

October 3, 2016

Mr. Mike Vogel
Interim Director of Facilities and Construction Management
South Washington County Schools
7362 East Douglas Point Road S
Cottage Grove, MN 55016
P 651-425-6274
E mvogel@sowashco.org



**RE: Lake Middle School
Lead-in-Water Testing
IEA Project #201610819**

Dear Mr. Vogel,

At the request of South Washington County Schools, IEA collected a total of 49 samples of drinking water on September 16, 2016, for lead analyses from the Lake Middle School building.

The purpose of the site sampling was to document lead levels in the sampled locations and compare them to the EPA action level of 20 parts per billion (ppb).

INTRODUCTION

The Environmental Protection Agency (EPA) established the Lead Contamination Control Act (LCCA) of 1988 to identify and reduce lead in drinking water. Both the EPA and the Minnesota Department of Health (MDH) recommend testing of potable water sources (water used for consumption) every five years for the presence of lead. Lead is a metal that usually enters drinking water through the distribution system, including pipes, solders, faucets, and valves. Lead levels in water may increase when the water is allowed to sit undisturbed in the system, such as in science, biology, or art areas. Exposure to lead is a significant health concern, especially to infants and young children whose growing bodies absorb lead more readily than adult bodies do. Lead exposure can cause delays in physical and/or mental development in children and damage to the brain, kidneys, nervous system, and red blood cells. The EPA and MDH recommend that action be taken at a specific fixture when the lead concentration exceeds the EPA's action level for schools of 20 parts per billion (ppb).

METHODOLOGY

IEA collected 49 first-draw (unless otherwise noted) samples of approximately 500 milliliters (ml). "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. Current protocol calls for flushing locations 8-18 hours prior to sampling.

Site map with sample locations are included in Appendix A. 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.

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9201 West Broadway, #600
Brooklyn Park, MN 55445
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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
13432 Elmwood Drive, Ste. #5
Baxter, MN 56425
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

RESULTS & DISCUSSION

The lead-in-water sampling results ranged from below the level of detection (<0.05 ppb) to 40.6 ppb. There are seven (7) sample results greater than 20 ppb. See *Table 1: Water Testing Results Exceeding 20 ppb*. The laboratory report is provided in Appendix B. Laboratory results are reported in micrograms per liter (µg/L) which is equivalent to parts per billion (ppb).

Table 1: Water Testing Results Exceeding 20 ppb – September 16, 2016

Sample Number	Building	Sampling Location	Fixture Type	Lead Results (ppb)
16-A48493	Lake Middle School	Kitchen Sink #1	Faucet	40.6
16-A48497	Lake Middle School	Kitchen Sink #5	Faucet	37.3
16-A48499	Lake Middle School	Sprayer #2	Sprayer	33.5
16-A48526	Lake Middle School	Sink #1 Room A111	Faucet	21.4
16-A48528	Lake Middle School	Sink #3 Room A111	Faucet	24.8
16-A48529	Lake Middle School	Sink Room 105	Faucet	20.6
16-A48536	Lake Middle School	Sink Staff Workroom	Faucet	21.8

ppb – parts per billion

In addition, eight (8) results showed lead levels between 15 ppb and 20 ppb. See *Table 2: Water Testing Results Approaching 20 ppb* for these results. Although the EPA recommends that school drinking water not exceed 20 ppb, the MDH recommends schools seek to reduce the amount of lead in drinking water to as close to zero as possible.

Table 2: Water Testing Results Approaching 20 ppb – September 16, 2016

Sample Number	Building	Sampling Location	Fixture Type	Lead Results (ppb)
16-A48496	Lake Middle School	Kitchen Sink #4	Faucet	16.1
16-A48518	Lake Middle School	Sink Instruments Room	Faucet	17.9
16-A48527	Lake Middle School	Sink #2 Room A111	Faucet	18.8
16-A48532	Lake Middle School	Sink #3 Room A110	Faucet	15.7
16-A48535	Lake Middle School	Sink AV Workroom	Faucet	19.7
16-A48539	Lake Middle School	Sink Room B114	Faucet	17.3
16-A48540	Lake Middle School	Sink Room A105 #2	Faucet	15.6
16-A48541	Lake Middle School	Sink Room A105 #3	Faucet	16.1

ppb – parts per billion

RECOMMENDATIONS

IEA recommends implementing one of the following treatment options for the fixtures with lead level exceeding the EPA action level of 20 ppb. These recommendations should also be considered for the fixtures with lead level approaching 20 ppb.

- Install a point-of-use treatment device, such as the Omnipure OMB934 1M Lead Reduction Filter.
- Conduct flush testing in accordance with EPA or MDH guidelines to determine if flushing will reduce lead levels. 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.
- Replace fixture with “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 the 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.

- Remove fixture from service by disconnecting it from the water supply.
- Post signs that the water is not potable and to notify staff of this.

In addition, IEA recommends 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.

GENERAL CONDITIONS

The analysis and opinions expressed in this report are based upon water testing at South Washington County Schools. This report does not reflect variations in conditions that may occur. 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 #5406A dated August 5, 2016 regarding Lead-in-Water Testing, 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.


Amy Satterfield, CPPM I
Director of Business Development


Karen Weiblen
EHS/IEQ Consultant

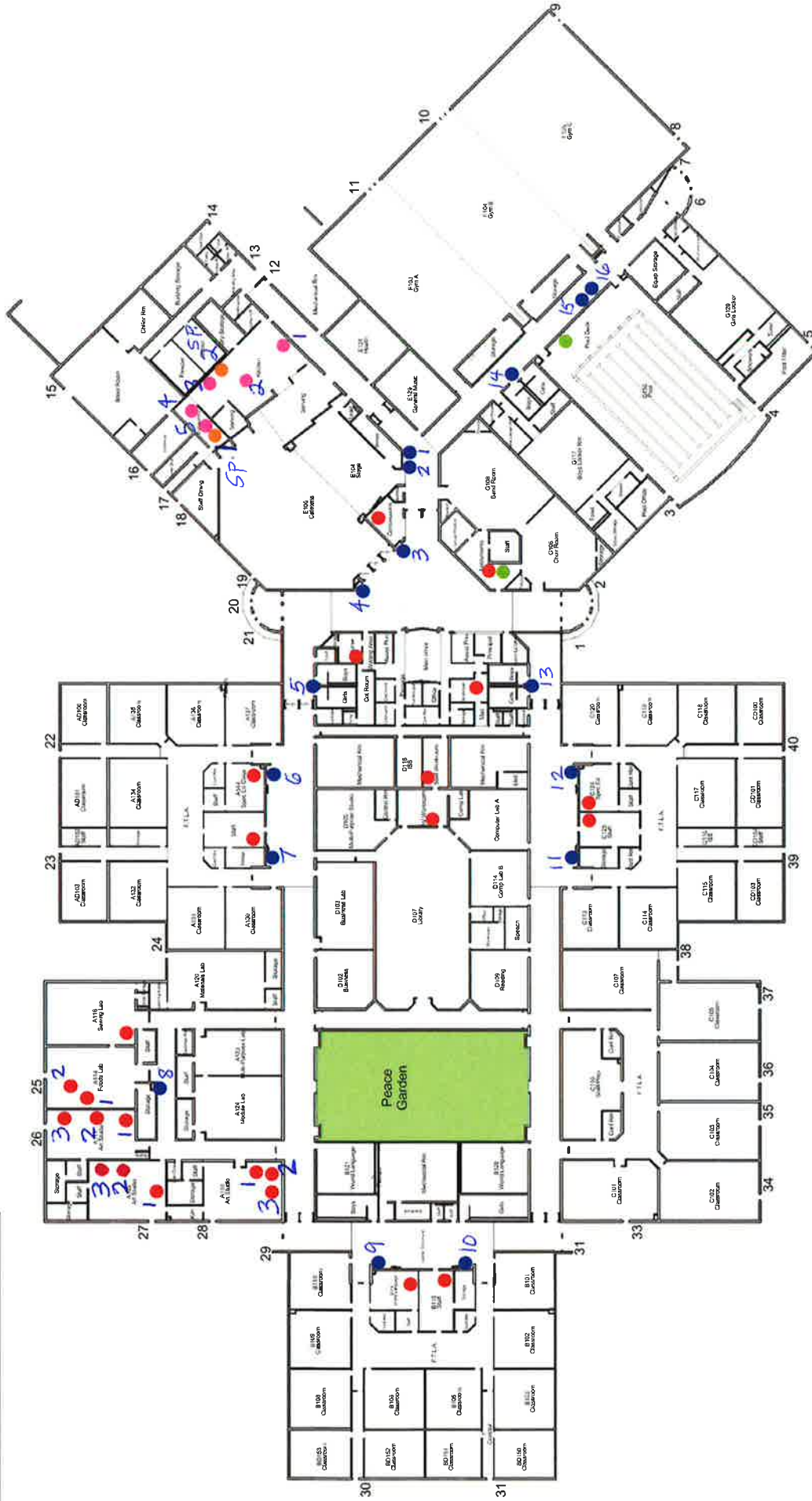
Enclosure

cc: Damien Nelson, Safety & Security

Appendix A
Site Map/Drawing

LEGEND

- SINK (24)
- KITCHEN SINK (5)
- KITCHEN SPRAYER (2)
- DRINKING FOUNTAIN (2)
- WATER COOLER (16)



Appendix B

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

www.mvtl.com

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Report Date: 30 Sep 2016

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

Work Order #: 12-14287
Account #: 002190
Purchase Order #: 201610819

Date Received: 16 Sep 2016
Date Sampled: 16 Sep 2016
Temperature at Receipt: 19.9C

PROJECT NAME: LAKE MIDDLE SCHOOL
PROJECT NUMBER: 201610819

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
16-A48493	09162016LMS-1 KITCHEN SINK #1	40.6 ug/L	15.0	26 Sep 16	RMV
16-A48494	09162016LMS-2 KITCHEN SINK #2	12.0 ug/L	15.0	26 Sep 16	RMV
16-A48495	09162016LMS-3 KITCHEN SINK #3	9.36 ug/L	15.0	26 Sep 16	RMV
16-A48496	09162016LMS-4 KITCHEN SINK #4	16.1 ug/L	15.0	26 Sep 16	RMV
16-A48497	09162016LMS-5 KITCHEN SINK #5	37.3 ug/L	15.0	26 Sep 16	RMV
16-A48498	09162016LMS-6 SPRAYER #1	5.89 ug/L	15.0	26 Sep 16	RMV
16-A48499	09162016LMS-7 SPRAYER #2	33.5 ug/L	15.0	26 Sep 16	RMV
16-A48500	09162016LMS-8 WATER COOLER #1	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48501	09162016LMS-9 WATER COOLER #2	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48502	09162016LMS-10 WATER COOLER #3	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48503	09162016LMS-11 WATER COOLER #4	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48504	09162016LMS-12 WATER COOLER #5	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48505	09162016LMS-13 WATER COOLER #6	0.53 ug/L	15.0	26 Sep 16	RMV

Approved by: 
Dan O'Connell, Asst. Chemistry Laboratory Manager 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 WI LAB # 999447680 ND MICRO # 1013-M 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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16-A48506	09162016LMS-14 WATER COOLER #7	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48507	09162016LMS-15 WATER COOLER #8	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48508	09162016LMS-16 WATER COOLER #9	1.10 ug/L	15.0	26 Sep 16	RMV
16-A48509	09162016LMS-17 WATER COOLER #10	2.44 ug/L	15.0	26 Sep 16	RMV
16-A48510	09162016LMS-18 WATER COOLER #11	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48511	09162016LMS-19 WATER COOLER #12	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48512	09162016LMS-20 WATER COOLER #13	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48513	09162016LMS-21 WATER COOLER #14	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48514	09162016LMS-22 WATER COOLER #15	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48515	09162016LMS-23 WATER COOLER #16	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48516	09162016LMS-24 SINK CONCESSIONS STAND	12.5 ug/L	15.0	26 Sep 16	RMV
16-A48517	09162016LMS-25 DF POOL DECK	1.17 ug/L	15.0	26 Sep 16	RMV
16-A48518	09162016LMS-26 SINK INSTRUMENTS RM	17.9 ug/L	15.0	26 Sep 16	RMV

Approved by: 
Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

Page: 2

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PROJECT NUMBER: 201610819

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16-A48519	09162016LMS-27 DF INSTRUMENTS RM	0.67 ug/L	15.0	26 Sep 16	RMV
16-A48520	09162016LMS-28 SINK NURSES OFFICE	10.5 ug/L	15.0	26 Sep 16	RMV
16-A48521	09162016LMS-29 SINK RM A144	11.5 ug/L	15.0	26 Sep 16	RMV
16-A48522	09162016LMS-30 SINK STAFF RM NEAR WC7	13.5 ug/L	15.0	26 Sep 16	RMV
16-A48523	09162016LMS-31 SINK RM A116	14.8 ug/L	15.0	26 Sep 16	RMV
16-A48524	09162016LMS-32 SINK #1 RM A114	< 0.5 ug/L	15.0	26 Sep 16	RMV
16-A48525	09162016LMS-33 SINK #2 RM A114	5.53 ug/L	15.0	26 Sep 16	RMV
16-A48526	09162016LMS-34 SINK #1 RM A111	21.4 ug/L	15.0	26 Sep 16	RMV
16-A48527	09162016LMS-35 SINK #2 RM A111	18.8 ug/L	15.0	26 Sep 16	RMV
16-A48528	09162016LMS-36 SINK #3 RM A111	24.8 ug/L	15.0	26 Sep 16	RMV
16-A48529	09162016LMS-37 SINK RM 105	20.6 ug/L	15.0	26 Sep 16	RMV
16-A48530	09162016LMS-38 SINK #1 RM A110	7.30 ug/L	15.0	26 Sep 16	RMV

Approved by:

Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

Page: 3

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Report Date: 30 Sep 2016

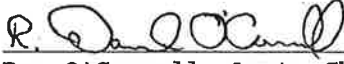
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16-A48531	09162016LMS-39 SINK #2 RM A110	14.4 ug/L	15.0	26 Sep 16	RMV
16-A48532	09162016LMS-40 SINK #3 RM A110	15.7 ug/L	15.0	26 Sep 16	RMV
16-A48533	09162016LMS-41 SINK RM C125	10.9 ug/L	15.0	27 Sep 16	RMV
16-A48534	09162016LMS-42 SINK RM C124	0.56 ug/L	15.0	27 Sep 16	RMV
16-A48535	09162016LMS-43 SINK AV WORKROOM	19.7 ug/L	15.0	27 Sep 16	RMV
16-A48536	09162016LMS-44 SINK STAFF WORKROOM	21.8 ug/L	15.0	27 Sep 16	RMV
16-A48537	09162016LMS-45 SINK WORKROOM MAIN OFFICE	1.35 ug/L	15.0	27 Sep 16	RMV
16-A48538	09162016LMS-46 SINK RM B115	11.2 ug/L	15.0	27 Sep 16	RMV
16-A48539	09162016LMS-47 SINK RM B114	17.3 ug/L	15.0	27 Sep 16	RMV
16-A48540	09162016LMS-49 SINK RM A105 #2	15.6 ug/L	15.0	27 Sep 16	RMV
16-A48541	09162016LMS-50 SINK RM A105 #3	16.1 ug/L	15.0	27 Sep 16	RMV

Approved by: 

Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

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