



October 15, 2018

Mr. Bob Indihar  
Moose Lake Public Schools  
413 Birch Avenue  
Moose Lake, MN 55767

**Re: Lead (Pb) In School Drinking Water Sampling Results**

Dear Mr.Indihar:

MacNeil Environmental, Inc. (MEI) has received the laboratory analytical testing results for the water samples collected from your District facility locations. The enclosed report provides a summary of the sampling results and pertinent recommendations, as necessary.

I have also enclosed a copy of the “Reducing Lead in Drinking Water” Guide that the Minnesota Department of Education and Minnesota Department of Health has put out to help with deciding which solutions best fit your school district.

**Minnesota Department of Health Guidance Criteria**

The MDH/MDE guidance document requires the testing of all water fixtures used in food preparation or used by children, staff, or pregnant women for drinking water purposes. Lead in water can result from plumbing systems where leaded solder was used to connect copper piping or from lead-lined water cooler outlets. The table below is the recommendations from the Minnesota Department Health.

Any results over 2.0 ppb to 20 ppb should be looked at and retested using the flushing method. If tests come back under 2.0 ppb using the flushing method, then flushing could be one of the recommended solutions for keeping lead in water at its lowest for that particular water source. Taking water source out of service is also a solution for any tap or faucet that is over the limit also.

I have included an explanation of the retesting procedures using the flushing method.

Lead Level At The Tap	Lead Hazard Reduction Options
< 2 ppb or None Detected	<ul style="list-style-type: none"> <li>• Lead was not detected. Tap may be used as normal;</li> <li>• Record result and test again in 5 years; and</li> <li>• Make all test results and lead education materials accessible to the community, such as on a website, or annual report, and available upon request.</li> </ul>
2 ppb to 20 ppb	<p>The tap may be used for cooking and drinking water while steps are taken to reduce overall exposure. A higher number of taps with elevated results increases the urgency to implement hazard reduction.</p> <p><u>Options include:</u></p> <ul style="list-style-type: none"> <li>• Retest the sample tap and attempt to more accurately determine the source of the lead; consider monitoring tap more frequently until the source of lead is found and removed;</li> <li>• Consider the feasibility of flushing or other steps to minimize lead exposure, including limiting softened water supplies to hot water taps only, taking into account other actions that the school may already have in place;</li> <li>• Make all test results and lead education materials accessible to the community, such as on a website, or annual report, and available upon request.</li> </ul>
> 20 ppb	<p>Action should be taken to reduce exposure. The specific action(s) taken will be dependent on individual school conditions.</p> <p><u>Options include:</u></p> <ul style="list-style-type: none"> <li>• Remove tap from service until problem is demonstrably corrected by replacement, a flushing program, filtration, or treatment;</li> <li>• Do not use tap for cooking or drinking water;</li> <li>• Retest the tap and attempt to determine the source of the lead; If the tap is not replaced, consider monitoring tap more frequently, such as annually, until the source of lead is found and removed;</li> <li>• Implement a flushing protocol or other lead hazard reduction option; sampling should be used to evaluate effectiveness;</li> <li>• Make all test results and lead education materials accessible to the community, such as on a website, or annual report, and available upon request; and</li> <li>• Provide targeted communication and education to individuals, parents, and staff members that routinely use that tap.</li> </ul>

## Water Sampling Results

Some/all of the samples collected yielded analytical lead concentrations in excess of 2 ppb. Potable water sources found to be in excess of 2 ppb should be subject to an additional flush test.

<i>Sample ID#</i>	<i>Fixture Location</i>	<i>Results (ppb)</i>
18-10813	Shop DF (#1)	2.70
18-10755	Schnoll Science Rm (#6)	2.90
18-10757	Eliason Science Rm (#26)	10.36
18-10764	Kitchen Sink (#58)	3.79
18-107.67	Kitchen Groen (#61)	5.16
18-10766*	Kitchen Entry Line Sink (#70)	25.32

\*This water source should not be used for drinking or food prep until a flush test is done to see if daily flushing will lower the limits.

## Sample Analysis

All sample analysis was completed by the Twin City Water Clinic per the current USEPA Method for Chemical Analysis of Water and Wastes, EPA-600/4-79-020. Chain of custody worksheets have been used throughout the analytical process. The laboratory analysis report has been attached for your review.

## Comments

Your MEI Account Manager has been provided a copy of this report and is prepared to review the results with you during the next site visit. If you have any questions regarding this report, please feel free to contact me at 800-642-6730.

Sincerely,

MACNEIL ENVIRONMENTAL, INC.



Carol Sertich  
Administrative Assistant

Cc: Andy Sertich, Account Manager

# Twin City Water Clinic Laboratory Test Report

Minnesota State Laboratory ID# 027-053-119  
 Wisconsin State Laboratory ID# 105-10117  
 Wisconsin DNR Lab ID #399073400

**Client:** Moose Lake Community School  
 MacNeil Environmental Inc  
 Address: 21709 Pine St. P.O. Box 826  
 Grand Rapids, MN 55744

**Report Number:** 18-10775  
**Sample Receipt Date:** 8/20/18  
**Sample Prep. Date:** 8/20/18  
**Sample Prep. Time:** 11:30  
**Report Issue Date:** 08/24/18

**Twin City Water Clinic Inc.**  
 617 13th Avenue South  
 Hopkins, MN 55343  
 Phone: (952)935-3556  
 Fax: (952)935-5077

X No samples were subcontracted; or the above test result(s) with "\*" designation were produced by a subcontracted laboratory. [Laboratory name; address; WDH Lab ID#]. The subcontracted laboratory maintains MDH Certification for the field(s) of testing performed.

Laboratory Sample ID	Analyte	Sample Location	Parameter	Sample Collection		Sample Analysis		Test Results	Units
				Date	Time	Date	Time		
18-10775	Lead	DF in hall by Locker RM (#90)	Drinking Water	08/17/18	06:35	08/22/18	14:04	<2.0	µg/L
18-10776	Lead	DF in hall by Locker RM (#91)	Drinking Water	08/17/18	06:37	08/22/18	14:09	<2.0	µg/L
18-10777	Lead	Spies RM (#124)	Drinking Water	08/17/18	08:18	08/22/18	14:15	<2.0	µg/L
18-10778	Lead	Robinson RM (#122)	Drinking Water	08/17/18	08:15	08/22/18	14:20	<2.0	µg/L
18-10779	Lead	Gamst RM (#123)	Drinking Water	08/17/18	08:17	08/22/18	14:26	<2.0	µg/L
18-10780	Lead	Weight RM DF (#127)	Drinking Water	08/17/18	10:17	08/22/18	14:32	<2.0	µg/L
18-10781	Lead	South Elem Hall DF (#130)	Drinking Water	08/17/18	10:20	08/22/18	14:38	<2.0	µg/L
18-10782	Lead	Carlson RM (#132)	Drinking Water	08/17/18	10:22	08/22/18	14:43	<2.0	µg/L
18-10783	Lead	Mcausland (#133)	Drinking Water	08/17/18	10:26	08/23/18	10:51	<2.0	µg/L
18-10784	Lead	Title 1 (#134)	Drinking Water	08/17/18	10:30	08/23/18	10:57	<2.0	µg/L
18-10785	Lead	Butkiwicks RM (#135)	Drinking Water	08/17/18	10:46	08/23/18	11:02	<2.0	µg/L
18-10786	Lead	Erickson RM (#136)	Drinking Water	08/17/18	10:54	08/23/18	11:09	<2.0	µg/L
18-10787	Lead	Goodnature RM (#137)	Drinking Water	08/17/18	11:00	08/23/18	11:15	<2.0	µg/L
18-10788	Lead	RM 318 (#138)	Drinking Water	08/17/18	11:09	08/23/18	11:20	<2.0	µg/L
18-10789	Lead	RM 320 (#139)	Drinking Water	08/17/18	11:12	08/23/18	11:26	<2.0	µg/L
18-10790	Lead	RM 319 (#140)	Drinking Water	08/17/18	11:10	08/23/18	11:32	<2.0	µg/L
18-10791	Lead	RM 317 (#141)	Drinking Water	08/17/18	11:03	08/23/18	11:50	<2.0	µg/L
18-10792	Lead	RM 315 (#142)	Drinking Water	08/17/18	10:56	08/23/18	12:07	<2.0	µg/L
18-10793	Lead	Borax (#143)	Drinking Water	08/17/18	10:35	08/23/18	12:13	<2.0	µg/L
18-10794	Lead	Nordstrom (#144)	Drinking Water	08/17/18	10:48	08/23/18	12:19	<2.0	µg/L

Approved methods used in analyzing the samples listed above have the following reporting levels:  
 SM3113 - Lead, 2.0 µg/L  
 Maximum contaminant level: Lead, 15.0 µg/L

Sample Collected by: X Client      TCWC

Sample Temp.: 20° C

Notes: Sample locations flushed prior to sample collection.

Discussion: DF = drinking fountain



Approved By:   
 Bill Van Arsdale  
 Laboratory Manager

The results listed in this report apply only to the above listed samples. All routine quality assurance procedures were followed, unless otherwise noted. This analytical report must be reported in its entirety. All methods are certified by the Minnesota Department of Health, unless otherwise noted.

Twin City Water Clinic Laboratory Test Report		Minnesota State Laboratory ID# 027-053-119 Wisconsin State Laboratory ID# 105-10117 Wisconsin DNR Lab ID #399073400							
<b>Client:</b> Moose Lake Community School MacNeil Environmental Inc Address: 21709 Pine St. P. O. Box 826 Grand Rapids, MN 55744	<b>Report Number:</b> 18-10795 <b>Sample Receipt Date:</b> 8/20/18 <b>Sample Prep. Date:</b> 8/20/18 <b>Sample Prep. Time:</b> 11:30 <b>Report Issue Date:</b> 08/24/18	<b>Twin City Water Clinic Inc.</b> 617 13th Avenue South Hopkins, MN 55343 Phone: (952)935-3556 Fax: (952)935-5077	X No samples were subcontracted; or the above test result(s) with "*" designation were produced by a subcontracted laboratory. [Laboratory name; address; MDH Lab ID#]. The subcontracted laboratory maintains MDH Certification for the field(s) of testing performed.						
Laboratory ID	Analyte	Sample Location	Parameter	Sample Collection Date	Time	Sample Analysis Date	Time	Test Results	Units
18-10795	Lead	RM 305 (#145)	Drinking Water	08/17/18	10:32	08/23/18	12:25	<2.0	µg/L
18-10796	Lead	Unzen RM (#146)	Drinking Water	08/17/18	10:25	08/23/18	12:30	<2.0	µg/L
18-10797	Lead	Stephensen RM (#147)	Drinking Water	08/17/18	10:26	08/23/18	12:36	<2.0	µg/L
18-10798	Lead	Elem West DF (#149)	Drinking Water	08/17/18	10:50	08/23/18	12:42	<2.0	µg/L
18-10799	Lead	Elem East DF (#151)	Drinking Water	08/17/18	10:32	08/23/18	12:48	<2.0	µg/L
18-10800	Lead	Hedin RM (#159)	Drinking Water	08/17/18	09:59	08/23/18	12:53	<2.0	µg/L
18-10801	Lead	Bennett RM (#162)	Drinking Water	08/17/18	09:57	08/23/18	13:10	<2.0	µg/L
18-10802	Lead	School Age sink RM 210 (#165)	Drinking Water	08/17/18	06:44	08/23/18	13:27	<2.0	µg/L
18-10803	Lead	Gilbertson RM (#163)	Drinking Water	08/17/18	09:59	08/23/18	13:33	<2.0	µg/L
18-10804	Lead	Duesler Work RM (#167)	Drinking Water	08/17/18	10:01	08/23/18	13:39	<2.0	µg/L
18-10805	Lead	Sink Mimi Moose (#168)	Drinking Water	08/17/18	06:43	08/23/18	13:44	<2.0	µg/L
18-10806	Lead	Sink Mimi Moose (#169)	Drinking Water	08/17/18	06:45	08/23/18	13:50	<2.0	µg/L
18-10807	Lead	Lori Ann RM 219 (#170)	Drinking Water	08/17/18	10:06	08/23/18	13:56	<2.0	µg/L
18-10808	Lead	Lori Ann north wall (#171)	Drinking Water	08/17/18	10:07	08/23/18	14:02	<2.0	µg/L
18-10809	Lead	RM 217 (#173)	Drinking Water	08/17/18	10:08	08/23/18	14:07	<2.0	µg/L
18-10810	Lead	Pricilla west wall (#174)	Drinking Water	08/17/18	10:03	08/23/18	14:13	<2.0	µg/L
18-10811	Lead	DF by Kindergarten (#177)	Drinking Water	08/17/18	06:50	08/24/18	10:51	<2.0	µg/L
18-10812	Lead	Pricilla east wall (#178)	Drinking Water	08/17/18	10:04	08/24/18	10:57	<2.0	µg/L
18-10813	Lead	Shop DF (#1)	Drinking Water	08/17/18	07:24	08/24/18	11:03	2.70	µg/L
18-10814	Lead	DF by High Commons (#32)	Drinking Water	08/17/18	07:20	08/24/18	11:08	<2.0	µg/L

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Maximum contaminant level: Lead, 15.0 µg/L

Sample Collected by:  X  Client      TCWC  
Sample Temp.: 20° C

Notes: Sample locations flushed prior to sample collection.  
Discussion: DF = drinking fountain

Approved By:   
Bill Van Arsdale  
Laboratory Manager

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# Twin City Water Clinic Laboratory Test Report

Minnesota State Laboratory ID# 027-053-119  
 Wisconsin State Laboratory ID# 105-10117  
 Wisconsin DNR Lab ID #399073400

**Client:** Moose Lake Community School  
 MacNeil Environmental Inc  
**Address:** 21709 Pine St. P.O. Box 826  
 Grand Rapids, MN 55744

**Report Number:** 18-10755  
**Sample Receipt Date:** 8/20/18  
**Sample Prep. Date:** 8/20/18  
**Sample Prep. Time:** 11:30  
**Report Issue Date:** 08/24/18

**Twin City Water Clinic Inc.**  
**617 13th Avenue South**  
**Hopkins, MN 55343**  
**Phone: (952)935-3556**  
**Fax: (952)935-5077**

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Laboratory Sample ID	Analyte	Sample Location	Parameter	Sample Collection Date	Time	Sample Analysis Date	Time	Test Results	Units
18-10755	Lead	Schnoll Science RM (#6)	Drinking Water	08/17/18	07:24	08/21/18	14:03	2.90	µg/L
18-10756	Lead	Sanda Science RM (#14)	Drinking Water	08/17/18	07:26	08/21/18	14:09	<2.0	µg/L
18-10757	Lead	Eliason Science RM (#26)	Drinking Water	08/17/18	07:28	08/21/18	14:15	10.36	µg/L
18-10758	Lead	Kill "Art" (#34)	Drinking Water	08/17/18	07:30	08/22/18	11:20	<2.0	µg/L
18-10759	Lead	Community Ed (#43)	Drinking Water	08/17/18	07:14	08/22/18	11:26	<2.0	µg/L
18-10760	Lead	Community Ed (#44)	Drinking Water	08/17/18	07:15	08/22/18	11:32	<2.0	µg/L
18-10761	Lead	Band Hall DF (#48)	Drinking Water	08/17/18	07:18	08/22/18	11:38	<2.0	µg/L
18-10762	Lead	Band Hall DF (#52)	Drinking Water	08/17/18	07:08	08/22/18	11:43	<2.0	µg/L
18-10763	Lead	District Office sink (#53)	Drinking Water	08/17/18	07:17	08/22/18	11:49	<2.0	µg/L
18-10764	Lead	Kitchen sink (#58)	Drinking Water	08/17/18	07:30	08/22/18	12:07	3.79	µg/L
18-10765	Lead	Kitchen Cleveland (#60)	Drinking Water	08/17/18	07:39	08/22/18	12:25	<2.0	µg/L
18-10766	Lead	Kitchen line entry sink (#70)	Drinking Water	08/17/18	07:44	08/22/18	12:34	25.32	µg/L
18-10767	Lead	Kitchen Groen (#61)	Drinking Water	08/17/18	07:41	08/22/18	12:39	5.16	µg/L
18-10768	Lead	Kitchen toaster sink (#69)	Drinking Water	08/17/18	07:46	08/22/18	12:45	<2.0	µg/L
18-10769	Lead	Band sink (#78)	Drinking Water	08/17/18	07:49	08/22/18	12:50	<2.0	µg/L
18-10770	Lead	Band DF (#79)	Drinking Water	08/17/18	07:50	08/22/18	12:56	<2.0	µg/L
18-10771	Lead	Elem Office (#83)	Drinking Water	08/17/18	07:55	08/22/18	13:02	<2.0	µg/L
18-10772	Lead	Nurses Office (#84)	Drinking Water	08/17/18	07:53	08/22/18	13:08	<2.0	µg/L
18-10773	Lead	Staff Lounge (#87)	Drinking Water	08/17/18	07:57	08/22/18	13:13	<2.0	µg/L
18-10774	Lead	DCD sink (#89)	Drinking Water	08/17/18	08:13	08/22/18	13:58	<2.0	µg/L

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Sample Collected by: X Client    TCWC

Sample Temp.: 20° C

Notes: Sample locations flushed prior to sample collection.

Discussion: DF = drinking fountain



Bill Van Arsdale  
 Laboratory Manager

Approved By:

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