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Mold Assessment  
and Remediation

April 28, 2016

Health/Safety and  
Environmental  
Regulatory  
Compliance

Mr. Charles Smith  
Supervisor of Building & Grounds  
Little Falls Board of Education  
36 Stevens Avenue  
Little Falls, NJ 07424

Right-To-Know

re: **Potable Water Sampling for Lead and Copper**

OSHA/EPA/DOT  
Training Programs

Dear Mr. Smith,

Asbestos and Lead  
Management

Attached is our report on the water sampling that was performed at the Little Falls Public Schools on April 19, 2016. The sampling was conducted for information purposes to determine if either Lead or Copper was present in the drinking water at the Schools.

Industrial Hygiene/  
OSHA Compliance

Sampling results generally were acceptable with low Copper levels, and low or no detectible levels of Lead in most of the water samples collected.

Indoor Air Quality

There were two locations where sample results for Lead exceeded its Action Level of 0.015 mg/L. It is recommended that these locations be taken out of service until they can be inspected, cleaned and retested prior to being returned to service.

Underground/  
Aboveground  
Storage Tanks

Other than the locations noted in the report, there are no other concerns with the drinking water in the building. If you have any questions, please don't hesitate to call us.

Environmental  
Site Assessment

Sincerely,

Hazardous/  
Medical Waste  
Management

R. Craig Ellis, BS, MBA  
Environmental Health and Safety Specialist

RCE/PDM

(file .... \Reports\Watertest\Little Falls BOE-161)

Environmental  
Audits

Expert Witness/  
Litigation Support

Customized  
Software

## Sampling Results - Lead and Copper in Drinking Water Little Falls Public Schools District

### 1. Introduction and Summary

A total of 43 water samples were collected on April 19, 2016 at Little Falls Schools No. 1-3. Sampling results were generally acceptable with low Copper levels, and low or no detectible levels of Lead in most of the water samples collected.

Two locations, one sampling location at Little Falls School No. 1 and one sampling location at School No. 2, had measured Lead levels above the current Action Level of 0.015 mg/L for Lead. These locations should be taken out of service until they can be inspected, cleaned and retested to determine if they can be returned to service or permanently disconnected. All samples at School No. 3 had acceptable levels of Lead and Copper.

All samples are otherwise acceptable. This indicates that the potable water supply is not very aggressive as it relates to its ability to draw either Lead or Copper from the water distribution piping system.

### 2. Water Sampling Procedures

Sampling protocols and procedures follow EPA guidelines that were developed for schools. They recognize that the typical school building is actually a conglomeration of an original building with one or more additions, each of which may have a different water distribution system. Implicit in this reality is that the older sections of some school buildings may still have Lead service piping. In addition, sections constructed before 1986 are likely constructed using leaded solders and fluxes on Copper water lines.

Other potential sources of Lead in drinking water include brass faucets, fittings, and valves that are used in the municipal and building piping distribution systems. It is important to note that "lead-free" pipe, faucets, pipe fittings, and valves 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 prior to any water use at the building to ensure that "first draw water" was taken; that is water that has been standing in the service lines for at least 8 hours (usually overnight).

All samples were collected in contaminant free containers and filled to 250 ml. Laboratory analysis of the water samples was performed by Analytical Laboratory Services, Inc. of Middletown, PA (NJ DEP Certification No. PA010). The analytical method is per EPA 600/4-79-020, Method 200.8 via atomic absorption, platform furnace technique.

The samples were collected early on a weekday morning before staff and students arrived for classes to allow for a "first draw" sample of the water. The first draw samples represent water that has sat idle in the building piping system overnight.

### **3. Drinking Water Standards for Lead and Copper**

Drinking water quality standards promulgated by the EPA and the NJ Department of Environmental Protection (NJDEP) define maximum contaminant levels (MCL). The MCL is the maximum permissible amount of any regulated contaminants allowed in public drinking water. EPA has also developed MCL goals (or MCLG) that are non-enforceable health goals at levels where no adverse health effects would be expected.

In addition to the MCL, drinking water regulations under “The Lead and Copper Rule” also identify Action Levels. Current MCLG and Action Levels for Lead and Copper are as follows:

	<u>Action Level</u>	<u>MCLG</u>
Lead (mg/l)	0.015	0.0
Copper (mg/l)	1.30	1.30

Action levels for Lead and Copper are distinguished from MCL in that the source of the metals can be from the water delivery system itself. Since neither Lead nor Copper rarely occur in significant quantities in the raw water supplies, its primary source is typically from corrosion of Copper and/or Lead piping.

Finally, the action levels in “The Lead and Copper Rule” apply to the 90<sup>th</sup> percentile sample for Lead and Copper. The implication of this is that up to 10% of the total sample population can exceed the respective action levels and still be in compliance with the regulation.

### **4. Sample Results and Discussion**

Sampling results for each building are discussed below and summarized in the attached **Tables 1** thru **Table 3**. The complete laboratory analytical report and water sampling log are also appended to this report. All results are expressed as milligrams of Lead or Copper per liter of water (mg/L).

#### **4.1 Little Falls School No. 1**

A total of 18 water samples were collected on April 19, 2016. As shown in **Table 1** results, one of the samples had measured Lead levels in excess of the Action Level. This sample was from the Room 211 sink bubbler (LF1-041916-12) with a Lead level of 0.019 mg/L. It was recommended that this location be taken out of service until it can be inspected, cleaned and retested prior to being returned to service.

Of the remaining water samples, 11 samples had no detectible levels of Lead while the others had acceptable Lead levels. All water samples had acceptable levels of Copper.

#### **4.2 Little Falls School No. 2**

A total of 16 water samples were collected with the results shown in **Table 2**. Again, one of the samples had measured Lead levels in excess of the Action Level. This sample was from the Room 106 sink bubbler (LF2-041916-07) with a Lead level of 0.14 mg/L. It was recommended

too that this location be taken out of service until it can be inspected, cleaned and retested prior to being returned to service.

All the remaining water samples had acceptable levels of Lead while 6 of those samples had no detectible levels of Lead. All the water samples had acceptable levels of Copper.

#### 4.3 Little Falls School No. 3

A total of 9 water samples were collected with the results as shown in **Table 3**. All the water samples had acceptable levels of Lead and Copper. In addition, 7 of the 9 samples had no detectible levels of Lead. No further action is indicated.


Based on these sampling results, it is apparent that there are no concerns with the drinking water in the building. It is recommended, however, that the school consider repeating this sampling every five (5) years.

Report prepared by:



R. Craig Ellis, BS, MBA  
Environmental Health and Safety Specialist

Approved by:



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

**Table 1: Water Sampling Data**  
**Little Falls School No. 1: April 19, 2016**

Sample No.	Sample Type	Sample Location	Time	Results (mg/L)	
				Cu	Pb
LF1-041916-01	1 <sup>st</sup>	Hallway - opposite All Purpose Room	6:06	0.12	ND
LF1-041916-02	1 <sup>st</sup>	Hallway - next to Rm 105	6:10	0.11	0.0033
LF1-041916-03	1 <sup>st</sup>	Hallway - next to Principal's Office	6:13	0.062	ND
LF1-041916-04	1 <sup>st</sup>	Nurse's Office - sink next to restroom	6:16	0.12	ND
LF1-041916-05	1 <sup>st</sup>	Rm 109	6:18	0.10	0.0027
LF1-041916-06	1 <sup>st</sup>	Hallway - next to Rm 102	6:25	0.12	ND
LF1-041916-07	1 <sup>st</sup>	Hallway - next to Rm 100	6:28	0.16	ND
LF1-041916-08	1 <sup>st</sup>	Hallway - btwn Boys Room & Storage Closet	6:34	0.11	ND
LF1-041916-09	1 <sup>st</sup>	Faculty Lounge	6:36	0.0067	ND
LF1-041916-10	1 <sup>st</sup>	Hallway - next to Rm 203	6:43	0.15	ND
LF1-041916-11	1 <sup>st</sup>	Hallway - next to Rm 200	6:45	0.20	0.0020
LF1-041916-12	1 <sup>st</sup>	Rm 211 sink	6:49	0.080	<b>0.019</b>
LF1-041916-13	1 <sup>st</sup>	Rm 212 sink	6:51	0.14	0.0025
LF1-041916-14	1 <sup>st</sup>	Rm 213 sink	6:53	0.11	ND
LF1-041916-15	1 <sup>st</sup>	Rm 214 sink	6:55	0.11	ND
LF1-041916-16	1 <sup>st</sup>	Rm 215 sink	6:58	0.17	0.0028
LF1-041916-17	1 <sup>st</sup>	Rm 216 sink	6:59	0.14	0.0023
LF1-041916-18	1 <sup>st</sup>	Hallway - btwn Boys Room & Custodial Closet	7:02	0.10	ND

- Note:
1. ND means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 for Lead.
  2. The sample result that exceeds the numeric action level is shown in **Bold** lettering in the data above.
  3. Sample Types: 1<sup>st</sup>: First Draw sample collected after water sat in pipe between 8 and 18 hours.  
 Flushed: water flushed through tap for at least 2 minutes.



**Table 2: Water Sampling Data**  
**Little Falls School No. 2: April 19, 2016**

Sample No.	Sample Type	Sample Location	Time	Results (mg/L)	
				Cu	Pb
LF2-041916-01	1 <sup>st</sup>	Rm 101 - sink	7:17	0.22	0.0040
LF2-041916-02	1 <sup>st</sup>	Hallway - opposite Rm 104 (right)	7:20	0.17	0.0036
LF2-041916-03	1 <sup>st</sup>	Hallway - opposite Rm 104 (left)	7:21	0.19	0.0052
LF2-041916-04	1 <sup>st</sup>	Hallway - next to Women's Room (left)	7:25	0.19	ND
LF2-041916-05	1 <sup>st</sup>	Hallway - next to Women's Room (right)	7:26	0.15	ND
LF2-041916-06	1 <sup>st</sup>	Rm 105	7:28	0.26	ND
LF2-041916-07	1 <sup>st</sup>	Rm 106	7:30	0.38	<b>0.14</b>
LF2-041916-08	1 <sup>st</sup>	Rm 107	7:33	0.42	0.0073
LF2-041916-09	1 <sup>st</sup>	Rm 108	7:35	0.23	0.0034
LF2-041916-10	1 <sup>st</sup>	Nurse's Office - sink	7:39	0.096	ND
LF2-041916-11	1 <sup>st</sup>	Hallway - next to Nurse's Office	7:41	0.17	0.0034
LF2-041916-12	1 <sup>st</sup>	Hallway - opposite Rm 201	7:43	0.24	0.0056
LF2-041916-13	1 <sup>st</sup>	Hallway - opposite Rm 203 (left)	7:45	0.18	ND
LF2-041916-14	1 <sup>st</sup>	Hallway - opposite Rm 203 (right)	7:46	0.10	ND
LF2-041916-15	1 <sup>st</sup>	Hallway - next to Rm 302	7:50	0.46	0.011
LF2-041916-16	1 <sup>st</sup>	Hallway - next to Teacher's Lounge	7:53	0.28	0.0022

**Table 3: Water Sampling Data**  
**Little Falls School No. 3: April 19, 2016**

Sample No.	Sample Type	Sample Location	Time	Results (mg/L)	
				Cu	Pb
LF3-041916-01	1 <sup>st</sup>	Hallway - next to Board of Education Office	8:13	0.076	ND
LF3-041916-02	1 <sup>st</sup>	Hallway - next to Rm 102 (left)	8:17	0.12	ND
LF3-041916-03	1 <sup>st</sup>	Hallway - next to Rm 102 (right)	8:18	0.15	0.0050
LF3-041916-04	1 <sup>st</sup>	Hallway - opposite Superintendent's Office	8:22	0.085	ND
LF3-041916-05	1 <sup>st</sup>	Hallway - btwn Boys & Girls Room	8:24	0.084	0.0041
LF3-041916-06	1 <sup>st</sup>	Nurse's Office - sink	8:26	0.21	ND
LF3-041916-07	1 <sup>st</sup>	Hallway - opposite Rm 300	8:30	0.14	ND
LF3-041916-08	1 <sup>st</sup>	Faculty Lounge - sink	8:32	0.61	ND
LF3-041916-09	1 <sup>st</sup>	Hallway - next to Rm 304	8:34	0.047	ND

- Note:**
1. ND means Not Detected at or above the Reliability Detection Limit (RDL) of 0.0020 for Lead.
  2. The sample result that exceeds the numeric action level is shown in **Bold** lettering in the data above.
  3. Sample Types: 1<sup>st</sup>: First Draw sample collected after water sat in pipe between 8 and 18 hours.  
 Flushed: water flushed through tap for at least 2 minutes.

June 2, 2016

Mr. Charles Smith  
Supervisor of Building & Grounds  
Little Falls Board of Education  
36 Stevens Avenue  
Little Falls, NJ 07424

re: **Potable Water Sampling for Lead and Copper  
Follow-up Sampling Results and Report**

Dear Mr. Smith,

Attached is our report on the two sets of follow-up water samples that were collected in Room 211 at School #1. The samples were collected after the bubbler unit on the sink was removed and replaced.

The first set of follow-up samples were collected on April 29, 2016 and still showed higher Lead results on the "First Draw" sample. It appears that the water lines to the bubbler unit were not flushed sufficiently after the unit was replaced. The second re-test samples showed acceptable results on both the 1<sup>st</sup> draw and flushed water samples.

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

Sincerely,

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

PDM/

(file .... \Reports\Watertest\Little Falls BOE-162)

## Sampling Results - Lead and Copper in Drinking Water Little Falls Public Schools District

### 1. Introduction and Summary

A total of 4 drinking water samples were collected in Room 211 at School #1 as a follow-up to the initial water sampling that was performed on April 19, 2016. Initial sampling results at this location identified a Lead content of 0.019 mg/L, just above the recommended standard of 0.015 mg/L for Lead in Drinking Water.

Two samples were collected on April 29, 2016 and two additional samples collected on May 12, 2016. Each sample set included a "First Draw" and "Flushed" water samples. Both sample sets were collected after the bubbler fixture was replaced.

Results from the April 29 samples still showed higher Lead results for the 1<sup>st</sup> draw sample while lower and acceptable Lead results were obtained for the flushed sample. It appears that this unit was not used since it was replaced and the higher Lead levels resulted. When these samples were repeated on May 12<sup>th</sup>, the water tap was allowed to run the day before sampling to replicate the 8 to 18 hour idle time before collecting the water samples.

Results from this last test show acceptable results for both Lead and Copper on both the 1<sup>st</sup> draw and flushed samples. Based on these sampling results, the new bubbler unit is suitable for re-use but it is important to that this location is regularly used to prevent water from sitting stagnant in the water lines.

### 2. Sample Results and Discussion

The water sampling log for the two sets of samples is appended to the end of this report and list the water sampling locations and laboratory results for Lead and Copper. The complete laboratory analytical reports and water sampling logs are also appended to this report. All results are expressed as milligrams of Lead or Copper per liter of water (mg/L).

#### 2.1 Little Falls School No. 1

Two (2) water samples were collected on April 29, 2016 after the bubbler unit was replaced. Lead results for the 1<sup>st</sup> draw sample still exceeded the recommended water quality standard of 0.015 mg/L. It was determined that the water tap was not completely flushed after being replaced and another sample set was requested.

Both samples that were collected on May 12, 2016 show acceptable Lead and Copper results on both the 1<sup>st</sup> draw and flushed samples. Based on these sampling results it appears that this water tap is suitable for returning to service.

#### 2.2 Little Falls School No. 2

The sample collected from the sink bubbler in Room 106 (LF2-041916-07) had a measured Lead level of 0.14 mg/L, just below the recommended standard. It was recommended too that this



location be taken out of service until it can be inspected, cleaned and retested prior to being returned to service. It was later decided that this unit would remain out of service so no follow-up sampling was necessary.

Based on these sampling results, it is apparent that there are no concerns with the drinking water in the building.

Report prepared by:

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