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Mold Assessment  
and Remediation

February 2, 2022

Health/Safety and  
Environmental  
Regulatory  
Compliance

Mr. Paulinus Egu  
Director of Facilities  
Ramapo-Indian Hills Board of Education  
131 Yawpo Avenue  
Oakland, NJ 07436

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**

OSHA/EPA/DOT  
Training Programs

Dear Mr. Egu,

Asbestos and Lead  
Management

This follows our previous report on the subject and covers water sampling that was conducted on January 19, 2022. There were nine (9) locations with sample results that exceeded the 0.015 mg/l (15 ppb) Standard for Lead during the initial water sampling on September 16, 2021. Three (3) of these locations were turned off and will remain out of service. The other 6 water outlets at the other were flushed and cleaned before the follow-up samples were collected.

Industrial Hygiene/  
OSHA Compliance

Two samples were collected at each location during the follow-up sampling. As before, a "First-Draw" sample was collected. It was followed by a "Flushed" water sample that was collected after running the water tap for about 2-3 minutes. The purpose of this is to demonstrate whether a daily line flush can lower the Lead to acceptable levels to safely use the water taps.

Indoor Air Quality

Underground/  
Aboveground  
Storage Tanks

In the present case, three (3) of the follow-up samples collected at the Indian Hills High School still showed unacceptable Lead results. However, the flushed water samples all had acceptable levels of Lead present.

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

Attachment

(file ... \Proposal\WaterTest\Ramapo-IH addendum1)

Expert Witness/  
Litigation Support

Customized  
Software

**Addendum #1 to Sampling Report - Lead in Drinking Water**  
**Ramapo-Indian Hills Board of Education**

**1. Background and Sampling Summary**

During the initial sampling performed on September 16, 2021, a total of 112 drinking water taps were sampled for Lead in the District's buildings. Nine (9) samples had measured levels of Lead that exceeded the 0.015 mg/L standard. There were two (2) sample locations at the Ramapo High School with high Lead results and seven (7) at the Indian Hills High School.

Re-sampling at both buildings was conducted on January 19, 2022. Two water taps at Indian Hills were turned off and will remain out of service while the other five (5) were re-sampled. Likewise and Ramapo High School, one water tap was turned off and will remain out of service and the other one was re-sampled.

At Ramapo High School, the 1<sup>st</sup> Draw sample showed acceptable Lead results. However, three (3) of the five (5) samples at Indian Hills still have Lead content above the standard. It is important to note that the "Flushed water" samples at each of these 3 locations all showed low or no detectible levels of Lead.

If needed, and on an interim basis, these three (3) outlets can be safely used for drinking or cooking provided each tap is flushed for 2 minutes at the beginning of each day. Otherwise, they should remain out of service until there are acceptable Lead sampling results.

**2. Water Sampling Results and Discussion**

As follow-up to the initial water sampling, a total of six (6) water samples were collected; five (5) water taps at Indian Hills High School and the sixth at Ramapo High School. The water outlets were flushed on the afternoon before the samples were collected.

All results are shown in terms of parts per billion (ppb). This unit of measure is equivalent to micrograms of Lead per liter of water ( $\mu\text{g/L}$ ). Whereas the current drinking water standard for Lead in Drinking Water is promulgated as 0.015 mg/L, that level can also be expressed as 15  $\mu\text{g/L}$ . Results could also be expressed in equivalent terms of parts per billion (ppb) where the standard translates to 15 ppb.

The re-sampling protocol included the collection of two water samples from each tap location. A "First-Draw Water" sample was collected as before. This is where the sample was collected at each outlet after the water was allowed to sit overnight in the piping at least 8 hours but no more than 18 hours.

It was then followed by a "Flushed Water" sample after the water tap ran for about 2-3 minutes. The purpose of this is to demonstrate whether a daily line flush can lower the Lead to acceptable levels to safely use the water taps. The laboratory was instructed not to analyze any "Flushed Water" sample where the corresponding 1<sup>st</sup> Draw sample showed acceptable results.

The re-sampling logs and results are shown on the attached **Re-Test 1** data table. In addition, the laboratory analytical report is appended to this report.

Ramapo High School: Two (2) drinking water taps were above the 15 ppb Standard during the initial sampling. The food prep sink in the Cafeteria Kitchen (Seq No. 6) was taken out of service. Re-sampling of the sink in the Home Economics room (Seq No. 35) showed acceptable lead results. Analysis of the Flushed sample was not performed.

Indian Hills High School: Seven (7) drinking water taps were above the 15 ppb Standard during the initial sampling. Two (2) drinking water bubblers (Seq Nos. 31 & 57) were taken out of service. Re-sampling of the water taps at Seq Nos. 11 in the 087B Corridor and 50 in the Kitchen showed acceptable lead results. Analysis of the Flushed sample was not performed for those two locations.

Three other locations had Lead results above the 15 ppb Standard. However, the Lead results in the Flushed water samples all showed low or no detectible Lead present. These are:

Seq 38	Food Prep Sink in Kitchen 58
Seq 43	Cold water outlet in Kitchen 58
Seq 59	Cold water outlet in Kitchen 105

### **3. Conclusions and Recommendations**

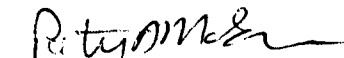
The water taps that showed acceptable re-sampling results on the 1<sup>st</sup>-Draw samples can be returned to unrestricted service.

It is known that flushing water through drinking water taps will reduce the levels of both Lead and Copper present in the drinking water. Contingent analysis of the Flushed samples on those water taps with the high 1<sup>st</sup>-Draw sample results shows this.

If any or all of the three (3) water taps still show high 1<sup>st</sup>-Draw Lead are needed in service, they can be safely used for drinking or cooking provided each tap is flushed for 2 minutes at the beginning of each day. This should only be considered an interim basis.

Otherwise, they should remain out of service until they can be inspected, repaired or replaced, and then only returning to service again after having acceptable Lead sampling results.

Report prepared by:



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

# Re-Test 1: Sample Locations with results > 15 PPB

Name of Building (see below) Ramapo-Indian Hills Bd of Educ Date Collected 19-Jan-22  
 Building Owner Ramapo-Indian Hills Bd of Educ Sample Collected by \_\_\_\_\_

Sample No.	Seq No.	Field Id	Location	Location Type	Outlet Type	Sample Type	Time	Lead Content (µg/L) or ppb
			<u>Indian Hills High School</u>					
RK-011922-01	11	I-087B-O-DW-11A-1	087B	Corridor	Spigot	1st	07:03	12.9
RK-011922-01F	11	I-087B-O-DW-11A-1	087B	Corridor	Spigot	FL	07:08	Not Analyzed
--	31	I-411G-C-DW-31-1	411G	Corridor	Drinking Water Bubblers	--	--	--
RK-011922-02	38	I-58-K-FP-38-1	58	Kitchen	Food Prep Sink	1st	07:22	24.8
RK-011922-02F	38	I-58-K-FP-38-1	58	Kitchen	Food Prep Sink	FL	07:27	1.40
RK-011922-03	43	I-58-K-KC-43-1	58	Kitchen	Kitchen Outlet Cold	1st	07:28	18.4
RK-011922-03F	43	I-58-K-KC-43-1	58	Kitchen	Kitchen Outlet Cold	FL	07:35	< 1.0
RK-011922-04	50	I-58-K-FP-49-1	58	Kitchen	Food Prep Sink	1st	07:29	1.20
RK-011922-04F	50	I-58-K-FP-49-1	58	Kitchen	Food Prep Sink	FL	07:36	Not Analyzed
--	57	I-312A-C-DW-56-1	312A	Corridor	Drinking Water Bubblers	--	--	--
RK-011922-05	59	I-105-O-KC-58-1	105	Other	Kitchen Outlet Cold	1st	07:14	23.0
RK-011922-05F	59	I-105-O-KC-58-1	105	Other	Kitchen Outlet Cold	FL	07:19	5.0
			<u>Ramapo High School</u>					
--	6	R-020-K-FP-1-6	Cafeteria Kitchen	Kitchen	Food Prep Sink	--	--	--
RK-011922-06	35	R-401-O-EC-41	Foods	Other	Home Economics Sink	1st	07:52	3.20
RK-011922-06F	35	R-401-O-EC-41	Foods	Other	Home Economics Sink	FL	07:55	Not Analyzed

Removed from service

Removed from service

Removed from service

New Lead Filter

Notes: < means Not Detected at or above the Reliability Detection Limit (RDL) of 2.0 ug/l or 2.0 ppb for Lead.

Sample Type: 1st means "First Draw" water sample

FL means "Flushed" water sample