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Mold Assessment  
and Remediation

May 13, 2022

Health/Safety and  
Environmental  
Regulatory  
Compliance

Mr. Thomas Gaveglio  
Supervisor of Buildings and Grounds  
Hanover Township Board of Education  
61 Highland Avenue  
Whippany, NJ 07981

Right-To-Know

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

OSHA/EPA/DOT  
Training Programs

Dear Mr. Gaveglio,

Asbestos and Lead  
Management

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:

Industrial Hygiene/  
OSHA Compliance

|  |            |
|--|------------|
| Sampling Report Narrative                                  | 4 pages    |
| Water Sampling Log and Results                             | 7 pages    |
| Notification Letter (modified from NJDoEd letter template) | 2 pages    |
| Laboratory Analytical Report (electronic copy only)        | (60 pages) |

Indoor Air Quality

Underground/  
Aboveground  
Storage Tanks

All total of 39 drinking water samples were collected and analyzed for Lead. There were four (4) 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.

Environmental  
Site Assessment

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

Hazardous/  
Medical Waste  
Management

Sincerely,  
*Pat McGuinness*  
Patrick D. McGuinness, MS, P.E.  
Vice President

Environmental  
Audits

PDM/ (file .... \Reports\Watertest\HanoverTwp-221)

Expert Witness/  
Litigation Support

Customized  
Software

**Sampling Report - Lead in Drinking Water**  
**Hanover Township Schools**

**1. Sampling Results Summary**

|   |   |
|---|---|
| Sample Collection Date                                    | April 13 <sup>th</sup> /18 <sup>th</sup> , 2022 |
| Number of Buildings Sampled                               | 4   |
| <br>  |   |
| Total Number of Samples Collected                         | 39  |
| Number of Samples: with No Detectible (ND) levels of Lead | 17  |
| exceeding 5 µg/L, but less than 15 µg/L                   | 4   |
| exceeding 15 µg/L (15 ppb) Standard                       | 4   |

**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 (4) samples had results exceeding 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<br>(µg/l or ppb) | Remedial Actions - Recommended   |
|---|--------------------------|--|
| <u>Memorial Junior School</u><br>Kitchen Sink, left side  | 109                      | The water tap should be turned off and not used until it can be replaced and retested. |
| <u>Memorial Junior School</u><br>Kitchen Sink, right side | 94.6                     | The water tap should be turned off and not used until it can be replaced and retested. |
| <u>Bee Meadow School</u><br>Faculty Room, kitchen sink    | 72.3                     | The water tap should be turned off and not used until it can be replaced and retested. |
| <u>Bee Meadow School</u><br>Main Office, sink             | 22.6                     | The water tap should be turned off and not used until it can be replaced and retested. |

### **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 33 drinking water samples were collected on April 13, 2022. Because the building’s water supply was turned off for work in the Boiler Room at the Mountain View School, another six (6) drinking water samples were collected on April 18, 2022. All 39 water samples were submitted for laboratory analysis of total Lead content. Samples were collected during the Spring recess when the schools were closed to staff and students and represent water that had sat idle in the building piping system overnight for no more than 18 hours.

While 17 of the 39 samples showed no detectible (ND) levels of Lead, four (4) water samples exceeded the 15  $\mu\text{g/L}$  standard; two (2) each at the Bee Meadow and Memorial Junior Schools. Samples collected at the Salem Drive and Mountain View Schools all showed acceptable results for Lead. These water taps should be turned off remain out of service until they can be replaced, and then only returning to service again after having acceptable Lead sampling results.

## **5. Additional Recommendations and Future Work**

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 replace any drinking water fixture or 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 two minutes 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