



RK Occupational & Environmental Analysis Inc

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Health/Safety and
Environmental
Regulatory
Compliance

April 27, 2022

Right-To-Know

Mr. Tom Sabo
Supervisor of Buildings and Grounds
The Allegro School
125 Ridgedale Avenue
Cedar Knolls, NJ 07927

OSHA/EPA/DOT
Training Programs

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

Asbestos and Lead
Management

Dear Mr. Sabo,

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	1 page
Notification Letter (modified from NJDoEd letter template)	2 pages
Laboratory Analytical Report	(20 pages)

Underground/
Aboveground
Storage Tanks

Environmental
Site Assessment

All total of 13 drinking water samples were collected and analyzed for Lead. There were three (3) samples locations that exceeded the 15 µg/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.

Hazardous/
Medical Waste
Management

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

Sincerely,
Pat McGuinness

Environmental
Audits

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

Expert Witness/
Litigation Support

PDM/ (file \Reports\Watertest\Allegro School-221)

Customized
Software

Sampling Report - Lead in Drinking Water
The Allegro School

1. Sampling Results Summary

Sample Collection Date	April 13, 2022
Number of Buildings Sampled	1
Total Number of Samples Collected	13
Number of Samples: with No Detectible Lead	0
exceeding 5 µg/L, but less than 15 µg/L	4
exceeding 15 µg/L (15 ppb) Standard	3

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 15 µg /L standard. As indicated in the summary above, this level is equivalent to 15 parts per billion (ppb) and four 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 Actions - Recommended
Sink in OT Back Room	24.2	Turn outlet off or post signs that water is not for consumption. Inspect for line sediment or replace sink water fixture and re-sample prior to returning to service.
Sink in Room 6	17.5	Turn outlet off or post signs that water is not for consumption. Inspect for line sediment or replace sink water fixture and re-sample prior to returning to service.
Sink in Room 31	83.0	Turn outlet off or post signs that water is not for consumption. Inspect for line sediment or replace sink water fixture and re-sample prior to returning to service.

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 bodies, 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 Lead levels are usually lowered significantly after running the water even for a few moments.

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 (NJ DEP Certification Nos. NY158). The analytical method is per EPA Method 200.8 via atomic absorption, induction coupled plasma technique.

4. Sample Results, Discussion, and Recommendations

Sampling results are discussed below and the sampling logs are appended to this report. All results are expressed as micrograms of Lead per liter of water ($\mu\text{g/L}$) and compared against the current 15 $\mu\text{g/L}$ standard. As noted above, micrograms per liter are essentially equal to parts per billion (ppb) and are expressed interchangeably.

A total of 13 drinking water samples were collected on April 13, 2022 and submitted for laboratory analysis for total Lead content. Samples were collected early on a weekday morning before staff and students arrived for classes to represent water that has sat idle in the building piping system overnight.

Three (3) water samples exceeded the 15 $\mu\text{g/L}$ standard. Of those 3 water samples, two samples were measured just above the 15 $\mu\text{g/L}$ compliance level and may indicate that presence of line sediment in the water outlet. The other location with the much higher Lead content was likely not used recently.

5. Additional Recommendations and Future Work

All but 3 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 April 2025.

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 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 4 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.

Report prepared by:

Pat McGuinness

Patrick D. McGuinness, MS, P.E.

Vice President