

Water Quality & Lead Testing Notification Report

Ocean County Vocational Technical School District

September 24, 2021

Dear School Community,

Our school system is committed to protecting student, teacher, and staff health. To protect our community and be in compliance with the Department of Education regulations, the Ocean County Vocational Technical School District began testing our schools' drinking water for Lead.

In accordance with the Department of Education regulations, the District has implemented immediate remedial measures for any drinking water outlet with a result greater than the action level of 15 µg/l (parts per billion [ppb]). This included turning off the outlet, providing an alternate water source, and leaving the outlet off.

Results of our Testing

Following instructions given in technical guidance developed by the New Jersey Department of Environmental Protection, we completed a plumbing profile for our building. Through this effort, we identified and tested all drinking water and food preparation outlets. Of the 84 samples collected, only 2 sample locations exceeded the Lead action level established by the US Environmental Protection Agency for Lead in drinking water (15 µg/l [ppb]).

The table below identifies the drinking water outlets that tested above the 15 µg/l for Lead on a 1st-Draw sample, the actual Lead level, and what temporary remedial action has taken to reduce the levels of Lead at these locations.

Sample Location	Results (µg/l or ppb)	Remedial Action - Recommended
<u>Waretown Center</u> Nurse's Office Sink Fountain	34	The outlet will be flushed daily until it can be repaired or replaced and another water sample will then be collected.
<u>Brick Center</u> Deli store B15, Coffee Machine	91	The outlet will be flushed daily until it can be repaired or replaced and another water sample will then be collected.

Health Effects of Lead

High levels of Lead in drinking water can cause health problems. Lead is most dangerous for pregnant women, infants, and children under 6 years of age. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. Exposure to high levels of Lead during pregnancy contributes to low birth weight and developmental delays in infants. In young children, Lead exposure can lower IQ levels, affect hearing, reduce attention span, and hurt school performance. At *very* high levels, Lead can even cause brain damage. Adults with kidney problems and high blood pressure can be affected by low levels of Lead more than healthy adults.

How Lead Enters our Water

Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like groundwater, rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing

away, of materials containing Lead in the water distribution system and in building plumbing. These materials include Lead-based solder used to join copper pipe, brass, and chrome-plated brass faucets. Federal regulations banned the use of Lead solder containing greater than 0.2% Lead, and restricted the Lead content of faucets, pipes and other plumbing materials. However, even the Lead in plumbing materials meeting these new requirements is subject to corrosion. When water stands in Lead pipes or plumbing systems containing Lead for several hours or more, the Lead may dissolve into the drinking water. This means the first water drawn from the tap in the morning *may* contain fairly high levels of Lead.

Lead in Drinking Water

Lead in drinking water, although rarely the sole cause of Lead poisoning can significantly increase a person's total Lead exposure, particularly the exposure of children under the age of 6. EPA estimates that drinking water can make up 20% or more of a person's total exposure to Lead.

For More Information

A copy of the test results is available in our central office for inspection by the public, including students, teachers, other school personnel, and parents, and can be viewed between the hours of 8:30 a.m. and 4:00 p.m. and are also available on our website at ocvts.org for more information about water quality in our schools, contact Ed Crawford at the Facilities and Grounds Dept, 732-908-4313.

For more information on reducing Lead exposure around your home and the health effects of Lead, visit EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

If you are concerned about Lead exposure at this facility or in your home, you may want to ask your health care providers about testing children to determine levels of Lead in their blood.

Water Sampling Log

Name of Building: Toms River Center
 Building Owner: Ocean County Vo Tech

Date Collected: 18-Aug-21
 Sample Collected by: JS Gilbert

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer		Time	Results (mg/L)	
							Cu	Pb
<i>sample no. not used</i>	1	1st	Hose Spigot		Near water meter		not in service	
RK-081821-02	2	1st	Water Fountain	Elkay	Btwn Mens & Ladies Room - Cosmetology	08:31	0.084	<0.0020
RK-081821-03	3	1st	Cappuc/Coffee Machin	-	Supermarket	08:33	0.107	<0.0020
RK-081821-04	4	1st	Ice Machine	Hoshizaki American	Supermarket (A&B)	08:35	0.011	<0.0020
RK-081821-05	5	1st	Prep Sink (left)	NSF	Room TR28	08:37	0.218	<0.0020
RK-081821-06	6	1st	Prep Sink (right)	NSF	Room TR28	08:37	0.245	<0.0020
RK-081821-07	7	1st	Water Cooler	Advaned Alpine H2O Solution	Faculty Room	08:44	<0.001	<0.0020
RK-081821-08	8	1st	Sink	Moen	Nurse's Office	08:45	0.073	<0.0020
RK-081821-09	9	1st	Sink		Main Office - Copy Room	08:47	0.102	0.0034
RK-081821-10	10	1st	Water Cooler	Alpine	Main Office - Copy Room	08:47	<0.001	<0.0020
RK-081821-11	11	1st	Water Cooler	Pure Water Tech	Adult Evening School Office	08:50	<0.001	<0.0020
RK-081821-12	12	1st	Water Fountain	Elkay	Next to Room TR17	08:51	0.343	<0.0020
<i>sample no. not used</i>	13	1st	Dental Chair	DCI Equip	Room TR39 Left		not in service	
<i>sample no. not used</i>	14	1st	Dental Chair	DCI Equip	Room TR39 Right		not in service	
RK-081821-15	15	1st	Water Cooler	Alpine	Room TR40	08:53	<0.001	<0.0020
RK-081821-16	16	1st	Water Fountain	Elkay	Room TR43	08:55	0.460	0.0057

Sample Type: **1st:** First Draw sample collected after water sat in pipe between 8 and 18 hours
FL: Water flushed through tap for at least 2 minutes
 <: means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 mg/L for Lead.

Water Sampling Log

Name of Building: Toms River Campus
 Building Owner: Ocean County Vo Tech

Date Collected: 18-Aug-21
 Sample Collected by: JS Gilbert

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer		Time	Results (mg/L)	
							Cu	Pb
					<u>Facilities & Grounds Bldg</u>			
RK-081821-21	1	1st	Kitchen sink	American Standard	Common area	08:59	0.093	<0.0020
<i>sample no. not used</i>	2	1st	Spigot		Inside warehouse by Bay Door		not in service	
RK-081821-23	3	1st	Water Cooler	Oasis	GB Office	09:01	0.006	<0.0020
					<u>Student Services Bldg</u>			
<i>sample no. not used</i>	1	1st	Slop Sink		Basement		not in service	
RK-081821-26	2	1st	Sink		Office Area	09:10	0.050	<0.0020
RK-081821-27	3	1st	Water Cooler	Pure Water Tech	Office Area	09:11	< 0.001	<0.0020
					<u>Administration Bldg</u>			
<i>sample no. not used</i>	1	1st	Slop Sink		Custodial Room		not in service	
RK-081821-30	2	1st	Water Fountain	Elkay	Lower Hallway outside Custodial Room	09:19	0.822	0.0024
RK-081821-31	3	1st	Sink		Downstairs Breakroom	09:20	0.108	<0.0020

Sample Type: **1st:** First Draw sample collected after water sat in pipe between 8 and 18 hours
FL: Water flushed through tap for at least 2 minutes
 <: means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 mg/L for Lead.

Water Sampling Log

Name of Building: Waretown Center
 Building Owner: Ocean County Vo Tech

Date Collected: 18-Aug-21
 Sample Collected by: JS Gilbert

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer		Time	Results (mg/L)	
							Cu	Pb
RK-081821-41	1	1st	Spigot		Well B - after backflow preventer	09:51	0.225	0.0386
RK-081821-42	2	1st	Sink	T & S Brass	Nurse's Office	09:55	0.323	0.0343
RK-081821-43	3	1st	Chiller	Pure Water Tech	Faculty Room	10:00	<0.001	<0.0020
RK-081821-44	4	1st	Chiller	Pure Water Tech	Main Office Hall	10:04	<0.001	<0.0020
RK-081821-45	5	1st	Ice Machine	Manitowac	Culinary Classroom-Equipment #20	10:06	0.019	<0.0020
RK-081821-46	6	1st	2 Bay Prep Sinks	Eagle	Culinary Classroom	10:08	0.141	<0.0020
RK-081821-47	7	1st	Coffee Machine	Tap	Culinary Classroom Next to Unox Oven	10:10	0.002	<0.0020
RK-081821-48	8	1st	Chiller	Pure Water Tech	Room W14 Weight Room	10:13	<0.001	<0.0020
RK-081821-49	9	1st	Chiller	Pure Water Tech	Room W18B Hall	10:15	<0.001	<0.0020

Sample Type: **1st:** First Draw sample collected after water sat in pipe between 8 and 18 hours
FL: Water flushed through tap for at least 2 minutes
 <: means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 mg/L for Lead.

Water Sampling Log

Name of Building: MATES Academy
 Building Owner: Ocean County Vo Tech

Date Collected: 18-Aug-21
 Sample Collected by: JS Gilbert

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer		Time	Results (mg/L)	
							Cu	Pb
RK-081821-51	1	1st	Backflow Prev.		Room 166 - at Main Kitchen	08:24	0.290	0.0179
RK-081821-52	2	1st	Faucet	Advance Tabco	Main Kitchen next to Reach-in Refrigerator #21	08:25	0.049	<0.0020
RK-081821-53	3	1st	Ice Machine	Hoshizaki America Inc	Main Kitchen #8	08:26	0.014	0.0032
RK-081821-54	4	1st	Bottle Filler	Elkay	Between Bathrooms 127 &129 A-wing - Left	08:32	0.031	<0.0020
RK-081821-55	5	1st	Chiller	Elkay	Between Bathrooms 127 &129 A-wing - right	08:33	0.098	0.0032
RK-081821-56	6	1st	Chiller	Elkay	Fitness Center	08:36	0.078	<0.0020
RK-081821-57	7	1st	Bottle Filler	Elkay	Hall Next to Room 141 - Left	08:40	0.055	<0.0020
RK-081821-58	8	1st	Chiller	Elkay	Hall Next to Room 141 - Right	08:41	0.111	<0.0020
RK-081821-59	9	1st	Faucet		Nurses Office Rm 162 Sink	08:45	0.112	0.0025
RK-081821-60	10	1st	Chiller	Pure Water Tech	Main Office Rm 110	08:47	<0.001	<0.0020
RK-081821-61	11	1st	Chiller	Elkay	2nd Floor Outside Elevator	08:51	0.089	<0.0020
RK-081821-62	12	1st	Bottle Filler	Elkay	2nd Floor Next to Lockers	08:53	0.038	<0.0020
RK-081821-63	13	1st	Chiller	Pure Water Tech	2nd Floor Faculty Room	08:56	<0.001	<0.0020
RK-081821-64	14	1st	Sink		2nd Floor Faculty Room	08:57	0.068	<0.0020

Sample Type: **1st:** First Draw sample collected after water sat in pipe between 8 and 18 hours
FL: Water flushed through tap for at least 2 minutes
 <: means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 mg/L for Lead.

Water Sampling Log

Name of Building: Brick Center
 Building Owner: Ocean County Vo Tech

Date Collected: 18-Aug-21
 Sample Collected by: Chase M. Adams

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer	Location	Time	Results (mg/L)	
							Cu	Pb
RK-081821-101	1	1st	Spigot		Off of the main custodial closet, outside Child Care	07:13	0.068	<0.0020
RK-081821-102	2	1st	Bottle Filler	Elkay	Outside Child Care (Q0082889)	07:14	0.110	<0.0020
RK-081821-103	3	1st	Kitchen Sink		Child Care	07:16	0.051	0.0021
RK-081821-104	4	1st	Kitchen Sink		Service OCO, door side	07:17	0.041	<0.0020
RK-081821-105	5	1st	Sink in back		Attendance Office	07:18	0.033	0.0037
RK-081821-106	6	1st	Bottle Filler	Elkay	2nd flr outside Cosmetology (Q0089292)	07:20	0.172	<0.0020
RK-081821-107	7	1st	Double Sink	Pure Water Tech	Bakery Classroom - in closet	07:23	0.146	0.0072
RK-081821-108	8	1st	Water Cooler		Faculty Room - B5 (Q0078801)	07:25	<0.001	<0.0020
RK-081821-109	9	1st	Bottle Filler	Elkay	Outside B23 (Q0082890)	07:27	0.126	<0.0020
RK-081821-110	10	1st	Nurse's sink	Pure Water Tech	Nurse's Office - B3	07:28	0.064	0.0032
RK-081821-111	11	1st	Water Cooler		Nurse's Office - B3 (Q0078802)	07:28	<0.001	<0.0020
RK-081821-112	12	1st	Bar Sink		Dining Room	07:32	1.450	0.0075
<i>sample no. not used</i>	13	1st	Coffee Machine		Dining Room, downstream of filter		not in service	
<i>sample no. not used</i>	14	1st	Coffee station		Main Kitchen, upstream of filter		not in service	
<i>sample no. not used</i>	15	1st	Prep Sink		Across from main line cooling-station 31		not in service	
<i>sample no. not used</i>	16	1st	Spigot		Equipment #33 kettle		not in service	
<i>sample no. not used</i>	17	1st	Ice machine		#71 Main kitchen		not in service	
RK-081821-118	18	1st	Prep Sink		Across from ice machine - Main kitchen	07:35	0.085	0.0037
<i>sample no. not used</i>	19	1st	Prep Sink		Next to piece #150 - smoker		not in service	
<i>sample no. not used</i>	20	1st	Chiller	Quench	Main kitchen next to blast chiller (Q0078806)		not in service	

Sample Type: **1st:** First Draw sample collected after water sat in pipe between 8 and 18 hours
FL: Water flushed through tap for at least 2 minutes
 <: means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 mg/L for Lead.

Water Sampling Log

Name of Building: Brick Center
 Building Owner: Ocean County Vo Tech

Date Collected: 18-Aug-21
 Sample Collected by: Chase M. Adams

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer		Time	Results (mg/L)	
							Cu	Pb
<i>sample no. not used</i>	21	1st	Water Faucet		Work station #34		not in service	
<i>sample no. not used</i>	22	1st	Water Fill		Equipment #18 tilt-in skillet - L/R composite		not in service	
RK-081821-123	23	1st	Prep Sink		Bakery - marked as Equipment U	07:40	0.085	<0.0020
<i>sample no. not used</i>	24	1st	Water Cooler	Pure Water Tech	Bakery Fundamentals Shop (Q0078807)		not in service	
<i>sample no. not used</i>	25	1st	Ice machine		Baking Fundamentals-Equipment #80		not in service	
RK-081821-126	26	1st	Spigot		Annex Kitchen-Equipment #61 tilting skillet	07:44	0.065	<0.0020
RK-081821-127	27	1st	Prep Sink		Annex Kitchen-nest to piece #65 Reach in freezer	07:44	0.164	0.0039
RK-081821-128	28	1st	Coffee Machine		Deli store, B15	07:46	0.802	0.0907
RK-081821-129	29	1st	Bottle Filler	Elkay	Hallway - Outside Careers	07:50	0.286	<0.0020
RK-081821-130	30	1st	Kitchen Sink		Service OCO, window side	07:52	0.036	<0.0020
RK-081821-131	31	1st	Kitchen Sink		2nd Floor Teachers Lounge - B76, Hot/Cold comp.	07:56	0.178	0.0041
RK-081821-132	32	1st	Sink		Main Office	08:01	<0.001	<0.0020
RK-081821-133	33	1st	Bottle Filler	Elkay	Outside B76	07:57	0.064	<0.0020

Sample Type: **1st:** First Draw sample collected after water sat in pipe between 8 and 18 hours
FL: Water flushed through tap for at least 2 minutes
 <: means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 mg/L for Lead.

Water Sampling Log

Name of Building Jackson Center
 Building Owner: Ocean County Vo Tech

Date Collected : 18-Aug-21
 Sample Collected by: Chase M. Adams

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer		Time	Results (mg/L)	
							Cu	Pb
RK-081821-151	1	1st	Spigot		Boiler Room	10:00	0.025	<0.0020
<i>sample no. not used</i>	2	1st	Kitchen Sink		Life Skills - J6 (REMOVED)		removed	
RK-081821-153	3	1st	Water Cooler	Pure Water Tech	Faculty Room - J5A	10:03	<0.001	<0.0020
RK-081821-154	4	1st	Sink		Nurse's Office	10:06	0.013	<0.0020
RK-081821-155	5	1st	Bottle Filler	Elkay	Main hallway by Counsellor's Office (Q0090846)	10:05	0.024	<0.0020
<i>sample no. not used</i>	6	1st	Water Fountain		Outside of J32 bathroom		not in service	

Sample Type: **1st:** First Draw sample collected after water sat in pipe between 8 and 18 hours
 FL: Water flushed through tap for at least 2 minutes
 <: means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 mg/L for Lead.

Water Sampling Log

Name of Building Performing Arts Academy
 Building Owner: Ocean County Vo Tech

Date Collected : 18-Aug-21
 Sample Collected by: JS Gilbert

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer		Time	Results (mg/L)	
							Cu	Pb
RK-081821-201	1	1st	Bottle Filler	Elkay	Next to 115	10:43	0.092	<0.0020
RK-081821-202	2	1st	Bottle Filler	Elkay	Lobby Right	10:45	0.339	<0.0020
RK-081821-203	3	1st	Chiller	Elkay	Lobby Left	10:45	0.326	<0.0020
RK-081821-204	4	1st	Bottle Filler	Elkay	Across Elevator Right - 2nd Floor	10:50	0.333	<0.0020
RK-081821-205	5	1st	Chiller	Elkay	Across Elevator Left - 2nd Floor	10:50	0.348	<0.0020
RK-081821-206	6	1st	Bottle Filler	Elkay	Next to 216 Storage	10:52	0.057	<0.0020
RK-081821-207	7	1st	Bottle Filler	Elkay	Across Elevator Right	10:54	0.237	<0.0020
RK-081821-208	8	1st	Chiller	Elkay	Across Elevator Left	10:54	0.282	<0.0020
RK-081821-209	9	1st	Bottle Filler	Elkay	Next to 316	10:55	0.129	<0.0020

Sample Type: **1st:** First Draw sample collected after water sat in pipe between 8 and 18 hours
 FL: Water flushed through tap for at least 2 minutes
 <: means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 mg/L for Lead.

Water Sampling Log

Name of Building Atlantis Country Club-Cuisine on the Green
 Building Owner: Ocean County Vo Tech

Date Collected : 18-Aug-21
 Sample Collected by: JS Gilbert

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer		Time	Results (mg/L)	
							Cu	Pb
RK-081821-401	1	1st	Sink/faucet		Bar Sink	07:08	0.033	<0.0020
RK-081821-402	2	1st	Spigot		Kitchen - Coffee Machine	07:12	0.007	<0.0020
RK-081821-403	3	1st	Spigot		Kitchen - Left Kettle faucet	07:26	0.022	0.0022
RK-081821-404	4	1st	Faucet		Kitchen - Right Kettle faucet	07:27	0.027	0.00996
RK-081821-405	5	1st	Faucet		Kitchen - left prep sink	07:28	0.049	<0.0020
RK-081821-406	6	1st	Faucet		Kettle Right prep sink	07:29	0.071	<0.0020
RK-081821-407	7	1st	Sink/faucet		Prep sink in classroom	07:32	0.021	<0.0020

Sample Type: **1st:** First Draw sample collected after water sat in pipe between 8 and 18 hours
 FL: Water flushed through tap for at least 2 minutes
 <: means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 mg/L for Lead.



RK Occupational & Environmental Analysis Inc

401 St. James Ave., Phillipsburg, N.J. 08865
Telephone: 908-454-6316 Fax: 908-454-4818

Health/Safety and
Environmental
Regulatory
Compliance

September 21, 2021

email: ecrawford@mail.ocvts.org

Right-To-Know

Mr. Ed Crawford
Supervisor of Building & Grounds
Ocean County Vocational-Technical Schools
1200 Old Freehold Road
Toms River, NJ 08753-1304

OSHA/EPA/DOT
Training Programs

re: **Water Sampling for Compliance with N.J.A.C. 6A:26-12.4
Lead and Copper in Drinking Water**

Asbestos and Lead
Management

Dear Mr. Crawford,

Industrial Hygiene/
OSHA Compliance

We enclose the following documents and related information for compliance with the new NJ Department of Education Regulation related to Lead in Drinking Water in school buildings:

Indoor Air Quality

Sampling Report Narrative	4 pages
Water Sampling Log and Results	9 pages
Notification Letter (modified from NJDoEd letter template)	2 pages
Laboratory Analytical Report (digital copy only via email, 115 pages)	

Underground/
Aboveground
Storage Tanks

All total of 84 drinking water samples were collected for Lead and Copper in the District's buildings and there were two (2) water samples that exceeded the 0.015 mg/L standard. As noted in section 2 of the report, public notification is required which identifies the responses the District has taken to address the issue.

Environmental
Site Assessment

In addition, one sample location had results for Copper that was above the NJ standard of 1.3 mg/L.

Hazardous/
Medical Waste
Management

If you have any questions, please don't hesitate to call us.

Environmental
Audits

Sincerely,

Expert Witness/
Litigation Support

Patrick D. McGuinness, MS, P.E.
Vice President

(file \Reports\Watertest\OCVT-211)

Customized
Software

Sampling Report - Lead and Copper in Drinking Water
Ocean County Vocation Technical School District

1. Sampling Results Summary

Sample Collection Date	August 18, 2021
Number of Buildings Sampled	10
Total Number of Samples Collected	84
Number of Samples with No Detectible Lead	64
Number of Samples Exceeding 5 ppb	4
Number of Samples Exceeding 15 ppb (0.015 mg/L) Standard	2
Waretown Center Nurse's Office Sink	34 ppb
Brick Center Deli store B15, Coffee Machine	91 ppb

2. Required Response for Sample Results Exceeding 15 PPB Standard

The rules promulgated under the new NJDOE "Safe Drinking Water" regulation N.J.A.C. 6A:26-12.4 require certain actions by the School District when the measured Lead content in any sample results exceeds the 0.015 mg/L standard. As indicated in the summary above, this level is equivalent to 15 parts per billion (ppb) and two samples had results in excess of this level.

Within 24 hours after the District has reviewed the sample results, the District shall provide written notification to the parents and guardians of all students attending the affected facilities. The notification must include the following:

- A description of the measures taken by the School District to immediately end use of each affected water outlet;
- If necessary, measures taken to provide alternate drinking water;
- Information regarding health effects of Lead.

Appended to this report is a sample notification letter. It was taken from a template created by the NJDOE and has been modified to include our recommended responses as shown below:

Sample Location	Results (µg/l or ppb)	Remedial Action - Recommended
<u>Waretown Center</u> Nurse's Office Sink Fountain	34	The outlet will be flushed and inspected for line sediment. In addition, it will be flushed daily until it is re-sampled and acceptable results are obtained.
<u>Brick Center</u> Deli store B15, Coffee Machine	91	The outlet will be flushed and inspected for line sediment. In addition, it will be flushed daily until it is re-sampled and acceptable results are obtained.

3. Water Sampling Procedures

Sampling protocols and procedures follow the EPA “3-T’s Program” that was developed for schools and Child Care centers. They recognize that the typical school building is actually a conglomeration of an original building with one or more additions, each of which typically having different plumbing system materials.

In addition, building sections constructed before 1986 likely have plumbing systems that used leaded solders on Copper water lines. Very old buildings and public water supply systems may also still have lead piping. Other potential sources of Lead in drinking water systems include brass faucets, fittings, along with valve seats and stems that are used in the municipal and building piping distribution systems. It is important to note that “Lead-Free” plumbing components used since 1986 may actually contain up to 8% Lead by weight. In January 2014, this limit was lowered from 8% to 0.2% Lead.

The sampling protocol requires that water be collected as a “First-Draw” to ensure that the water sample has been standing for at least 8 hours. This is intended to replicate a “worst-case” situation since both the Lead and Copper levels are usually lowered significantly after running the water even for a few moments.

Drinking water samples were collected early on a weekday (not Monday) or Saturday morning before staff and students arrived for classes to represent water that has sat idle in the building piping system overnight.

Laboratory analysis of the water samples was performed for both Lead and Copper since both could be sourced from the building plumbing and both are indicators of system corrosion.

All samples were collected in 250 ml contaminant-free containers. Laboratory analysis of the water samples was performed by Pace Analytical Services, LLC of Melville, NY and Mt. Juliet, TN (NJ DEP Certification Nos. NY158 and TN002). The analytical method is per EPA Method 200.8 via atomic absorption, induction coupled plasma technique.

4. Sample Results and Discussion

Sampling results are discussed below and the sampling logs are appended to this report. All results are expressed as milligrams of Lead or Copper per liter of water (mg/L) and compared against the current 0.015 mg/L Action Level.

It is important to note that the laboratory results are reported in terms of micrograms per liter ($\mu\text{g/L}$). This is essentially equivalent to parts of Lead per billion (ppb) parts of water. The Action level also translates to 15 ppb.

A total of 84 water samples were collected on August 18, 2021 and analyzed for total Lead and Copper content. In general the sample results were very good with 64 of the 84 samples collected showing no detectible levels of Lead present.

As noted above, there were two drinking water locations where the measured Lead content in the samples exceeded the 0.015 mg/L Action Level. In addition two additional samples that were collected at the backflow preventers at the Mates Academy and Waretown Center also had Lead levels above the Action Levels. However, since these are not drinking water delivery points, it is not a compliance issue. There were first draw water that were intended to be flushed water samples from the potable water supply entry point.

Finally, although it is not reportable under the referenced regulation, there was one location (the bar sink in the Brick Center Dining Room) where the measured Copper level exceeded the 1.3 mg/L Action Level. This has meaning only in the context of the Safe Water Act as it relates to provider of public water in the community. In any event, it is recommended that this water outlet also be repaired or replaced.

5. Additional Recommendations and Future Work

All but 2 water sample results showed acceptable results for Lead content. The following responses include those required by N.J.A.C. 6A:26-12.4 and our recommendations to maintain the drinking water quality as it relates to Lead contamination.

The NJ Dept of Education regulations require that:

- These sampling results are made publically available at the school building and on the School District's website.
- The School District shall collect drinking water samples and analyze for Lead at any drinking water outlet that has been replaced or after any alterations to the plumbing or service lines to the outlet. Do not consume or cook with water from the affected outlet until acceptable Lead results are obtained.
- Repeat water sampling within 3 years or before August 2024.

In addition, we suggest that the following responses to minimize the potential for Lead contamination of drinking water:

Administrative Responses:

- There are several factors that influence the potential for Lead and Copper corrosion in drinking water piping systems. These include the chemistry of the water supplied being supplied to the building, water temperature and velocity through the piping, the age and condition of the plumbing, and the amount of time the water sits "stagnant" in contact with piping and drinking water fixtures. This last factor is the only one that a building owner has any control of.
- School building codes require a minimum of one (1) drinking water tap for every 100 students of building capacity. Wherever a larger number of water taps exists, the usage factor for each tap decreases. This, in turn, increases the "stagnation time" along with the increased potential for Lead corrosion. It is recommended that the need for all the

water taps be investigated and reduced where appropriate while maintaining the minimum of 1 tap per 100 students.

- Consider implementing a program to shut-off and replace (if needed) any drinking water fixture of appliance that is more than 35 years old (was installed before the 1986 Lead Ban took effect).

Operational and Maintenance Responses:

- EPA recommends that any water tap where the measured Lead content exceeds 5 parts per billion (PPB) or 5 µg/L be inspected and cleaned of line sediment to eliminate potential sources of Lead contamination. There were only 3 water samples above this level.
- Use cold water only for drinking or cooking. Higher water temperatures will increase the water's corrosion potential.
- The accumulation of line sediment on aerators and screens at the water taps is frequently the source of high levels of Lead. It is recommended that a program be established to regularly inspect for the presence of line sediment at all drinking water taps. Initially, an annual inspection is suggested. The inspection frequency should then be adjusted depending upon the amounts of sediment that is found and where it is found. Higher usage taps may accumulate sediment more quickly and need to be cleaned more often.
- It is known that flushing water through drinking water taps will reduce the levels of both Lead and Copper present in the drinking water. It is also recommended that a program be established to run water at all drinking or cooking taps for at least one minute before students and staff return to school after long breaks, especially after the Summer recess.

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