

January 15, 2019

Mr. Terry Zerwas
St. Michael-Albertville ISD #885
11343 – 50th Street NE
Albertville, MN 55301



**RE: Lead-in-Water First Draw
Post Flushing Re-Sampling
IEA Project # 201811147**

Dear Mr. Zerwas:

At the request of St. Michael-Albertville ISD #885, IEA collected 8 follow-up water samples for lead analyses on December 12, 2018. The purpose of the sampling was to document lead content of water in 8 locations post-flushing and to compare the results to initial “first draw” sampling conducted on November 6-7, 2018, and the St. Michael-Albertville ISD #885 district-designated action level of 10 parts per billion (ppb).

INTRODUCTION

Minnesota Statute 121A.335 requires public school buildings serving pre-kindergarten through grade 12 to test for lead in potable water fixtures every five years. The *3Ts for Reducing Lead in Drinking Water Toolkit (2018)* and the Lead Contamination Control Act (LCCA) of 1988 were created by the Environmental Protection Agency (EPA) to identify and reduce lead in drinking water. Lead is a metal that usually enters drinking water through the distribution system, including pipes, solders, faucets, and valves. Lead content in water may increase when the water is allowed to sit undisturbed in the system. Exposure to lead is a health concern.

The EPA recommends taking action when elevated lead levels are noted in water fixtures. The MDH and MDE recommend taking a fixture out of service if levels are 20 parts per billion (ppb) or higher. The MDH and MDE also recommend taking action according to their guidelines for fixtures with levels of 2 parts per billion (ppb) or higher.

First draw samples taken on November 6-7, 2018, had elevated lead content above the St. Michael-Albertville ISD #885 district designated level of 10 ppb. Re-sampling is occurring because the district believes the fixtures were not used the day prior leading up to the initial sampling. The fixtures were flushed 6-18 hours prior to resampling.

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Mountain Iron, MN 55768
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METHODOLOGY

IEA collected 8 post-flushing samples of approximately 250 milliliters (ml) of water. “Post flushing” means the samples are collected after the fixture is used or flushed during the day. The post flushing sample may reflect a treatment option. If lead levels are lowered in the flush sample, lead levels may be reduced if the tap is flushed prior to use.

Water samples were analyzed by Minnesota Valley Testing Laboratories (MVTL) in New Ulm, Minnesota, which uses EPA-approved analytical methods and quality control/assurance procedures. Samples were analyzed using the ICP/MS EPA Method 200.8.

RESULTS & DISCUSSION

The lead-in-water post-flushing sampling results ranged from 2.2 ppb to 30.1 ppb. These 8 locations are displayed in *Table 1: Drinking Water Sample Results* and include the original sampling results. The laboratory report is provided in Appendix A. Laboratory results are reported in micrograms per liter (µg/L) which is equivalent to ppb.

Table 1: Water Testing Results – November 6, 2018 / November 7, 2018 and December 12, 2018:

Sample Number	Building	Sampling Location	Fixture Type	Lead Results (ppb)	
				11/6-7/2018	12/12/2018
12122018MSW-1	Middle School West	Kitchen Main Room East Wall South	Sprayer	15.6	6.68
12122018MSW-2	Middle School West	Planning Room	Sink	39.4	27.5
12122018MSW-3	Middle School West	Auditorium Dressing Room West	Sink	29.8	17.5
12122018MSW-4	Middle School West	Room G116	Sink	28.8	28.1
12122018MSW-5	Middle School West	Room H106 West Wall Middle	Sink	14.5	8.6
12122018BWE-1	Big Woods Elementary	Kitchen East	Steam Kettle	21.9	7.1
12122018BWE-2	Big Woods Elementary	Room Near Gymnasium Entrance	Sink	26.2	2.2
12122018MSE-1	Middle School East	Kitchen Southwest Wall	Mixer	52.7	30.1

ppb – parts per billion

RECOMMENDATIONS

IEA recommends implementing one of the following treatment options for the fixtures with lead content exceeding the St. Michael-Albertville district chosen level of 10 ppb.

- Remove the fixture from service by disconnecting it from the water supply and/or post signs that the water is not potable, and notify staff of this.
- Provide bottled water to occupants which meet FDA and state standards. A written statement from the bottled water distributor guaranteeing the standard are met should be filed with the district.
- Replace lead pipes on the property and district portion of the service line.
- Reconfigure plumbing system to redirect the water to bypass any known sources of lead contamination.
- Replace fixture with a "lead-free" fixture certified to NSF/ANSI 372 or NSF/ANSI 61-G. The *Reduction of Lead in Drinking Water Act* redefines "lead-free" as "not more than a weighted average of 0.25% lead when used with respect to wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures." Effective January 4, 2014, drinking water system components sold or installed must adhere to this new requirement.

- Install a drinking water treatment unit certified to NSF/ANSI 53 or NSF/ANSI 42 for lead reduction.
- Conduct flush testing in accordance with MDH guidelines to determine if flushing will reduce lead content. If results indicate that flushing will reduce lead to acceptable levels, implement a flushing program which includes documentation of daily flushing and periodic program review.
- Conduct flush testing in accordance with EPA guidelines, noting that elevated levels can return quickly following flushing depending upon the age and condition of the plumbing. Replacing the plumbing components can address the high levels and ensuring any repair or replacement work is done using only “lead-free” solder. Existing wires in the building could be grounded to lead piping. The electrical current produced may accelerate the corrosion of the pipes. Consider checking the wires and finding an alternative grounding system.

In addition, the MDH recommends labeling water fixtures not included in the sampling program, including: bathroom taps, hose bibbs, laboratory faucets/sinks or custodial closet sinks.

It is recommended that a copy of the district's Lead in Water Testing Report be made available to staff and the public through the district's administrative offices. Per Minnesota Statutes, section 121A.335, a school district that has tested its buildings for the presence of lead shall make the results of the testing available to the public for review and must notify parents of the availability of the information.

GENERAL CONDITIONS

The analysis and opinions expressed in this report are based upon data obtained from St. Michael-Albertville ISD #885 at the indicated locations. This report does not reflect variations in conditions that may occur across the site, property, or facility. Actual conditions may vary and may not become evident without further assessment.

The report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted environmental, health and safety practices. Other than as provided in the preceding sentence and in our Proposal #7567 dated October 16, 2018, regarding lead-in-water sampling at St. Michael-Albertville ISD #885 including the General Conditions attached thereto, no warranties are extended or made.

Please contact IEA if you would like assistance with any of the above recommendations or have questions regarding this report.

Sincerely,

IEA, Inc.



Daniel Holcomb
EH&S Account Manager



Mary Ferrian
EH&S Division Manager

DH/wb 011119

Enc.

Appendix A

Laboratory Testing Report



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
 2616 E. Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
 1201 Lincoln Highway ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER
ACIL

www.mvttl.com

Report Date: 31 Dec 2018

HEIDI SOLBERG
 IEA/BROOKLYN PARK
 9201 W BDWY STE #600
 BROOKLYN PARK MN 55445

Work Order #: 12-19496
 Account #: 002190
 Purchase Order #: 201811147

Date Received: 13 Dec 2018
 Date Sampled: 12 Dec 2018
 Time Sampled: 5:30
 Temperature at Receipt: 14.7C

PROJECT NAME: BIG WOODS ELEM.
 PROJECT NUMBER: 201811147

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
18-A70040	12122018BWE-1 KITCHEN E STEAM KETTLE	7.10 ug/L	15.0	27 Dec 18	RMV
18-A70041	12122018BWE-2 ROOM NEAR GYMNASIUM ENTRANCE SINK	2.15 ug/L	15.0	27 Dec 18	RMV

Approved by:

Dan O'Connell **David Smahel**
 Chemistry Laboratory Managers New Ulm, MN

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards. The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
 ! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: MN LAB # 027-015-125 ND WW/DW # R-040

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Report Date: 31 Dec 2018

HEIDI SOLBERG
 IEA/BROOKLYN PARK
 9201 W BDWY STE #600
 BROOKLYN PARK MN 55445

Work Order #: 12-19498
 Account #: 002190
 Purchase Order #: 201811147

Date Received: 13 Dec 2018
 Date Sampled: 12 Dec 2018
 Temperature at Receipt: 14.7C

PROJECT NAME: MIDDLE SCHOOL EAST
 PROJECT NUMBER: 201811147

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
18-A70047	12122018MSE-1 KITCHEN SW WALL MIXER	30.1 ug/L	15.0	27 Dec 18	RMV

Approved by:

Dan O'Connell **David Smahel**
 Chemistry Laboratory Managers New Ulm, MN

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Report Date: 31 Dec 2018



HEIDI SOLBERG
 IEA/BROOKLYN PARK
 9201 W BDWY STE #600
 BROOKLYN PARK MN 55445

Work Order #: 12-19497
 Account #: 002190
 Purchase Order #: 201811147

Date Received: 13 Dec 2018
 Date Sampled: 12 Dec 2018
 Temperature at Receipt: 14.7C

PROJECT NAME: MIDDLE SCHOOL WEST
 PROJECT NUMBER: 201811147

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
18-A70042	12122018MSW-1 KITCHEN MAIN ROOM E WALL SOUTH SPRAYER	6.68 ug/L	15.0	27 Dec 18	RMV
18-A70043	12122018MSW-2 PLANNING ROOM SINK	27.5 ug/L	15.0	27 Dec 18	RMV
18-A70044	12122018MSW-3 AUDITORIUM DRESSING ROOM SINK W	17.5 ug/L	15.0	27 Dec 18	RMV
18-A70045	12122018MSW-4 ROOM G116 SINK	28.1 ug/L	15.0	27 Dec 18	RMV
18-A70046	12122018MSW-5 ROOM H106 W WALL MIDDLE SINK	8.55 ug/L	15.0	27 Dec 18	RMV

Approved by:  

Dan O'Connell **David Smahel**
 Chemistry Laboratory Managers New Ulm, MN

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