

The quantity of samples collected from each location varied depending on the number of possible potable water outlets present at each building. A total of twenty-four (24) samples were collected from different outlet locations throughout the building. The sampling consisted of “first draw” samples collected at each sample location and various “flush draw” for most outlets. However, where multiple outlets are present, such as bathroom sinks, a single representative “flush” sample was collected to represent all of the outlets that have the same supply piping.

Laws and Regulations

There is no federal law 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 particular 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 WfilterLeadTest11g@ptila.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 does recommend 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 is **“threshold” is 10 micrograms per liter (µg/L), while** the Environmental Protection Agency (EPA) drinking water standard is 15 micrograms per liter (µg/L). The Action Level (threshold) 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 building where water samples were collected during this project. Those sample results reported above the City of Philadelphia action level will appear in **bold** lettering below.

Lead in Drinking Water					
Sample #	Location	Draw	Sampling Method	CoP Action Level (AL)	Results (ug/L)
3rd Floor					
01	Fountain o/s Rm. 316	First	ICP - MS, USEPA 200.8	10ug/L (milligrams per Liter)	8.44
02	Fountain o/s Rm. 316	Flush			6.51
*03	*Fountain o/s Rm. 321	First			*20.1
04	Fountain o/s Rm. 321	Flush			14.8
2nd Floor					
05	Fountain o/s Rm. 210	First	ICP - MS, USEPA 200.8	10ug/L (milligrams per Liter)	2.46
06	Fountain o/s Rm. 210	Flush			7.46
07	Fountain o/s Rm. 216	First			3.23
08	Fountain o/s Rm. 216	Flush			3.08
09	Fountain o/s Rm. 221	First			1.97
10	Fountain o/s Rm. 221	Flush			2.12
11	Fountain o/s Rm. 205	First			1.33
12	Fountain o/s Rm. 205	Flush			1.37
1st Floor					
13	Fountain o/s Rm. 104	First	ICP - MS, USEPA 200.8	10ug/L (milligrams per Liter)	2.38
14	Fountain o/s Rm. 104	Flush			1.86
15	Fountain o/s Rm. 108	First			3.15
16	Fountain o/s Rm. 108	Flush			2.32
17	o/s Cafeteria – Middle Fountain	First			1.28
18	o/s Cafeteria – Middle Fountain	Flush			ND
19	Kitchen Sink near Office	First			2.86
20	Kitchen Sink near Office	Flush			1.80
21	Kitchen Sink near Office	First			ND
22	Kitchen Sink near Office	Flush			2.92
23	Kitchen Sink	First			7.20
24	Kitchen Sink	Flush			1.74

ND = No Lead Detected in Sample

*Sample #3 listed as 3B on Institute results

IV. Recommendations

A. Outlets not sampled and outlets with reported lead levels but below the Action Level

- Lead-bearing plumbing materials in contact with drinking water pose a risk at all times (not just when there is a lead action level (LAL) exceeded); therefore, *Synertech Incorporated* recommends labeling all bathroom outlets with signage indicating that these outlets are “not for drinking”.
- Flushing of all water outlets for at least 30 seconds prior to drinking or cooking. 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.

B. Outlets with Reported lead levels at or Above the Action Level

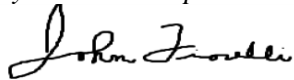
The outlets that had lead concentrations at or above the City of Philadelphia Action Level are **required to be taken out of service until corrective actions have been taken and re-testing shows the lead concentration to be less than 10 ug/L**. The following corrective actions are recommended.

1. Consult a licensed and insured plumbing contractor to determine the source of the elevated sample results. Potential sources of lead contamination are as follows:
 - a. Water service lines;
 - b. Lead soldered joints and fittings;
 - c. Lead faucets/fixtures.

Synertech Incorporated is pleased to have had the opportunity to provide Universal Charter Schools 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 Incorporated



John P. Fiorelli, CIE
Certified Indoor Environmentalist



EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn:

John Fiorelli
Synertech, Inc.
228 Moore Street
Philadelphia, PA 19148

6/12/2020

Phone: (215) 755-2305
Fax: (215) 755-2405

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 5/29/2020. The results are tabulated on the attached data pages for the following client designated project:

675-213-3, Universal Vare School

The reference number for these samples is EMSL Order #012005324. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry
Laboratory Director



The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077
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<http://www.EMSL.com> EnvChemistry2@emsl.com

EMSL Order: 012005324
 CustomerID: SYNE50
 CustomerPO:
 ProjectID:

Attn: **John Fiorelli**
Synertech, Inc.
228 Moore Street
Philadelphia, PA 19148

Phone: (215) 755-2305
 Fax: (215) 755-2405
 Received: 05/29/20 9:00 AM

Project: 675-213-3, Universal Vare School

Analytical Results

Client Sample Description 01
 3rd Fl. Hall- Water Fountain o/s Room 316
 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0001

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	8.44	1.00 µg/L	6/11/2020 VD	06/11/20 13:05 VD

Client Sample Description 02
 3rd Fl. Hall- Water Fountain o/s Room 316
 Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0002

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	6.51	1.00 µg/L	6/11/2020 VD	06/11/20 13:14 VD

Client Sample Description 04
 3rd fl. Hall- Water Fountain o/s Room 321
 Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0003

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	14.8	1.00 µg/L	6/11/2020 VD	06/11/20 13:16 VD

Client Sample Description 05
 2nd Fl. Hall- Water Fountain o/s Room 210
 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0004

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	2.46	1.00 µg/L	6/11/2020 VD	06/11/20 13:17 VD

Client Sample Description 06
 2nd Fl. Hall- Water Fountain o/s Room 210
 Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0005

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	7.46	1.00 µg/L	6/11/2020 VD	06/11/20 13:19 VD

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Analytical Results

Client Sample Description 07
 2nd Fl. Hall- Water Fountain o/s Room 216
 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0006

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	3.23	1.00 µg/L	6/11/2020 VD	06/11/20 13:21 VD

Client Sample Description 08
 2nd Fl. Hall- Water Fountain o/s Room 216
 Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0007

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	3.08	1.00 µg/L	6/11/2020 VD	06/11/20 13:23 VD

Client Sample Description 09
 2nd fl. Hall- Water Fountain o/s Room 221
 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0008

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	1.97	1.00 µg/L	6/11/2020 VD	06/11/20 13:25 VD

Client Sample Description 10
 2nd Fl. Hall- Water Fountain o/s Room 221
 Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0009

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	2.12	1.00 µg/L	6/11/2020 VD	06/11/20 13:26 VD

Client Sample Description 11
 2nd Fl. Hall- Water Fountain o/s Room 205
 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0010

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	1.33	1.00 µg/L	6/11/2020 VD	06/11/20 13:28 VD

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Analytical Results

Client Sample Description 12
 2nd Fl. Hall- Water Fountain o/s Room 205
 Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0011

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	1.37	1.00 µg/L	6/11/2020 VD	06/11/20 13:34 VD

Client Sample Description 13
 1st Fl. Hall- Water Fountain o/s Room 104
 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0012

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	2.38	1.00 µg/L	6/11/2020 VD	06/11/20 13:39 VD

Client Sample Description 14
 1st Fl. Hall- Water Fountain o/s Room 104
 Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0013

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	1.86	1.00 µg/L	6/11/2020 VD	06/11/20 13:41 VD

Client Sample Description 15
 1st Fl. Hall- Water Fountain o/s Room 108
 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0014

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	3.15	1.00 µg/L	6/11/2020 VD	06/11/20 13:43 VD

Client Sample Description 16
 1st Fl. Hall- Water Fountain o/s Room 108
 Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0015

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	2.32	1.00 µg/L	6/11/2020 VD	06/11/20 13:45 VD

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Analytical Results

Client Sample Description 17
 1st Fl. o/s Cafeteria- Middle Fountain 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0016

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	1.28	1.00 µg/L	6/11/2020 VD	06/11/20 13:47 VD

Client Sample Description 18
 1st Fl. o/s Cafeteria- Middle Fountain Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0017

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	ND	1.00 µg/L	6/11/2020 VD	06/11/20 13:48 VD

Client Sample Description 19
 1st Fl.- Kitchen Sink near Office 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0018

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	2.86	1.00 µg/L	6/11/2020 VD	06/11/20 13:50 VD

Client Sample Description 20
 1st Fl.- Kitchen Sink near Office Flush
Collected: 5/21/2020 **Lab ID:** 012005324-0019

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	1.80	1.00 µg/L	6/11/2020 VD	06/11/20 13:56 VD

Client Sample Description 21
 1st Fl.- Kitchen Sink near Office 1st Draw
Collected: 5/21/2020 **Lab ID:** 012005324-0020

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	ND	1.00 µg/L	6/11/2020 VD	06/11/20 13:58 VD

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Analytical Results

Client Sample Description 22 **Collected:** 5/21/2020 **Lab ID:** 012005324-0021
 1st Fl.- Kitchen Sink near Office Flush

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	2.92	1.00 µg/L	6/11/2020 VD	06/11/20 19:08 VD

Client Sample Description 23 **Collected:** 5/21/2020 **Lab ID:** 012005324-0022
 1st Fl.- Kitchen 1st Draw

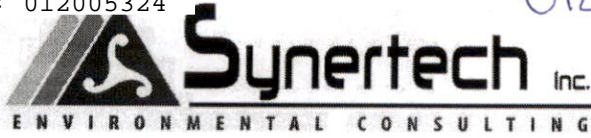
Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	7.20	1.00 µg/L	6/11/2020 VD	06/11/20 19:13 VD

Client Sample Description 24 **Collected:** 5/21/2020 **Lab ID:** 012005324-0023
 1st Fl.- Kitchen Flush

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
METALS					
200.8	Lead	1.74	1.00 µg/L	6/11/2020 VD	06/11/20 19:15 VD

Definitions:

- MDL - method detection limit
- J - Result was below the reporting limit, but at or above the MDL
- ND - indicates that the analyte was not detected at the reporting limit
- RL - Reporting Limit (Analytical)
- D - Dilution Sample required a dilution which was used to calculate final results



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Chain of Custody Transmittal Lead In Drinking Water Samples via ICP 200.8

Project Name: Universal Vare School Project No: 675-213-3

State Sampled: PA Laboratory: EMSL

Turnaround Time: 24 hours 48 hours 1 Week 2 Week

Samples Collected By: John Fiorelli

Date/Time: 5/21/2020

Transmitted to Lab By: JPF

Date/Time: 5/21/2020

Received in Lab By: CPDB

Date/Time: 5/22/20 4:25p

Samples Analyzed By: _____

Date/Time: _____

JC
5/29/20
29 AM

Sample not received
6/1/2020
AC 15:13

SAMPLE #	LOCATION	AMOUNT	REMARKS
01	3 rd Fl. Hall - Water Fountain o/s Room 316		1 st Draw
02	3 rd Fl. Hall - Water Fountain o/s Room 316		Flush
03	3rd Fl. Hall - Water Fountain o/s Room 321		1st Draw
04	3 rd Fl. Hall - Water Fountain o/s Room 321		Flush
05	2 nd Fl. Hall - Water Fountain o/s Room 210		1 st Draw
06	2 nd Fl. Hall - Water Fountain o/s Room 210		Flush
07	2 nd Fl. Hall - Water Fountain o/s Room 216		1 st Draw
08	2 nd Fl. Hall - Water Fountain o/s Room 216		Flush
09	2 nd Fl. Hall - Water Fountain o/s Room 221		1 st Draw
10	2 nd Fl. Hall - Water Fountain o/s Room 221		Flush
11	2 nd Fl. Hall - Water Fountain o/s Room 205		1 st Draw
12	2 nd Fl. Hall - Water Fountain o/s Room 205		Flush
13	1 st Fl. Hall - Water Fountain o/s Room 104		1 st Draw
14	1 st Fl. Hall - Water Fountain o/s Room 104		Flush
15	1 st Fl. Hall - Water Fountain o/s Room 108		1 st Draw
16	1 st Fl. Hall - Water Fountain o/s Room 108		Flush
17	1 st Fl. o/s Cafeteria – Middle Fountain		1 st Draw
18	1 st Fl. o/s Cafeteria – Middle Fountain		Flush
19	1 st Fl. – Kitchen Sink near Office		1 st Draw
20	1 st Fl. – Kitchen Sink near Office		Flush
21	1 st Fl. – Kitchen Sink near Office		1 st Draw
22	1 st Fl. – Kitchen Sink near Office		Flush
23	1 st Fl. – Kitchen		1 st Draw
24	1 st Fl. – Kitchen		Flush