2018 LEAD/COOPER IN DRINKING WATER TEST SURVEY REPORT

FOR THE

WEST ELEMENTARY SCHOOL
GLENCOE, COOK COUNTY, ILLINOIS

Prepared for:

Glencoe School District #35
620 Greenwood Avenue
Glencoe, Illinois 60022

JMS Project # 22778

Prepared by:

JMS Environmental Associates, Ltd.
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19 September 2018

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19 September 2018

Glencoe School District #35
620 Greenwood Avenue
Glencoe, Illinois 60022

Attn: Jason Edelheit,
Director of Facilities & Finance

RE: 2018 Lead/Copper in Drinking Water Testing Survey;
West Elementary School

JMS Project: J-22778

Dear Mr. Edelheit:

The following report covers the results of the 2018 Lead and Copper in Drinking Water Testing Survey that JMS Environmental Associates, Ltd. (JMS) performed for the Glencoe School District #35 at West Elementary School located in Glencoe, Cook County, Illinois. The water samples were collected from all accessible and operative public accessible potable drinking sources such as water coolers, sinks and faucets following a major renovation to the school's water piping and heating systems. The 2018 testing series is supplemental to the 2017 Lead/Copper in Drinking Water Tests throughout all of the school district school buildings. The 2018 testing series included water sampling of all classrooms and other school rooms in accordance with the current Illinois Department of Public Health (IDPH) Lead in Drinking Water rules and regulations. The sampling protocol follows the current IDPH requirements and included part of the recommended U.S. EPA Drinking Water Standards for Schools and other Public Sources under the Safe Drinking Water Act (SDWA) which was enacted 1974 and amended and reauthorized in 1986 and 1996.

On 8 August 2018, JMS Technical Field Staff performed the First Round of water sampling at the West Elementary School. A follow up Second Round of testing was performed on 21 August 2018 for specific water outlets based upon the test results of the August 8th First Round. At the subject school, two initial samples were taken from the closest water outlet to the water main to confirm that the incoming water supply does not contain lead in excess of the Maximum Contaminant Level **(MCL)** of 15 ppb or less. For the West Elementary School it was the sink faucet located in the Boiler Room.

This confirmation of non-detection of Lead (>15ppb) and Copper correlates with information obtained by the school district from the Village of Glencoe. In addition, the IDPH requires informing student's parents/guardians of any detection of Lead in Drinking Water. This can be parental communication is via the school district's web site for concentration levels below 5 ppb. For concentration levels above 5 ppb, the parental communication is required to be via written notification sent via email of letter. A Lead in Drinking Water Mitigation Plan is then required to be developed, implemented and maintained by the school district with periodic testing as needed.

DISCUSSION AND SUMMARY OF RESULTS:

Sources of lead in drinking water can include either wells or lake water intakes, and/or lead pipe or solder in the water distribution and or plumbing system. When water stands in the distribution or plumbing systems for several hours or more (such as overnight), the lead can dissolve into the drinking water. This means that the first water drawn from the tap in the morning may contain high levels of lead; (higher than 15 ppb for schools). Public water suppliers are required to implement measures to reduce lead in the drinking water supply below the US recommended action level of 15 parts per billion (ppb) at the distribution. Until such measures are completed water suppliers recommend that before using water for drinking purposes, the water at the point of use should be allowed to run for at least 30 seconds, or until the water is cold. Flushing the outlet in this manner will reduce the lead levels in the drinking water. It should also be noted that the 15 ppb action level is considered a "treatment standard" and not a health standard, and it is the responsibility of the water supplier and not of the building owner. However, in some of the water outlets which had elevated counts of lead, the problem might be the fixtures themselves orthe piping leading to these fixtures.

Water that is supplied by a municipality or equivalent should not contain lead in excess of the Maximum Contaminant Level (MCL) of 15 ppb at the point of treatment.

Summary of Results:

Service/ Main: Both service and main pipe samples had lead and copper concentrations below the U. S. EPA SDWA standards MCL's for drinking water of 15 ppb for lead and at the detection of the analytical testing method for the licensed laboratory.

Fountains/Faucets: Older water faucets in the classroom and faucet sinks in classroom bathrooms, along with the main hallway bathrooms, had some detections of lead. This may be due to the use of lead in the faucet fixtures, solder and other plastic components within a sink system. All main hallway water fountains were at or below the lead detection limit of the analytical method.

COPPER IN DRINKING WATER

Fountains/Faucets: Majority of the water fountains and faucets indicated copper concentration levels below the SDWA MCLG of 1,300 ppb.

DISCUSSION AND SUMMARY OF RESULTS: (continued)

West School:

Round #1: 8 August 2018

The Lead and Copper in Drinking Water test results for the West School during Round #1 of testing on 8 August 2018 which occurred shortly after the installation of new piping systems; indicated that three (3) of the sixty (60) sample locations were above the 15 ppb lead concentration limit. 30 of the 60 sample locations had detectable levels of lead (less than 15 ppb) during the first sample draw and only 11 of the remaining sample results were above 5 ppb. 13 of 60 sample locations had detectable levels of lead (less than 15 ppb) after the second draw sample and only 1 of the remaining sample results was above 5 ppb. One (1) sample from a non-potable bathroom sink was above the copper concentration limit of 1,300 ppb and all of the samples had some detection of copper due to the composition of the water piping materials. The primary source of the lead and copper detections were from bathroom faucets and bathroom sink systems which are labeled not for potable water use.

All main hallway water fountains were at or below the lead detection limit of the analytical method (<5 ppb.).

Round #2: 21 August 2018

The Lead and Copper in Drinking Water test results for the West School during Round #2 of testing on 21 August 2018 after two weeks of flushing and construction use; indicated that zero (0) of the nineteen (19) sample locations were above the 15 ppb lead concentration limit. 11 of the 19 sample locations had detectable levels of lead (less than 15 ppb) during the first sample draw and only 1 of the remaining sample results was above 5 ppb. 4 of 19 sample locations had detectable levels of lead (less than 15 ppb) after the second draw sample and none of the remaining sample results were above 5 ppb. Zero (0) samples were above the copper concentration limit of 1,300 ppb and all of the samples had some detection of copper due to the composition of the water piping materials. The primary source of the lead and copper detections were from bathroom faucets and bathroom sink systems which are labeled not for potable water use.

All main hallway water fountains were at or below the lead detection limit of the analytical method

The remainder of this survey report includes the tables of all of the analytical test data along with a summary of any detections of lead and copper in the tested water outlets within the schools.

RECOMMENDATIONS:

For lead in water concentrations greater than 15 ppb, the U.S. E.P.A. recommends that the water outlet be turned off until remedial actions are completed. For those water outlets with an elevated concentration of copper, JMS believe that with time and the rate of water usage, these elevated copper concentrations will be reduced drastically. Such counts are expected since almost all water piping was replaced with copper piping.

The Illinois Department of Public Health (IDPH) requires informing student's parents/guardians of any detection of Lead in Drinking Water. This can be parental communication is via the school district's web site for concentration levels below 5 ppb. For concentration levels above 5 ppb, the parental communication is required to be via written notification sent via email of letter. A Lead in Drinking Water Mitigation Plan is then required to be developed and implemented by the school district.

Recommended remedial actions for Lead in Water concentrations of greater than 15 parts per billion include the following:

1.) Shut off the water outlet source;
2.) Perform daily/weekly flushes of the water outlets via manual or automatic means;
3.) Clean out screens and filters from accumulated metal debris;
4.) Investigate if a lead pipe or lead pipe components are located in the schools utilizing an experienced and licensed plumber;
5.) Raise the pH level in areas of the school to decrease leaching of lead from piping (including brass and copper types.)
6.) Resample the effected water outlets after any remedial or plumbing repairs. In addition, perform quarterly water tests throughout the schools to gauge any decrease or increase in lead/copper concentration levels.
7.) Investigate plans and drawings regarding the type of water piping in the school and plan for future replacement of drinking water systems with lead free lines and products.

If you have any questions regarding this report, please do not hesitate to contact us at JMS Environmental Associates, Ltd. .

JMS ENVIRONMENTAL ASSOCIATES, LTD.

Joseph M. Sterner, MS
Environmental Director/President

LEAD IN DRINKING WATER TABLE

WEST SCHOOL

Glencoe West School Lead and Copper Tests Summer 2018

ID Number	Location	Lead Concentration (ppb) (µg/L)		Copper Concentration (ppb) (µg/L)	
		First Draw	Second Draw	First Draw	Second Draw
22778-08-0801	Utility Closet	4.2	N.D	410.0	242
22778-08-0802	Rm 145	2.63	1..11	203.0	158.0
22778-08-0803	Rm 145A	6.10	N.D.	601.0	187
22778-08-0804	Rm 146	1.21	N.D.	123.0	107.0
22778-08-0805	Rm 146A	11.30	1.08	825.0	192.0
22778-08-0806	Rm 146A	N.D.	N.D.	156.0	208.0
22778-08-0807	Rm 143	N.D.	N.D.	106.0	156.0
22778-08-0808 CB	Rm 143A	7.35	2.23	382.0	561.0
22778-08-0809 CB	Rm 143A	1.59	N.D.	608.0	182.0
22778-08-0810	Rm 144	1.08	N.D.	137.0	N.D.
22778-08-0811 CB	Rm 144A	4.61	N.D.	263.0	284.0
22778-08-0812 CB	Rm 144A	2.84	N.D.	206.0	178.0
22778-08-0813	Rm 141	4.99	N.D.	178.0	194.0
22778-08-0814 CB	Rm 141A	5.11	N.D.	249.0	242.0
22778-08-0815 CB	Rm 141A	3.48	N.D.	359.0	205.0
22778-08-0816	Rm 142	N.D.	N.D.	90.5	165.0
22778-08-0817	Rm 142A	1.46	1.12	137.0	395.0
22778-08-0818	Rm 142A	N.D.	N.D.	180.0	179.0
22778-08-0819	Rm 140	2.40	N.D.	300.0	182.0
22778-08-0820	Rm 140A	1.44	N.D.	252.0	179.0
22778-08-0821	1-C4 (L)	N.D.	N.D.	308.0	298.0
22778-08-0822	1-C4 (R)	N.D.	N.D.	275.0	222.0
22778-08-0823	Rm 138	6.57	N.D.	194.0	183.0
22778-08-0824	Rm 138A	1.71	N.D.	238.0	141.0
22778-08-0825	Rm 131C	N.D.	N.D.	218.0	137.0
22778-08-0826	Rm 136A	N.D.	N.D.	279.0	239.0
22778-08-0827	Rm 136B	N.D.	N.D.	216.0	152.0
22778-08-0828	Rm 134	N.D.	N.D.	249.0	64.0
22778-08-0829	Rm 132	N.D.	N.D.	391.0	212.0
22778-08-0830	Rm 106A	N.D.	N.D.	229.0	215.0
22778-08-0831	Rm 106	N.D.	N.D.	235.0	235.0
22778-08-0832	Rm 101	2.19	N.D.	731.0	212.0
22778-08-0833	Rm 101	1.67	N.D.	254.0	181.0
22778-08-0834	Rm 103	N.D.	N.D.	84.5	174.0
22778-08-0835	Rm 104	N.D.	N.D.	N.D.	183.0
22778-08-0836 (B)	Rm 105 (L)	15.5	24.7	544.0	924.0
22778-08-0837 (B)	Rm 105 (M)	16.3	7.68	636.0	428.0
22778-08-0838 (B)	Rm 105 R	12.5	2.4	230.0	140.0
22778-08-0839	Rm 107	N.D.	N.D.	174.0	107.0
22778-08-0840 (B)	Rm 109 L	5.36	2.77	1,020	1,070
22778-08-0841 (B)	Rm 109 R	1.89	1.00	461.0	340.0
22778-08-0842	1-C2	N.D.	N.D.	162.0	144.0
22778-08-0843	1-C3 L	N.D.	N.D.	467.0	381.0
22778-08-0844	1-C3 R	N.D.	N.D.	356.0	290.0
22778-08-0845	Rm 117 C	N.D.	N.D.	304.0	191.0
22778-08-0846	Rm 117 B	N.D.	N.D.	256.0	223.0
22778-08-0847	Rm L31 L	N.D.	N.D.	397.0	210.0
22778-08-0848	Rm L31 M	N.D.	N.D.	229.0	185.0
22778-08-0849	Rm L31 R	7.25	N.D.	378.0	181.0
22778-08-0850	Rm L27	N.D.	N.D.	212.0	171.0
22778-08-0851	Rm L15	1.07	N.D.	50.3	53.0
22778-08-0852	Rm L09	N.D.	N.D.	61.0	59.4
22778-08-0853	L-C2	1.18	1.32	106.0	86.1
22778-08-0854 (B)	L-07 L	26.1	2.55	1,690	322
22778-08-0855 (B)	L-07 R	6.82	1.61	395.0	269.0
22778-08-0856 (B)	L-05 L	12.3	1.34	253.0	307.0
22778-08-0857 (B)	L-05 R	9.85	1.19	383.0	230.0
22778-08-0858	L-04	N.D.	N.D.	238.0	127.0
22778-08-0859	L-03	N.D.	N.D.	78.0	174.0
22778-08-0860	L-01	1.00	N.D.	88.8	126.0

Key
(B)-Bathroom
CB-classroom bathroom

Glencoe West School Lead and Copper Tests Summer 2017

ID Number	Location	Lead Concentration (ppb) (µg/L)		Copper Concentration (ppb) (µg/L)	
		First Draw	Second Draw	First Draw	Second Draw
22102-04-2901	Utility Closet	1.9	0.34	87	35
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
22102-04-2913	Hallway Fount. 138	0.099	0.074	160	180
22102-04-2914	Hallway Fount. 140	0.075	0.081	180	170
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
22102-04-2911	Library 131 Sink	0.32	0.068	250	280
22102-04-2912	Nurses Sink 136A	0.2	0.044	250	190
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
22102-04-2905	Lounge BR Sink	0.16	0.07	150	170
22102-04-2904	Faculty Lounge Sink	0.2	0.062	170	190
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
22102-04-2906	Hallway Rm109 Fou.	0.068	0.075	76	170
22102-04-2908	Hallway Elv. Left	0.067	0.1	110	150
22102-04-2909	Hallway Elv. Right	0.053	0.059	180	200
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
22102-04-2910	Kitchen Sink Flush	0.36	0.1	210	280
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
22102-04-2901	Rm L15	0.37	0.21	30	20
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
22102-04-2903	L-C2	0.16	0.54	41	41
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Glencoe West School Lead and Copper Tests Summer 2018					
		Lead Concentration (ppb) (µg/L)		Copper Concentration (ppb) (µg/L)	
ID Number	Location	First Draw	Second Draw	First Draw	Second Draw
22778-08-2101	Rm 146	N.D.	N.D.	151	153
22778-08-2102	Rm 145	4.36	N.D.	477	287
22778-08-2103	Rm 144A CB	4.56	N.D.	123	115
22778-08-2104	Rm 143A CB	N.D.	N.D.	129	206
22778-08-2105	Rm 141	N.D.	N.D.	79.1	196
22778-08-2106	Rm 141A CB	9.5	N.D.	352	199
22778-08-2107	Rm 138	1.02	N.D.	182	139
22778-08-2108	Rm 109L (B)	3.06	1.18	813	442
22778-08-2109	Rm 109R (B)	3.27	N.D.	750	355
22778-08-2110	Rm 105L (B)	2.22	N.D.	258	205
22778-08-2111	Rm 105M (B)	N.D.	N.D.	200	191
22778-08-2112	Rm 105R (B)	N.D.	N.D.	186	186
22778-08-2113	L31L Maintance Closet	N.D.	N.D.	239	165
22778-08-2114	L31M Maintance Closet	N.D.	N.D.	214	158
22778-08-2115	L31R Maintence Closet	N.D.	N.D.	307	161
22778-08-2116	L07L (B)	1.69	4.06	135	241
22778-08-2117	L07R (B)	4.44	4.7	289	217
22778-08-2118	L05L (B)	4.87	2.63	105	326
22778-08-2119	L05R (B)	2.96	1.14	279	234

Key
(B)-Bathroom
CB-Classroom Bathroom