

January 22, 2019



Dan Kretsinger  
Richfield Public Schools  
7001 Harriet Avenue South  
Richfield, MN 55423

**RE: Lead-in-Water First Draw – Follow-up Testings  
IEA Project # 201811159**

Dear Mr. Kretsinger:

At the request of Richfield Public Schools, IEA collected 6 follow-up water samples for lead analyses in response to previously elevated samples. Sampling occurred on January 10, 2019. The purpose of the sampling was to document lead content of water in the 6 locations post-remediation and to compare the results to initial “first draw” sampling conducted on November 14, 2018, and the Richfield Public Schools designated action level of 15 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 18, 2018, showed 6 samples had elevated lead content above the Action Level. All 6 fixtures were replaced, and sampling is required to determine if the fixture was the source of the elevated lead content.

INSTITUTE FOR ENVIRONMENTAL ASSESSMENT, INC.  
[www.ieasafety.com](http://www.ieasafety.com)

BROOKLYN PARK  
9201 West Broadway, #600  
Brooklyn Park, MN 55445  
763-315-7900 / FAX 763-315-7920  
800-233-9513

MANKATO  
610 North Riverfront Drive  
Mankato, MN 56001  
507-345-8818 / FAX 507-345-5301  
800-233-9513

ROCHESTER  
210 Woodlake Drive SE  
Rochester, MN 55904  
507-281-6664 / FAX 507-281-6695  
800-233-9513

BRAINERD  
601 NW 5<sup>th</sup> Street, Ste. #4  
Brainerd, MN 56401  
218-454-0703 / FAX 218-454-0703  
800-233-9513

MARSHALL  
1420 East College Drive  
Marshall, MN 56258  
507-476-3599 / FAX 507-537-6985  
800-233-9513

VIRGINIA  
5525 Emerald Avenue  
Mountain Iron, MN 55768  
218-410-9521  
800-233-9513

## METHODOLOGY

IEA collected 6 first-draw (unless otherwise noted) samples of approximately 250 milliliters (ml) of water. “First draw” means the samples are collected before the fixture is used or flushed during the day. The first-draw sample results reflect a worst-case scenario, i.e., the highest lead level that would be consumed by building occupants. MDH recommends water stand in pipes for at least 8 hours, but not more than 18 hours prior to sampling identified fixtures.

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 sampling results ranged from 7.49 ppb to 38.4 ppb. These 6 locations are displayed in *Table 1: Water Testing Results*. The laboratory reports which includes sampling locations and maps of each building 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 14, 2018 and January 10, 2019**

| Sample Number | Building                | Sampling Location    | Fixture Type | Lead Results (ppb) |            |
|---------------|-------------------------|----------------------|--------------|--------------------|------------|
|               |                         |                      |              | 1/10/2019          | 11/14/2018 |
| 01102019RMS-1 | Richfield Middle School | Room 207             | Sink         | 19.2               | 25.6       |
| 01102019RMS-2 | Richfield Middle School | Room 203 West        | Sink         | 16.1               | 21.3       |
| 01102019RMS-3 | Richfield Middle School | Room 203 Southwest   | Sink         | 38.4               | 138        |
| 01102019RMS-4 | Richfield Middle School | Room 203 South Left  | Sink         | 24.4               | 19.4       |
| 01102019RMS-5 | Richfield Middle School | Room 203 South Right | Sink         | 7.49               | 21.6       |
| 01102019RMS-6 | Richfield Middle School | Room 202             | Sink         | 14.2               | 19.4       |

ppb – parts per billion

## RECOMMENDATIONS

Two out of the 6 re-sampled fixture(s) from the January 10, 2019, sampling showed lead levels below the Richfield Public Schools chosen action level of 15 ppb. Based on sample results, further action is required at this time.

IEA recommends implementing one of the following treatment options for the 4 fixtures with lead content exceeding Richfield Public Schools designated action level of 15 ppb.

- Remove 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, 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-Drinking 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 Richfield Public Schools 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 #7571 dated October 17, 2018, regarding lead-in-water sampling at Richfield Public Schools, 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

Reviewed by:



Mary Ferrian  
EHS Division Manager

DH/wb 012319

Enc.

# **Appendix A**

*Laboratory Testing Report, Maps and  
Sampling Locations*



# 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: 18 Jan 2019



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

Work Order #: 12-3478  
 Account #: 002190  
 Purchase Order #: 201811159

Date Received: 11 Jan 2019  
 Date Sampled: 10 Jan 2019  
 Temperature at Receipt: 11.5C

PROJECT NAME: RICHFIELD MIDDLE SCHOOL  
 PROJECT NUMBER: 201811159

| LAB NUMBER | SAMPLE DESCRIPTION                         | LEAD RESULTS | MCL  | DATE ANALYZED | ANALYST |
|------------|--|--------------|------|---------------|---------|
| 19-A1563   | 01102019RMS-1<br>ROOM 207 SINK             | 19.2 ug/L    | 15.0 | 16 Jan 19     | TMM     |
| 19-A1564   | 01102019RMS-2<br>ROOM 203 WEST SINK        | 16.1 ug/L    | 15.0 | 16 Jan 19     | TMM     |
| 19-A1565   | 01102019RMS-3<br>ROOM 203 SOUTHWEST SINK   | 38.4 ug/L    | 15.0 | 16 Jan 19     | TMM     |
| 19-A1566   | 01102019RMS-4<br>ROOM 203 SOUTH LEFT SINK  | 24.4 ug/L    | 15.0 | 16 Jan 19     | RMV     |
| 19-A1567   | 01102019RMS-5<br>ROOM 203 SOUTH RIGHT SINK | 7.49 ug/L    | 15.0 | 16 Jan 19     | RMV     |
| 19-A1568   | 01102019RMS-6<br>ROOM 202 SINK             | 14.2 ug/L    | 15.0 | 16 Jan 19     | TMM     |

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.

