



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

Health and Safety Report

District	Location	Project #
Fallsburg Central School District	Benjamin Cosor Elementary School	2021-44
Site Visit Date(s)	Investigation type	Investigator(s)
4/27/2021	Lead in water	Jesse Morrill Gary Bowers II

Table of Contents

Project summary	2-3
Results	4-7
Recommendations	7
Corrective Actions/Remediation	8-9
Reporting/ Record Keeping	9-10
References	10
Appendix A	Chain of Custody



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

Project summary

At the request of the Fallsburg Central School District, on Tuesday, April 27th, 2021, Sullivan County BOCES Health and Safety Office, Gary Bowers II and Jesse Morrill, collected samples for lead in drinking water at the FCSD's Benjamin Cosor Elementary School, in accordance with the emergency regulation titled: *Lead Testing in School Drinking Water* 10 NYCRR Subpart 67-4, effective 5/9/2018.

This regulation requires school districts and boards of cooperative education services (BOCES) with municipal water supplies, and those classified as *public water systems under* 10 NYCRR Subpart 5-1, to test potable water outlets for the presence of lead contamination. This regulation is largely consistent with the Environmental Protection Agency's (EPA's) existing guidelines titled: *3Ts for Reducing Lead in Drinking Water in Schools* however there are some important differences. The EPA's guidance document recommends a 1st and 2nd draw testing process, while the NYS regulation requires only 1st draw sample collection. The acceptable limit for lead in water is 15 ppb (parts per billion).

Additionally, the EPA guideline states that *"if possible, every outlet used for drinking or cooking should be sampled"* (Agency, 2006). The NYS DOH Lead Testing in School Drinking Water Program Guidance Manual dated 2/2021 reads "Samples must be collected at all outlets used or potentially used for drinking or cooking (ie., outlets located in the school's kitchen, classrooms, gymnasium, teachers lounge, nurse's office, etc). Outlets may be located anywhere in or around the school building, including external outlets (hose bibs) if the outlet may be used for drinking. Any outlets excluded from sampling should be documented in the Remedial Action Plan." (*NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21*). Other examples of applicable outlets include food washing sinks, ice machines, combination bottle fill station and drinking fountains, hand washing outlets, foot level operated multi-outlet gang sink, traditional outlets with hot and cold water handles. (*NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21*)

Superintendents or their designees have the responsibility to identify which outlets on a school property meet the regulation requirements for sampling (applicable outlets). If a Superintendent or their designee determines that they have outlets that fall outside of the scope of the regulation (outlets not used or potentially used for drinking or cooking), the school must have a Remedial Action Plan that includes details on how those outlets will NOT be accessed and/or utilized for drinking or cooking purposes (non-applicable outlets). (*NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21*)

Examples of possible "Non-applicable Outlets" include tempered water outlets, dishwashing sinks, custodial closets, bus garage outlets, point of entry from distribution system and Science/Art sinks. (*NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21*)



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

The NYS DOH and the US EPA recommend that hot or tempered water NOT be used for drinking or cooking as warm or hot water increase the leaching of lead into the water. Therefore, tempered outlets do not require sampling. However, all tempered water outlets should be clearly posted with signs (“Do Not Drink” or equivalent), education should be provided to the students and staff to ensure awareness, and the remedial action plan should address, document and describe continued management of the controls in place for these outlets. *(NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)*

Anyone who is familiar with *Lead Testing in School Drinking Water* 10 NYCRR Subpart 67-4, and “First Draw” sampling protocols may collect the water samples. This includes, but is not limited to a school staff member, a laboratory representative, or a consultant. The individual collecting the samples must be able to maintain quality assurance and control over the sampling, and must ensure the chain of custody of the water samples is maintained. Ultimately, it is the school Superintendent or designee that is responsible for ensuring that the samples are collected in accordance with Subpart 67-4. *(NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)*

Any sample submitted for compliance under Subpart 67-4 must be a “First Draw” sample. First draw samples are water samples collected from a cold water outlet before any water is used from that outlet. The water must be motionless in the pipes for a minimum of 8 hours and a maximum of 18 hours before sample collection. This is intended to simulate water that would be consumed during normal operating conditions on any school day. *(NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)* The NYS DOH does not allow for pre-stagnation flushing prior to sampling unless a school is directed to do so by the DOH or local health department. Aerators should be removed prior to sampling. The required sample volume is 250mL. *(NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)*

On Tuesday, April 27th, 2021, samples were collected from potable water outlets at the Benjamin Cosor Elementary School. The total number of samples collected and submitted from the Benjamin Cosor Elementary School was 98. In order to ensure samples are representative of the water that building occupants would typically consume, the district is to have made arrangement for water to be motionless in the building’s plumbing system for a period of time no less than 8 hours or more than 18 hours. Samples were collected in wide mouth 250 ml containers provided by EnviroTest Laboratories in Newburgh, NY, and all samples were delivered to the lab on the date of collection. EnviroTest Laboratories is NYS ELAP-approved (#10142) for potable and non-potable water analysis.



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

Results

Subpart 67-4 requires a response for any plumbing outlet that exceeds the *action level of 15* micrograms per liter (mcg/L) or 15 part per billion (ppb). Lab results indicated that 5 fixtures exceeded the reporting limit of greater than 15ppb. An additional 14 fixtures exceeded 5ppb lead in water, for a total of 19 fixtures exceeding 5ppb lead in water. Although <15ppb is the action level for this current round of water sampling, it is anticipated that the action level will drop to <5ppb for the next round of water sampling in approximately three years.

Sample #	Date	Time	AREA	250 ml HNO3	Analysis Requested	Results PPB
D-1	4/27/2021	06:45	Custodial breakroom bathroom sink	250 ml HNO3	lead	ND<1.00
D-3	4/27/2021		Athletics office bathroom sink	250 ml HNO3	lead	4.18
D-4	4/27/2021		Technology office bathroom sink	250 ml HNO3	lead	7.17
D-6	4/27/2021		B&G office bathroom sink	250 ml HNO3	lead	1.46
D-8	4/27/2021		Faculty bathroom sink	250 ml HNO3	lead	ND<1.00
D-9	4/27/2021		Nurse's office sink	250 ml HNO3	lead	ND<1.00
D-10	4/27/2021		Nurse's office bathroom sink	250 ml HNO3	lead	ND<1.00
D-12	4/27/2021		Left side bottle filler station	250 ml HNO3	lead	ND<1.00
D-14	4/27/2021		Boys bathroom sink (main entrance)	250 ml HNO3	lead	ND<1.00
D-15	4/27/2021		Girls bathroom sink (main entrance)	250 ml HNO3	lead	ND<1.00
D-18	4/27/2021		Café custodial room sink	250 ml HNO3	lead	2.33
D-19	4/27/2021		Café custodial room floor sink	250 ml HNO3	lead	ND<1.00
D-20	4/27/2021		Café custodial room foot pedal sink	250 ml HNO3	lead	9.99
D-21	4/27/2021		Café custodial filtered spigot	250 ml HNO3	lead	3.99
D-22	4/27/2021		Café serving line sink	250 ml HNO3	lead	38.7
D-23	4/27/2021		Kitchen ice machine	250 ml HNO3	lead	1.57
D-24	4/27/2021		Kitchen foot pedal sink	250 ml HNO3	lead	ND<1.00
D-25	4/27/2021		Kitchen 2 bay sink	250 ml HNO3	lead	ND<1.00
D-26	4/27/2021		Kitchen 3 bay sink left	250 ml HNO3	lead	3.02
D-27	4/27/2021		Kitchen 3 bay sink right	250 ml HNO3	lead	5.77
D-28	4/27/2021		Kitchen bathroom sink	250 ml HNO3	lead	1.15
D-29	4/27/2021		Band room sink	250 ml HNO3	lead	1.03
D-30	4/27/2021		Band room sink	250 ml HNO3	lead	ND<1.00
B-1	4/27/2021		Library office sink	250 ml HNO3	lead	3.26
B-3	4/27/2021		Room 20 sink	250 ml HNO3	lead	1.85
B-4	4/27/2021		Room 21 sink	250 ml HNO3	lead	1.79
B-5	4/27/2021		Boys gang bathroom sink left (across from room 27)	250 ml HNO3	lead	ND<1.00
B-6	4/27/2021		Boys gang bathroom sink right (across from room 27)	250 ml HNO3	lead	ND<1.00
B-8	4/27/2021		Room 27 sink	250 ml HNO3	lead	1.20



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

B-9	4/27/2021		Room 26 sink	250 ml HNO3	lead	ND<1.00
B-10	4/27/2021		Girls gang bathroom left sink (across from room 26)	250 ml HNO3	lead	ND<1.00
B-11	4/27/2021		Girls gang bathroom right sink (across from room 26)	250 ml HNO3	lead	ND<1.00
B-12	4/27/2021		Room 22 sink	250 ml HNO3	lead	5.53
B-13	4/27/2021		Room 24 sink	250 ml HNO3	lead	1.09
B-14	4/27/2021		Room 25 sink	250 ml HNO3	lead	2.19
C-1	4/27/2021		Room 10 sink left	250 ml HNO3	lead	3.60
C-2	4/27/2021		Room 10 sink right	250 ml HNO3	lead	4.44
C-3	4/27/2021		Room 8 sink	250 ml HNO3	lead	14.9
C-4	4/27/2021		Room 7 sink	250 ml HNO3	lead	1.57
C-5	4/27/2021		Room 11 sink	250 ml HNO3	lead	15.2
C-9	4/27/2021		Girls gang bathroom sink left (outside room 13)	250 ml HNO3	lead	3.21
C-10	4/27/2021		Girls gang bathroom sink left center (outside room 13)	250 ml HNO3	lead	1.17
C-11	4/27/2021		Girls gang bathroom sink right center (outside room 13)	250 ml HNO3	lead	1.12
C-12	4/27/2021		Girls gang bathroom sink right (outside room 13)	250 ml HNO3	lead	1.51
C-13	4/27/2021		Room 13 sink	250 ml HNO3	lead	6.98
C-14	4/27/2021		Room 14 sink	250 ml HNO3	lead	3.15
C-15	4/27/2021		Boys gang bathroom sink left (across from room 14)	250 ml HNO3	lead	ND<1.00
C-16	4/27/2021		Boys gang bathroom sink center (across from room 14)	250 ml HNO3	lead	ND<1.00
C-17	4/27/2021		Boys gang bathroom sink right (across from room 14)	250 ml HNO3	lead	2.30
C-20	4/27/2021		Room 12 sink	250 ml HNO3	lead	3.29
C-21	4/27/2021		Room 16 sink	250 ml HNO3	lead	11.1
C-22	4/27/2021		Room 15 sink	250 ml HNO3	lead	5.04
C-23	4/27/2021		Room 17 sink	250 ml HNO3	lead	3.55
C-24	4/27/2021		Room 18 sink	250 ml HNO3	lead	36.8
C-25	4/27/2021		Room 6 sink	250 ml HNO3	lead	21.0
C-26	4/27/2021		Room 5 sink	250 ml HNO3	lead	5.38
C-28	4/27/2021		Room 4-A bathroom sink	250 ml HNO3	lead	6.43
C-29	4/27/2021		Room 4-A classroom sink	250 ml HNO3	lead	2.82
C-30	4/27/2021		Boys bathroom sink (outside room 4-A)	250 ml HNO3	lead	ND<1.00
C-32	4/27/2021		Room 3 left sink	250 ml HNO3	lead	59.2
C-33	4/27/2021		Room 3 right sink	250 ml HNO3	lead	3.93
C-34	4/27/2021		Bathroom sink	250 ml HNO3	lead	1.99
C-36	4/27/2021		Room 2 left sink	250 ml HNO3	lead	1.24



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

C-37	4/27/2021		Room 2 right sink	250 ml HNO3	lead	2.66
C-38	4/27/2021		Room 2 bathroom sink	250 ml HNO3	lead	3.85
C-39	4/27/2021		Girls bathroom sink (outside room 1)	250 ml HNO3	lead	1.70
C-41	4/27/2021		Room 1 classroom sink	250 ml HNO3	lead	3.04
C-42	4/27/2021		Room 1 bathroom sink	250 ml HNO3	lead	ND<1.00
A-1	4/27/2021		Mens faculty bathroom sink (across from room 29)	250 ml HNO3	lead	2.94
A-2	4/27/2021		Womens faculty bathroom sink (across from room 29)	250 ml HNO3	lead	3.85
A-3	4/27/2021		Room 30 sink	250 ml HNO3	lead	2.61
A-4	4/27/2021		Room 31 sink	250 ml HNO3	lead	3.34
A-5	4/27/2021		Room 36 sink	250 ml HNO3	lead	2.21
A-9	4/27/2021		Girls gang bathroom sink left (across from room 34)	250 ml HNO3	lead	1.95
A-10	4/27/2021		Girls gang bathroom sink left center (across from room 34)	250 ml HNO3	lead	7.56
A-11	4/27/2021		Girls gang bathroom sink right center (across from room 34)	250 ml HNO3	lead	1.77
A-12	4/27/2021		Girls gang bathroom sink right (across from room 34)	250 ml HNO3	lead	3.42
A-13	4/27/2021		Room 34 sink	250 ml HNO3	lead	2.83
A-14	4/27/2021		Room 35 sink	250 ml HNO3	lead	2.64
A-15	4/27/2021		Boys gang bathroom sink left (across from room 35)	250 ml HNO3	lead	2.10
A-16	4/27/2021		Boys gang bathroom sink center (across from room 35)	250 ml HNO3	lead	ND<1.00
A-17	4/27/2021		Boys gang bathroom sink right (across from room 35)	250 ml HNO3	lead	1.08
A-20	4/27/2021		Room 39 sink	250 ml HNO3	lead	5.51
A-21	4/27/2021		Room 38 sink	250 ml HNO3	lead	2.56
A-22	4/27/2021		Room 40 sink	250 ml HNO3	lead	5.05
A-23	4/27/2021		Room 41 sink	250 ml HNO3	lead	4.44
A-24	4/27/2021		Room 32 sink	250 ml HNO3	lead	1.91
A-25	4/27/2021		Room 33 sink	250 ml HNO3	lead	2.29
A-26	4/27/2021		Room 47 sink	250 ml HNO3	lead	3.43
A-27	4/27/2021		Room 46 sink	250 ml HNO3	lead	4.06
A-28	4/27/2021		Boys gang bathroom sink left (outside room 45)	250 ml HNO3	lead	ND<1.00
A-29	4/27/2021		Boys gang bathroom sink right (outside room 45)	250 ml HNO3	lead	ND<1.00
A-31	4/27/2021		Girls gang bathroom sink left (outside room 44)	250 ml HNO3	lead	3.17
A-32	4/27/2021		Girls gang bathroom sink right (outside room 44)	250 ml HNO3	lead	4.00



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

A-33	4/27/2021		Room 42 sink	250 ml HNO3	lead	10.0
A-34	4/27/2021		Room 43 sink	250 ml HNO3	lead	3.34
A-35	4/27/2021		Women's faculty bathroom sink right	250 ml HNO3	lead	1.23
A-36	4/27/2021	07:15	Room 37 sink	250 ml HNO3	lead	ND<1.00

This was reported to the district as soon as the lab results became available. See attached documents from EnviroTest Laboratories titled *Analytical Report* (job number: 420-196106-1) for the full lab results.

Recommendations

Following an Action Level Exceedance, steps to take include the following:

Immediate Response:

1. Prohibit the use of the outlet (take outlet out of service or turn off) until:
 - A) A Remedial Action Plan is implemented to mitigate the lead level at the outlet, and
 - B) Post-remediation test results indicate that the lead levels are at or below the action level;
2. Provide building occupants with an adequate supply of water for drinking and cooking until remediation is performed;
3. Report the test results to the local health department as soon as practicable, but no more than 1 business day after the school received the laboratory report;
4. Notify all staff and all persons in parental relation to students of the test results, in writing, as soon as practicable but no more than 10 business days after the school received the laboratory report;
5. Refer to the **Reporting Requirements of All Test Results** section for additional reporting details and more information concerning reporting deadlines.

(NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

Corrective Actions / Remediation

Schools should consider the following remedial options for addressing outlets that exceed the action level:

- ***Permanent outlet removal*** – If the outlet is seldom used, it may be disconnected or removed from the water supply line. Prior to removing an outlet, verify that the outlet is not required for compliance with local building code or NYS Education Department requirements for access to potable water within the building. To ensure that an outlet is permanently taken out of service, the NYS DOH recommends removing the outlet and capping the supply line with plumbing materials that are lead free. (NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)
- ***Outlet and/or pipe replacement*** – with lead free plumbing materials. If the existing outlet and or plumbing is suspected to be the source of the contamination, replace it with a new product that meets the Safe Drinking Water Act Section 1417(a)(4) definition of lead free (effective 1/4/14). (NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)
- ***Flushing*** – Schools may consider developing a systematic flushing program to implement routinely (at a specified frequency). Flushing is generally used as a short-term measure and paired with permanent remediation like replacement or removal of an outlet. (NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)
- ***Point of Use Filters*** – POU filters are filters installed at individual outlets. They are commercially available and can be effective in removing lead. Schools may choose to use certified lead reducing filters as a long term or permanent control measure with proper maintenance. To select a lead reducing POU filter, check with the manufacturer or a third party website to verify the product was tested and certified against NSF/ANSI Standard 53 (for lead removal). For additional protection for particulate lead, look for a POU filter that is also certified against NSF/ANSI Standard 42 (for class I particulate reduction, 0.5microns to <1 micron). Filters require routine maintenance to remain effective. Be sure to follow the filter manufacturer's instructions for maintenance and replacement. If POU filters are being considered, be sure to factor in the cost of the filters and long term maintenance and replacement costs. Also, be sure that the filtering media does not consist of nut products. (NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

- ***“Do Not Drink” Signage*** – In general, posting “Do Not Drink” or equivalent signs at outlets are considered a temporary measure. However, some outlets, for example, science laboratories outlets, may have signs posted long term if the school has also instituted other controls including supervision and education to ensure the outlets are not used for consumption. Schools may develop their own signs and consideration should be given to the age of the children, as pictures may be more appropriate for younger children. Signs must be clearly visible and in close proximity to the affected outlets. Placing a sign at a room entrance is not acceptable. (NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)
- ***Supervision of outlet use as a control measure*** – In areas where supervision is present and there are policies to prevent the use of water for consumption purposes, supervision may be used as a remedial action. Supervision should be used in combination with other controls. (NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)
- ***Engineering Controls*** – Engineering controls may be implemented to prevent consumption of water from specific outlets. Engineering controls include locked doors to janitor’s closets, special keys to operate an outside hose bib, and other controls. Engineering controls should be combined with continued education reminding staff and students not to consume water from these outlets and with signs as needed. (NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)
- ***Education*** – Educate the school community to reinforce understanding and compliance with engineering controls, supervision controls and signage. (NYS DOH Lead Testing in School Drinking Water Guidance Manual 2/21)

All remedial measures employed should be described in the Remedial Action Plan.

Reporting/ Record Keeping requirements of the NYS Dept. of Health

- Within 1 business day of receipt of laboratory reports:
 1. Report any and all lead results greater than 15 ppb to the local health department.
- Within 10 business days of receipt of laboratory reports:
 2. Report any and all lead results greater than 15 ppb to all staff, parents and guardians in writing. Physical written notification should be distributed to all staff and persons in parental relation to the child. Posting the information on the school website or through social media does not constitute written notification
 3. Report current test results (including post-remediation results) in the NYS DOH’s electronic reporting system, HERDS.



15 Sullivan Ave., Suite 1W, Liberty, NY 12754

- Within 6 weeks of receipt of laboratory reports:
 - 4. Post numeric test results of all lead testing, information about remedial actions taken, and a list of any lead-free buildings on the school's website. This should be readily visible and remain posted on the schools website for the duration of the compliance period.
- Record Retention: 10 years
 - 5. Schools must retain on site all records of lead test results; remediation actions, "lead-free" plumbing determinations and waiver requests and approvals for 10 years following document creation. (Health, September 23, 2016)

References:

Agency, U. E. (2006). *3T,s for Reducing Lead in Drinking Water in School*. Washington DC: United States Environmental Protection Agency.

Health, N. D. (September 23, 2016). *Lead Testing in School Drinking Water*. Albany, NY: NYS Dept of Health.

Official Compilation of Codes, R. a. (2016). *Lead Testing in School Drinking Water*. Albany, NY: Commissioner of Health.

NYS Law Subpart 67-4 Lead Testing in School Drinking Water, NYS Dept. of Health Regulations, Albany, NY: NYS Dept. of Health

NYS DOH Lead Testing in School Drinking Water 2020 Compliance Requirements November 2019 Webinar Presentation

Appendix A



CHAIN OF CUSTODY

REPORT# (Lab Use Only)

****IMPORTANT NOTE: All services performed by Envirotest Laboratories LLC are subject to our Terms & Conditions available at <http://www.envirotestlabs.com/terms>*** Any Rush TAT must be approved in advance by lab*****

CLIENT NAME		PWS NUMBER
Sullivan County Bores		
CLIENT ADDRESS		PROJECT LOCATION
52 Female Lakes Rd		PCSD - Elephant
CLIENT PHONE#	CLIENT (SITE) CONTACT	
845-205-4028	Jesse Merrill	
EMAIL (TO SEND REPORT)	P.O. NUMBER / PROJECT NUMBER	
	2021-44	
NOTES see below		
SAMPLE DATE TIME SAMPLE IDENTIFICATION		
9/7/21	6:05	See Attached
COMPOSITE (C) OR GRAB (G) INDICATE		
G	X	AQUEOUS (WATER)
D (Drinking Water) or W (Waste Water) Indicate		
SOLID OR SEMISOLID		
Chlorine Residual		
REQUIRED Containers		
Total # of Containers		
40mL Vials HCl		
Liter Amber HCl		
250 Amber Sulfuric		
Liter Amber Glass		
250 mL Plastic Nitric Acid		
250mL Plastic Sulfuric Acid		
Liter Plastic		
250mL Plastic		
250mL Plastic NaOH		
40mL Vials Sulfuric		
40 mL Glass Plain		
125 mL Sterile Na2S2O3		
125mL Sterile		
Other		
TURNAROUND TIME (Biz Days)		NON-TESTING CHARGES
NORMAL	X	PU SAMP
RUSH (Y/N)		GRAB COMP
RUSH (# Biz Days)		REPORTING
#OF COOLERS		OTHER
Analysis Requested		
Lead in Water		



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