact results. When spike recoveries fall out of acceptable range matrix interference is suspected and samples are diluted until acceptable spike recovery can be achieved. Reporting limits will increase by the same degree as the dilution required.

Note: Sample dilution required due to matrix interference.

Water Sample Turbidity greater than 1.0 NTU does not meet Federal and NJ State Primary & Secondary Drinking Water Standards.

\* ASTM D3559 (D) calls for the addition of acid at the time of sampling. Unless so noted on the chain of custody by the client iATL acidifies samples to a pH of <2 at least 24 hours prior to analysis.