WATER QUALITY TESTING

FOR

NILES TOWNSHIP HIGH SCHOOL DISTRICT 219

SKOKIE, ILLINOIS

OCTOBER – NOVEMBER 2017

PROJECT NUMBER: 17-18339

AIRES CONSULTING
A DIVISION OF GALLAGHER BASSETT SERVICES, INC

1550 Hubbard Ave., Batavia, IL 60510, 630-879-3006

TABLE OF CONTENTS

INTRODUCTION 1

BACKGROUND INFORMATION 1

METHODOLOGY 3

RESULTS 3

PROFESSIONAL CERTIFICATION 4

Appendix I: IDPH Guidelines

INTRODUCTION

Niles Township High School District 19 implemented a proactive program of water testing at the following schools:

- Administration building
- North High School
- North High School Day Care Center
- West High School
- West High School Day Care Center

Water sampling was conducted by Kathryn Hermann and Daniel Petras of Aires Consulting. Mr. Geoffrey J. Bacci II, P.E. designed the studied and developed this report.

This report contains a summary of results. Individual reports are also issued by school building and contain sampling maps and laboratory data.

BACKGROUND INFORMATION

The Lead in Drinking Water Testing Bill (LDWTB) was signed into law by Governor Bruce Rauner effective January 17, 2017. The bill amends six (6) different Illinois Codes and Acts including:

- The Illinois School Code
- Illinois Plumbing License Law.

The LDWTB requires school buildings constructed prior to January 1, 2000 to test drinking water sources for lead and provide written notification of the results. The Bill also directs the Illinois department of Public Health (IDPH) to draft rules by 1/1/2018 which may have additional requirements. The IDPH has issued a guidance document for drinking water testing which is included in Appendix I. The following is a summary of those guidelines:

- All schools housing 5th grade and under built before 1/1/2000 must test drinking sources used for drinking and cooking.

- Results of tests that are 5 parts per billion (ppb) or less can be communicated to parents at minimum by website posting.

- Locations that have results over 5 ppb must be communicated in writing or electronically to affected parents. That communication should also include information on the USEPA website that parents can access for guidance. That website: https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water

According to the LDWTB the testing and notification requirements apply only to covered sources which are:

- Drinking fountain and drinking sources in buildings for grade 5 and under
- Classroom sinks in grades below 1 (kindergarten and pre-kindergarten).

Aires recommends notification extends to all sources tested.

Lead most frequently gets into drinking water by leaching from plumbing materials and fixtures as water moves through a school's distribution system. Even though the drinking water you receive from your water supplier meets federal and state standards for lead and copper, your facility may have elevated lead levels due to plumbing materials and water use patterns. Leaching can occur for several reasons but the most significant is corrosion which can occur if water is acidic. Acidic water has a pH less than 7.0

100% of Niles drinking water is supplied from Lake Michigan. Water testing of the supply water is required by the EPA. pH of supplied water is always over 7.0.

Lead in new plumbing and plumbing repairs was banned in 1986. This ban did not entirely eliminate lead as 0.2% lead is still allowed in solder and 8% lead is allowed in piping systems. Pre-1986 plumbing systems have a higher potential to leach lead into drinking water.

Lead is a toxic metal that is harmful to human health. Young children, those 6 years and younger, are at particular risk for lead exposure because they have frequent hand-to-mouth activity and absorb lead more easily than do adults. Children's nervous systems are still undergoing development and thus are more susceptible to the effects of toxic agents. Lead is also harmful to the developing fetuses of pregnant women.

METHODOLOGY

Water testing followed protocol recommended by IDPH and the LDWTB. All water sources have two samples collected. The first collection at each source is a "first draw" sample. Water collection occurs in first draw samples after sources were unused for at least eight (8) hours but not more than 18 hrs. The second sample at that source is collected after 30 seconds of flushing. Each sample is given an identifier which begins with letters that identify the school. The middle letters identify the sample as a drinking fountain (WF), classroom sink (CS) or any other sink (S). Letters identify the sample location. An "A" after the letter indicates a first draw sample and a "B" identifies a flush sample.

Samples were analyzed by Prairie Analytical Systems, Inc. Prairie Analytical is accredited by the National Environmental Laboratory Environmental Conference (NELAC).

The USEPA recommends taking action to reduce lead levels if sample results exceed 20 ppb. That action could include water treatment or fixture replacement.

Public water supplies are required by the Safe Drinking Water Act to take corrective action if 10% or more of their sources contain lead levels greater than 15 ppb.

RESULTS

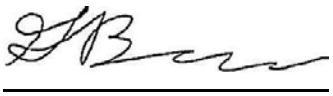
Sample results at all schools and buildings were less than 5 ppb. Results must at minimum be posted on the Districts website.

Incoming water samples were collected at water mains. These samples were not representative of drinking water because they contained sediment and rust. These samples are not subject to Notification requirements of the LDWTB.

PROFESSIONAL CERTIFICATION

Aires Consulting, a division of Gallagher Bassett Services, Inc. conducted this study in the interest of **Niles Township High School District 219** to assist in meeting environmental obligations and regulations. In this respect, we hope the results of this study are useful. *This study was not intended to include every environmental exposure that may be present at the facility; only those items specifically addressed in the report were evaluated.* If you have any questions concerning this study please let us know.

Respectfully Submitted,



Geoffrey J. Bacci, II, PE
Director Operations

American Water Works Association
IllinoisSection

Sampling Protocol for Drinking Water in Schools



A Guidance Document for Drinking Water Testing



- Schools must use an Illinois Environmental Protection Agency (IEPA) accredited laboratory for the testing.
- Schools must provide the Illinois Department of Public Health (IDPH) with sample results within 7 days of receipt. Results should be emailed to DPH.LeadH2O@illinois.gov.

SB 0550 was signed by Governor Bruce Rauner on January 16, 2017. It requires all schools (Pre-K through 5th grade) to test for lead in water used for drinking and cooking. Schools built after January 1, 2000 are not required to test at this time.

Sampling must be completed by:

- December 31, 2017 — Schools constructed prior to January 1, 1987
- December 31, 2018 — Schools constructed between January 2, 1987 and January 1, 2000



Action Steps Prior to Sampling

1. Your local water supply can be a great resource. Contact them to request assistance in establishing your sampling plan.

2. Obtain a general floor plan for each school building. Floor plans are available in the schools' asbestos management plan.

3. Identify all fixtures to be sampled on the general floor plan. All plumbing fixtures that are used for cooking or drinking must be sampled. Bathroom and utility sinks do not need to be sampled.

4. Assign a unique alphanumeric identifier to each fixture.

5. Label fixture identifiers on the floor plan. Make sure all samples are labeled with the corresponding alphanumeric identifier for each fixture.

6. Determine which IEPA accredited laboratory you will utilize for the analysis. A list can be found at **http://www.epa.illinois.gov/citizens/citizens-information/in-your-home/resources-on-lead/index.**

7. Contact the laboratory to obtain enough 250 mL sample bottles and Chain of Custody forms to allow you to collect 2 samples from each fixture. The laboratory will also provide sample shipping instructions.

Sample Collection Procedure

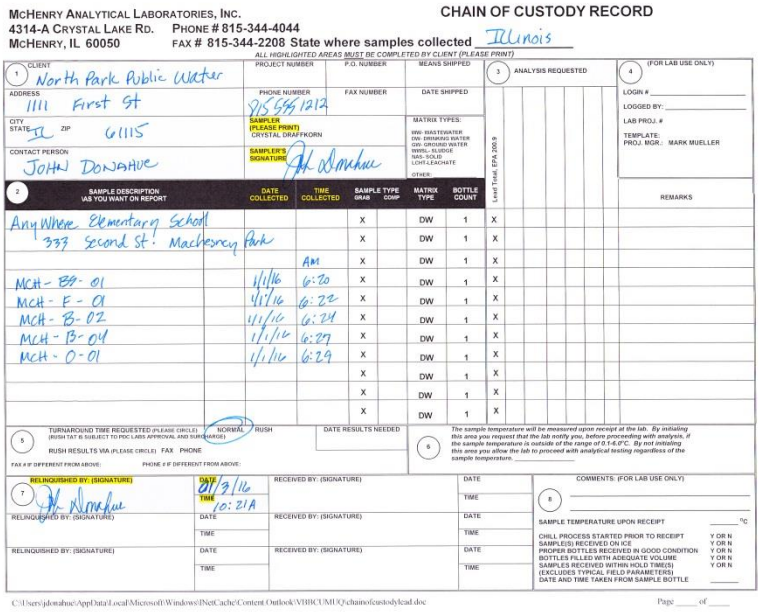
- Do NOT collect samples on Mondays or after extended holiday/break periods.
- Schools should develop a program to routinely flush plumbing fixtures after extended school closings.
- Do NOT flush plumbing fixtures in advance of sampling.



<u>WARNING!</u> Use caution when collecting samples. Some sample containers may contain a nitric acid preservative that can cause skin irritation.

PROCEDURE

1. Each fixture must be sampled twice:
   a. First draw sample
   b. Second draw sample after 30 seconds
2. Ensure water has been idle and unused in pipes and fixtures for at least eight hours, but not more than 18 hours.
3. Prior to sampling, label the sample bottles with the alphanumeric identifier. Do not open the sample bottles until you are ready to collect each sample.
4. Position the first sample bottle beneath the fixture and turn the water on. Do not allow any water to spill.
5. Fill the bottle to the shoulder or the line marked 250 mL and turn the water off. Cap the bottle tightly.
6. Turn the water back on and allow the water to run for 30 seconds before filling the second sample bottle. Cap the bottle tightly.
7. Make sure both bottles are labeled with the date and time, alphanumeric identifier, and sample description (first or second draw).
8. Fill out Chain of Custody for each sample.
9. Continue sampling all fixtures until all samples are collected. Prepare the samples for shipping per laboratory instructions.



McHENRY ANALYTICAL LABORATORIES, INC.
4314-A CRYSTAL LAKE RD. PHONE # 815-344-4044
McHENRY, IL 60050 FAX # 815-344-2208 State where samples collected Illinois

CHAIN OF CUSTODY RECORD

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

CLIENT	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
North Park Public Water			

ADDRESS	PHONE NUMBER	FAX NUMBER	DATE SHIPPED
1111 First St	815 555 1212		

CITY STATE ZIP	SAMPLER (PLEASE PRINT)	MATRIX TYPES
IL 61115	CRYSTAL DRAFFKORN	

CONTACT PERSON	SAMPLER'S SIGNATURE	OTHER:
JOHN DONAHUE		

SAMPLE DESCRIPTION (AS YOU WANT ON REPORT)	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	Lead Total, EPA 200.8
Anywhere Elementary School			X		DW	1	X
333 Second St. Machesney Park			X		DW	1	X
		AM	X		DW	1	X
MCH - B9 - 01	1/1/16	6:20	X		DW	1	X
MCH - E - 01	1/1/16	6:22	X		DW	1	X
MCH - B - 02	1/1/16	6:24	X		DW	1	X
MCH - B - 04	1/1/16	6:27	X		DW	1	X
MCH - O - 01	1/1/16	6:29	X		DW	1	X
			X		DW	1	X
			X		DW	1	X
			X		DW	1	X

TURNAROUND TIME REQUESTED (PLEASE CIRCLE) (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)	NORMAL / RUSH	DATE RESULTS NEEDED
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE		
FAX # IF DIFFERENT FROM ABOVE:	PHONE # IF DIFFERENT FROM ABOVE:	

The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature. _____

RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME	COMMENTS: (FOR LAB USE ONLY)
	1/3/16 10:21A			
RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME	SAMPLE TEMPERATURE UPON RECEIPT _____ °C
RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME	CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N SAMPLE(S) RECEIVED ON ICE Y OR N PROPER BOTTLES RECEIVED IN GOOD CONDITION Y OR N BOTTLES FILLED WITH ADEQUATE VOLUME Y OR N SAMPLES RECEIVED WITHIN HOLD TIME(S) (EXCLUDES TYPICAL FIELD PARAMETERS) Y OR N DATE AND TIME TAKEN FROM SAMPLE BOTTLE _____

C:\Users\jdonahue\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\V1HICUMU\Q\chainofcustodylead.doc Page ____ of ____

Test Results

How to interpret your test results

1. Test results will be reported in either parts per billion (ppb) or micrograms per liter (ug/l). Both units of measure are appropriate.
2. If any sample exceeds 5 ppb of lead, the notification requirements are triggered.



Reporting and Notification Requirements

- Within 7 business days of receipt of test results, schools must email all results to IDPH at DPH.LeadH2O@illinois.gov.
- If all sample results are less than 5 ppb, schools may use their website (at minimum) to notify parents of the results.
- If any of the sample results exceed 5 ppb, schools must notify parents in writing or electronically, and include :
  - The location and source exceeding 5 ppb, and
  - The USEPA website for information about lead in drinking water: https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water.

Parents should be advised to contact their health care provider with any concerns about their child's health, including blood tests for lead exposure.

Next Steps

Test results will likely generate questions from parents, guardians, and the public about steps the school is taking to address lead in water.

Removing fixtures from use may not be an immediate option. Establishment of a water management plan, including identification of lead-containing plumbing, scheduled flushing, fixture replacement, and monitoring is the best course of action for schools addressing positive lead test results.

Additional guidance for interim (short-term) and permanent lead control measures is provided in the USEPA 3Ts for Reducing Lead in Drinking Water in Schools. This document can be found at:

www.epa.gov/sites/production/files/201509/documents/toolkit_leadschools_guide_3ts_leadschools.pdf

American Water Works Association
Illinois Section

IDPH
Illinois Department of Public Health

The Illinois Department of Public Health supports the efforts of Illinois Section AWWA to educate schools about lead testing. For additional information see dph.illinois.gov .

