

May 31, 2023

Mr. Lawrence Threadgill
Universal Companies
1427 Catharine Street, 4th Floor
Philadelphia, Pennsylvania 19146

**Re: Summary Report for Lead in Water Sampling
Universal Companies – Universal Alcorn Charter School
Philadelphia, Pennsylvania
Synertech Project No. 704-002-2**

Dear Mr. Threadgill:

I. Executive Summary

At your request, on April 12, 2023, *Synertech Environmental, LLC* performed lead in water sampling at the Universal Alcorn Charter School, which is located at 3200 Dickinson Street, Philadelphia, Pennsylvania. The water sampling was conducted as part of an ongoing lead in drinking water testing program to evaluate, document, and ensure an acceptable water quality for all potable drinking water outlets throughout the K-8 charter school building. The project included the collection of samples for analysis for lead in drinking water. This report is a summary of the sampling protocols and testing data.

II. Methodologies and Acceptable Standards

Synertech Environmental, LLC performed sampling for the parameters listed below. The sample Analysis was performed by the National Lead Laboratory Accreditation Program (NLLAP) accredited laboratory *IATL* located in Mt. Laurel, New Jersey. All samples were collected via the American Society for Testing and Materials (ASTM) sampling method D3559-08D and analyzed by Atomic Absorption Spectroscopy (AAS)-Graphite Furnace (GF).

A total of nineteen (19) samples were collected from twelve (12) water fountain and bottle filler locations/outlet locations throughout the building. The sampling consisted of a “first draw” and “flush” sample collected at each drinking water outlet and a first draw sample collected from filtered bottle filler outlet locations. The outlets were not utilized for at least 6 hours prior to sample collection as per the EPA 40 CFR Part 141 Subpart I (lead and copper rule) sampling guidelines.

Laws and Regulations

There are no state or federal laws requiring testing of drinking water in schools, except for schools that have their own water supply and are thus regulated under the Safe Drinking Water Act (SDWA). The vast majority of public water suppliers do not include schools in their sampling plans because regulations (specifically the Lead and Copper Rule) require sampling of single-family dwellings. **However, Section A-703.2; B. of the City of Philadelphia Code does require the following:**

- ✧ “The Health Department or a testing agency certified by the Pennsylvania Department of Environmental Protection has certified, within the previous five years, that the building is in substantial compliance with applicable water quality requirements of the Board of Health, provided that in no event shall applicable water quality requirements be deemed to permit lead in water at an outlet such as a sink or water fountain that is in service at 10 ppb or more. Any water outlet determined to exceed any such water quality requirements shall be taken out of service within 24 hours of notification of the relevant test. The owner of the educational occupancy shall post the results of the most recent water quality testing at each educational occupancy to a generally available website within ten days of receipt of the results.”

The Board of Health regulation describes your responsibility for testing your water outlets. Results of the testing for each potable water outlet in your facility should be reported to the health department by email to WaterLeadTesting@phila.gov. The submission of results should include the following information:

1. A cover letter that identifies the name, address, and contact information for your facility.
2. A laboratory report that shows the date of sampling, the name of the laboratory performing the analysis, and the lead result for each potable (drinkable) water outlet.
3. If any lead results are reported to be equal to or exceeding the action level of 10 parts per billion (ug/L), you must discontinue use of the outlet immediately (within 24 hours). Report your response action(s) associated with an outlet with an elevated lead level in the cover letter. Any outlet with an elevated lead level may be put back into service only after corrective action has been taken and a repeat lead test has shown the level to be less than 10 parts per billion(ug/L).

In addition to the requirements by the City of Philadelphia, the EPA recommends that schools implement programs for reducing lead in drinking water as part of the school’s overall plan for reducing environmental threats. Safe and healthy school environments foster healthy children, and may improve students’ general performance.

Although drinking water often incorporates low levels of some contaminants as it flows in rivers and collects in aquifers, these materials usually are not detected at harmful levels. Public water suppliers must monitor their water to make sure it complies with science-based public health standards. The EPA sets these maximum allowable levels of contaminants in drinking water under The Safe Drinking Water Act (SDWA).

The health effects language mentioned in this report is not intended to catalog all possible health effects for the following drinking water contaminant. Rather, it is intended to inform consumers of some of the possible health effects associated with drinking water contaminants when the EPA rule and regulations was finalized. A medical doctor is to be consulted if further information is required.

National Primary Drinking Water Regulations

The U.S. Environmental Protection Agency (EPA) has established National Primary Drinking Water Regulations that set mandatory water quality standards for drinking water contaminants. These are enforceable standards called Maximum Contaminant Levels (MCL), which are established to protect the public against consumption of drinking water contaminants that present a risk to human health. An MCL is the maximum allowable amount of a contaminant in drinking water which is delivered to the consumer. MCLs are set as close to the health goals as possible, considering cost, benefits and the ability of public water systems to detect and remove contaminants using suitable treatment technologies. The EPA has set this level of protection based on the best available science to prevent potential health problems. The following paragraphs contain MCLs and brief health effects of those reported to be associated with the samples collected at this time.

- ☒ **Lead**, a metal found in natural deposits, is commonly used in household plumbing materials and water service lines. Most lead contamination occurs at some point in the water delivery system. Materials in the water delivery system may include service connections, pipes, brass fixtures, and solder. If subsequent samples yield elevated levels of lead action may require the replacement of water delivery parts with ‘non-lead’ parts. Homes built before 1986 are more likely to have lead pipes, fixtures and solder. However, new homes are also at risk: even legally “lead-free” plumbing may contain up to eight (8) percent lead. The most common problem is with brass or chrome-plated brass faucets and fixtures which can leach significant amounts of lead into the water, especially hot water.

There is no safe level of lead. Lead toxicity affects the nervous system, both in adults and children. Long-term exposure can result in decreased performance in cognitive ability and functions of the nervous system. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. Lead does not noticeably alter the color, taste, or odor of water. The effects of low-level toxicity of lead in water may not be obvious. There may be no symptoms or the symptoms may be mistaken as flu or other illness. Many domestic water treatment systems remove the majority of lead from drinking water.

The Action Level (AL) of Lead (Pb) in accordance with the City of Philadelphia Code “Action Level” is **10 micrograms per liter (µg/L), or 10 ppb** while the Environmental Protection Agency (EPA) drinking water standard is 15 micrograms per liter (µg/L). The Action Level is defined as the concentration of lead in water that may trigger requirements for corrosion control, source water treatment, lead service line replacement, and public education. Compliance with an action level is based on multiple samples.

III. Sampling Results

The following tables outline the sample results for each outlet where water samples were collected during this project. All samples reported to be below the Action Level of 10 parts per billion and are listed in the table below.

Lead in Drinking Water						
Sample #	Location	Outlet Type	Draw	Sampling Method	CoP Action Level (AL)	Results (ppb)
01	Rm 101 - Low Sink First	S	First	ASTM D3559-08D Via AAS-GF	10ppb (parts per billion)	1.00
02	Rm 101 - Low Sink Flush	S	Flush			<1.00
03	Fountain O/S Rm 103 First	WF	First			<1.00
04	Fountain O/S Rm 103 Flush	WF	Flush			<1.00
05	Fountain O/S Rm 103 Bottle Filler First	HS	First			<1.00
06	Fountain O/S Rm 105 First	WF	First			<1.00
07	Fountain O/S Rm 105 Flush	WF	Flush			<1.00
08	Fountain Bottle Filler O/S Rm 105 First	HS	First			<1.00
09	Rm 108 - Low Sink First	S	First			1.40
10	Rm 108 - Low Sink Flush	S	Flush			2.50
11	Fountain O/S 207 First	WF	First			<1.00
12	Fountain O/S 207 Flush	WF	Flush			<1.00
13	Bottle Filler O/S 207 First	HS	First			<1.00
14	Fountain O/S Rm 204 First	WF	First			<1.00
15	Fountain O/S Rm 204 Flush	WF	Flush			<1.00
16	Bottle Filler O/S Rm 204 First	HS	First			<1.00
17	Fountain O/S Rm 306 First	WF	First			<1.00
18	Fountain O/S Rm 306 Flush	WF	Flush			<1.00
19	Bottle Filler O/S Rm 306 First	HS	First			<1.00


WF = Water Fountain S = Sink Outlet HS = Hydration Station/Bottle Filler ICP – MS = Inductively coupled plasma mass spectrometry

IV. Summary of Results

The laboratory data indicates that **all the results to be below the Action Level of 10 parts per billion and no further action is required**. However, since there is no “safe” level of lead in drinking water, Synertech Environmental recommends flushing of drinking water outlets in which lead was reported to be present at concentrations below 10ppb. The classrooms where low concentrations of lead was reported include classrooms 101 and 108 and the water should be flushed for at least 30 seconds prior to drinking. The more time water has been sitting in the pipes, the more lead it is likely to contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" your cold-water pipes by running the water until it becomes as cold as it will get.

Synertech Environmental, LLC is pleased to have had the opportunity to provide Universal Companies with our professional environmental services. If you have any questions or would like to discuss this matter further, please do not hesitate to call at 215-755-2305.

Prepared by:
Synertech Environmental, LLC


John Fiorelli, CIE
Pennsylvania Lead Risk Assessor #004799

Attachment #1

**Laboratory Certificates of Analysis
&
Chain of Custody Forms**

CERTIFICATE OF ANALYSIS

Client: Synertech Environmental LLC
228 Moore Street
Philadelphia PA 19148


Report Date: 4/27/2023
Report No.: 681755 - Lead Water
Project: Universal Charter Schools- Alcorn
Project No.: 704-002


Client: SYN177

LEAD WATER SAMPLE ANALYSIS SUMMARY

Lab No.: 7601398 Client No.: 01	Location: Rm 101 - Low Sink First * Sample acidified to pH <2.	Result(ppb): 1.00
Lab No.: 7601399 Client No.: 02	Location: Rm 101 - Low Sink Flush * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7601400 Client No.: 03	Location: Fountain O/S Rm 103 First * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7601401 Client No.: 04	Location: Fountain O/S Rm 103 Flush * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7601402 Client No.: 05	Location: Fountain O/S Rm 103 Bottle Filler First * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7601403 Client No.: 06	Location: Fountain O/S Rm 105 First * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7601404 Client No.: 07	Location: Fountain O/S Rm 105 Flush * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7601405 Client No.: 08	Location: Fountain Bottle Filler O/S Rm 105 First * Sample acidified to pH <2.	Result(ppb): <1.00
Lab No.: 7601406 Client No.: 09	Location: Rm 108 - Low Sink First * Sample acidified to pH <2.	Result(ppb): 1.40
Lab No.: 7601407 Client No.: 10	Location: Rm 108 - Low Sink Flush * Sample acidified to pH <2.	Result(ppb): 2.50

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

Date Received: 4/14/2023
Date Analyzed: 04/27/2023
Signature: 
Analyst: Mark Stewart

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Synertech Environmental LLC
228 Moore Street
Philadelphia PA 19148

Report Date: 4/27/2023
Report No.: 681755 - Lead Water
Project: Universal Charter Schools- Alcorn
Project No.: 704-002

Client: SYN177

LEAD WATER SAMPLE ANALYSIS SUMMARY

Lab No.: 7601408 Location: Fountain O/S 207 First Result(ppb): <1.00
Client No.: 11 * Sample acidified to pH <2.

Lab No.: 7601409 Location: Fountain O/S 207 Flush Result(ppb): <1.00
Client No.: 12 * Sample acidified to pH <2.

Lab No.: 7601410 Location: Bottle Filler O/S 207 First Result(ppb): <1.00
Client No.: 13 * Sample acidified to pH <2.

Lab No.: 7601411 Location: Fountain O/S Rm 204 First Result(ppb): <1.00
Client No.: 14 * Sample acidified to pH <2.

Lab No.: 7601412 Location: Fountain O/S Rm 204 Flush Result(ppb): <1.00
Client No.: 15 * Sample acidified to pH <2.


Lab No.: 7601413 Location: Bottle Filler O/S Rm 204 First Result(ppb): <1.00
Client No.: 16 * Sample acidified to pH <2.

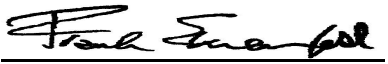
Lab No.: 7601414 Location: Fountain O/S Rm 306 First Result(ppb): <1.00
Client No.: 17 * Sample acidified to pH <2.

Lab No.: 7601415 Location: Fountain O/S Rm 306 Flush Result(ppb): <1.00
Client No.: 18 * Sample acidified to pH <2.

Lab No.: 7601416 Location: Bottle Filler O/S Rm 306 First Result(ppb): <1.00
Client No.: 19 * Sample acidified to pH <2.

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

Date Received: 4/14/2023
Date Analyzed: 04/27/2023
Signature: 
Analyst: Mark Stewart

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Synertech Environmental LLC
228 Moore Street
Philadelphia PA 19148

Report Date: 4/27/2023
Report No.: 681755 - Lead Water
Project: Universal Charter Schools- Alcorn
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Appendix to Analytical Report:

Customer Contact:

Analysis: AAS-GF - ASTM D3559-08D

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:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by AAS Graphite Furnace:

- ASTM D3559-08D

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

CERTIFICATE OF ANALYSIS

Client: Synertech Environmental LLC
228 Moore Street
Philadelphia PA 19148

Report Date: 4/27/2023
Report No.: 681755 - Lead Water
Project: Universal Charter Schools- Alcorn
Project No.: 704-002

Client: SYN177

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.

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.



Chain of Custody Transmittal Potable Drinking Water Samples via US EPA

Project Name: Universal Charter Schools - Alcorn

Project No: 704-002

State Sampled: Pennsylvania

Laboratory: IATL

Analysis Type: Lead in Drinking Water by ICP-MS via 209.8/6020A

TAT: 1-Week TAT

Samples Collected By: J Fiorelli

Date/Time: 4/12/23

Transmitted to Lab By: JDF

Date/Time: 4/13/23

Received in Lab By: _____

Date/Time: _____

Samples Analyzed By: MS

Date/Time: 4/27/23

Plumb

SAMPLE #	LOCATION		REMARKS
01	Rm 101 - Low Sink	7601398	FIRST
02	Rm 101 - Low Sink	7601399	Flush
03	Fountain o/s Rm 103	7601400	FIRST
04	Fountain o/s Rm 103	7601401	Flush
05	Fountain o/s Rm 103 BOTTLE FILLER	7601402	FIRST
06	Fountain o/s Rm 105	7601403	FIRST
07	Fountain o/s Rm 105	7601404	Flush
08	Fountain BOTTLE FILLER o/s Rm 105	7601405	FIRST
09	Rm 108 - Low Sink	7601406	FIRST
10	Rm 108 - Low Sink	7601407	Flush
11	Fountain o/s 207	7601408	FIRST
12	Fountain o/s 207	7601409	Flush
13	BOTTLE FILLER o/s 207	7601410	FIRST
14	Fountain o/s Rm 204	7601411	FIRST
15	Fountain o/s Rm 204	7601412	Flush
16	BOTTLE FILLER o/s 204	7601413	FIRST
17	Fountain o/s Rm 306	7601414	FIRST
18	Fountain o/s Rm 306	7601415	Flush
19	BOTTLE FILLER o/s 306	7601416	FIRST
<u>JDF</u>			
	Acidified MS		
	4/26/23 2:30		

APR 14 2023

IATL - By MR