



RK Occupational & Environmental Analysis Inc.

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Mold Assessment
and Remediation

January 19, 2022

Health/Safety and
Environmental
Regulatory
Compliance

Mr. Drew Vanderzee, CEFM
Supervisor of Buildings & Grounds
Holland Township Board of Education
714 Milford Warren Glen Rd
Milford, NJ 08848

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. Vanderzee,

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	3 pages
Notification Letter (modified from NJDoEd letter template)	2 pages
Laboratory Analytical Report (digital copy only via email, 55 pages)	

Indoor Air Quality

Underground/
Aboveground
Storage Tanks

All total of 45 drinking water samples were collected and analyzed for Lead. There were five (5) samples locations 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

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

Hazardous/
Medical Waste
Management

Sincerely,

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

Environmental
Audits

PDM/

(file \Reports\Watertest\Holland Twp-211)

Expert Witness/
Litigation Support

Customized
Software

Sampling Report - Lead in Drinking Water
Holland Township School

1. Sampling Results Summary

Sample Collection Date	December 29, 2021
Number of Buildings Sampled	2
Total Number of Samples Collected	45
Number of Samples with No Detectible Lead	6
Number of Samples Exceeding 5 ppb	12
Number of Samples Exceeding 15 ppb (0.015 mg/L) Standard	5

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 five 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
Tap No. 17: CST Office Suite Kitchen Sink	56.5	Outlet has been turned off and taken out of service. Faucet replacement is scheduled.
8 th Grade Hall, Room 55 Sink	21.1	Water supply has been turned off; outlet will be out of commission until further notice.
1 st & 2 nd Grade Hall, Room A-4 Sink Bubbler	18.1	Water supply has been turned off; outlet will be out of commission until further notice.
1 st & 2 nd Grade Hall, Room A-6 Sink Bubbler	20.0	Water supply has been turned off; outlet will be out of commission until further notice.
1 st & 2 nd Grade Hall, Room A-9 Sink Bubbler	19.5	Water supply has been turned off; outlet will be out of commission until further notice.

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

Drinking water samples were collected early on a weekday morning during a holiday shutdown to represent water that has sat idle in the building piping system overnight.

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 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 45 water samples were collected on December 29, 2021 and analyzed for total Lead content. Five (5) sample locations exceeded the 0.015 mg/L Action Level.

5. Additional Recommendations and Future Work

All but 5 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 December 2024.

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

Administrative Responses:

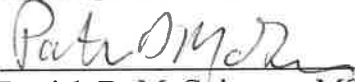
- There are several factors that influence the potential for Lead corrosion in drinking water piping systems. These include the chemistry of the water supplied being supplied to the building, water temperature and velocity through the piping, the age and condition of the plumbing, and the amount of time 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 12 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:



Patrick D. McGuinness, MS, P.E.

Vice President

Water Sampling Log

Name of Building: Holland Township School
 Building Owner: Holland Township Bd of Educ

Date Collected: 29-Dec-21
 Sample Collected by: PD McGuinness

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer	Sample Location	Time	Results (µg/L)	
							Cu	Pb
122921-01	1	1st	Chiller	Halsey Taylor	Front Main Hallway - near Girls' restroom	07:50	XX	3.5
122921-02	2	1st	Bottle Filler	Elkay	CST Hallway - near Art Room	07:52	XX	< 1.0
122921-03	3	1st	Bottle Filler	Elkay	CST Hallway - near Room #19	07:55	XX	< 1.0
122921-04	4	1st	Bottle Filler	Elkay	5 & 6th grade hall near boys restroom	08:06	XX	< 1.0
122921-05	5	1st	Ceramic Bubbler	Halsey Taylor	5 & 6th grade hall near girls restroom	08:05	XX	11.0
122921-06	6	1st	Chiller	Halsey Taylor	7th grade hall near room #49	08:10	XX	6.1
122921-07	7	1st	Chiller	Oasis	8th grade hall near boys & girls restroom	08:02	XX	2.1
122921-08	8	1st	Ceramic Bubbler	Halsey Taylor	8th grade hall near room #54	08:03	XX	8.3
122921-09	9	1st	Fountain		Kindergarten hall across from staff restrooms	08:15	XX	5.3
122921-10	10	1st	Fountain		Kindergarten hall across from staff restrooms	08:17	XX	7.8
122921-11	11	1st	Bottle Filler	Elkay	1st & 2nd grade hall near boys restroom	08:20	XX	< 1.0
122921-12	12	1st	Chiller	Oasis	3rd & 4th grade hall near staff room	08:26	XX	1.4
122921-13	13	1st	Sink		Superintendent's Office - Bathroom sink	09:42	XX	5.5
122921-14	14	1st	Sink		Board Office - Kitchen Sink	10:05	XX	7.2
122921-15	15	1st	Sink		Main middle school kitchen	09:30	XX	4.7
122921-16	16	1st	Sink		Staff room off auditorium (with Britta filter bypassed)	09:39	XX	5.3
122921-17	17	1st	Kitchen Sink		CST office suite	09:41	XX	56.5
--	18	--	Sink		CST Hall-recycle room	not used for drinking		
122921-19	19	1st	Sink		8th grade hall room #55	09:52	XX	21.1
122921-20	20	1st	Sink		8th grade hall room #53	09:54	XX	6.8

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 0.001 mg/L for Lead.

Water Sampling Log

Name of Building Holland Township School
 Building Owner Holland Township Bd of Educ

Date Collected 29-Dec-21
 Sample Collected by PD McGuinness

Sample No.	Tap No.	Sample Type	Type of Outlet	Manufacturer	Sample Location	Time	Results (µg/L)	
							Cu	Pb
122921-21	21	1st	Bubbler		Kindergarten hall room #A-1	09:23	XX	2.0
122921-22	22	1st	Bubbler		Kindergarten hall room #A-2	09:22	XX	1.9
122921-23	23	1st	Bubbler		Kindergarten hall room #A-3	09:20	XX	2.4
122921-24	24	1st	Sink		Kindergarten hall staff room (with Britta filter bypassed)	09:25	XX	3.5
122921-25	25	1st	Bubbler		1st & 2nd grade hall nurses room	09:28	XX	4.5
122921-26	26	1st	Bubbler		1st & 2nd grade hall room #A-4	09:12	XX	18.1
122921-27	27	1st	Bubbler		1st & 2nd grade hall room #A-5 (low flow)	09:09	XX	12.1
122921-28	28	1st	Bubbler		1st & 2nd grade hall room #A-6	09:05	XX	20.0
122921-29	29	1st	Bubbler		1st & 2nd grade hall room #A-7	09:03	XX	9.4
122921-30	30	1st	Bubbler		1st & 2nd grade hall room #A-8	09:02	XX	< 1.0
122921-31	31	1st	Bubbler		1st & 2nd grade hall room #A-9	09:00	XX	19.5
122921-32	32	1st	Bubbler		1st & 2nd grade hall room #A-10	08:59	XX	6.1
122921-33	33	1st	Bubbler		1st & 2nd grade hall room #A-11	08:57	XX	< 1.0
122921-34	34	1st	Bubbler		1st & 2nd grade hall room #A-12	08:55	XX	5.9
122921-35	35	1st	Bubbler		Room 50	09:52	XX	1.7
122921-36	36	1st	Bubbler		3rd & 4th grade hall room #A-21	08:28	XX	2.1
122921-37	37	1st	Bubbler		3rd & 4th grade hall room #A-22	08:30	XX	5.9
122921-38	38	1st	Bubbler		3rd & 4th grade hall room #A-23	08:33	XX	3.5
122921-39	39	1st	Bubbler		3rd & 4th grade hall room #A-25	08:35	XX	2.8
122921-40	40	1st	Bubbler		3rd & 4th grade hall room #A-26	08:36	XX	10.4

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 0.001 mg/L for Lead.



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Mold Assessment
and Remediation

June 6, 2022

Health/Safety and
Environmental
Regulatory
Compliance

Mr. Drew Vanderzee, CEFM
Supervisor of Buildings & Grounds
Holland Township Board of Education
714 Milford Warren Glen Rd
Milford, NJ 08848

Right-To-Know

re: **Water Sampling for Compliance with N.J.A.C. 6A:26-12.4
Lead in Drinking Water: Follow-Up Water Sampling at new CST Kitchen Sink**

OSHA/EPA/DOT
Training Programs

Dear Mr. Vanderzee,

Asbestos and Lead
Management

This follows our previous report on the subject and covers the follow-up water sampling that was conducted on May 27, 2022. A single water sample was collected from the new faucet on the sink in the CST Kitchen. The water outlet was taken out of service after initial sample results were received.

Industrial Hygiene/
OSHA Compliance

Results from the current sampling show acceptable results.

Indoor Air Quality

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

Underground/
Aboveground
Storage Tanks

Sincerely,


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

Environmental
Site Assessment

Attachment

(file ... \Proposal\WaterTest\Holland Twp addendum)

Hazardous/
Medical Waste
Management

Environmental
Audits

Expert Witness/
Litigation Support

Customized
Software

Addendum #1 to Sampling Report - Lead in Drinking Water
Holland Township School

1. Background and Sampling Summary

On December 29, 2021 a total of 45 water samples were collected and analyzed for total Lead. Sample results showed that 5 sample locations exceeded the 15 parts per billion (ppb) Drinking Water Standard.

All five locations were turned off and four of the locations will remain out of service. The 5th location was the kitchen sink in the CST Office. The sink faucet was recently replaced and was re-sampled on May 27, 2022. The current water samples showed acceptable Lead results at 2.7 ppb compared to the 15 ppb standard.

2. Water Sampling Results and Discussion

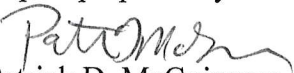
The re-sampling logs and results are shown on the table below. The laboratory certificate of analysis is appended to this report.

Sample ID	Tap No.	Outlet Type	Location	Sample Time	Results (µg/L)
RK-052722-101	17	Kitchen Sink	CST office suite	06:52	2.7

3. Conclusions and Recommendations

The new water taps showed acceptable re-sampling results and can be returned to unrestricted service.

Report prepared by:


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

CERTIFICATE OF ANALYSIS

Client: R. K. Environmental Consultants
401 St. James Ave.
Phillipsburg NJ 08865

Report Date: 6/1/2022
Report No.: 661897 - Lead Water
Project: Holland Twp School Retest
Project No.: 22-039

Client: RKE630

LEAD WATER SAMPLE ANALYSIS SUMMARY

Lab No.: 7434708
Client No.: RK-052722-101

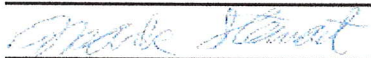
Location: CST Kitchen Sink
* Sample acidified to pH <2.

Result(ppb): 2.70

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 5/27/2022

Date Analyzed: 06/01/2022

Signature: 

Analyst: Mark Stewart

Approved By: 

Frank E. Ehrenfeld, III
Laboratory Director