

February 25, 2019

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

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

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	 Lead was not detect ed. Tap may be used as normal; Record result and test again in 5 years; and Make all test results and lead education materials accessible to the community, such as on a website, or annual report, and available upon request.
2 ppb to 20 ppb	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. Options include: 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; 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; Make all test results and lead education materials accessible to the community, such as on a website, or annual report, and available upon request.
> 20 ppb	Action should be taken to reduce exposure. The specific action(s) taken will be dependent on individual school conditions. Options include: Remove tap from service until problem is demonstrably corrected by replacement, a flushing program, filtration, or treatment; Do not use tap for cooking or drinking water; 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; Implement a flushing protocol or other lead hazard reduction option; sampling should be use to evaluate effectiveness; 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 Provide targeted communication and education to individuals, parents, and staff members that routinely use that tap.

Water Sampling Results

The samples below collected at your school are within the Minnesota Department of Health guideline limit of <2.0 ppb. Using the flushing method helped to lower the lead in water amount. Continued use of the flushing method daily should keep this water source within the recommended limits set by the Minnesota Department of Health. Retesting of the potable water sources shall be completed in five years

Sample ID#	Fixture Location	Results (ppb)
18-14740	Kitchen Sink #58	<2.0ppb
18-14741 18-14743	Schnoll Science Rm (#6) Kitchen Groen #61	<2.0ppb <2.0ppb
18-14744	Eliason Science Room #26	<2.0ppb
*18-14742	Kitchen Line Entry Sink #70	4.55

^{*}This sample still came in over the recommended limit for the Minnesota Department of Health, which is <2.0ppb. It is however within the EPA guidelines of <15ppb. Since this result came in quite a bit lower than the original sample, I would suggest doing another retest with a longer flushing period on this water line. If a flush time of 20 minutes was tried we may get this down below the Minnesota Department of Health recommendation also.

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

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Cc: Andy Sertich, Account Manager

Twin Cit	y Wate	Twin City Water Clinic Laboratory Test Report	y Test Rep	oort		Minnesota State Laboratory ID# 027-053-119 Wisconsin State Laboratory ID# 105-10117 Wisconsin DNR Lab ID #399073400	ate Labora ate Labora NR Lab ID #	atory ID# 027 Itory ID# 105- #399073400	7-053-119 -10117	X No samples were subcontracted; or the above test
Client:	Moose L	Moose Lake Community School	Report	Report Number:	18-14740	Twin	City Wa	Twin City Water Clinic Inc.		result(s) with "** designation were produced by a subcontracted laboratory.
	MacNeil	MacNeil Environmental Inc	Sample Receipt Date: 11/9/18	ceipt Date:	11/9/18	617	13th Av	617 13th Avenue South		COT
Address:	21709 Pi	21709 Pine St. P.O. Box 826	Sample F	Sample Prep. Date: 11/9/18	11/9/18	Нс	pkins, l	Hopkins, MN 55343	w	MDH Certification for the field(s) of testing performed.
	Grand Ra	Grand Rapids,MN 55744	Sample P	Sample Prep. Time: 11:30	11:30	Pho	ne: (95	Phone: (952)935-3556	56	
			Report I	Report Issue Date: 11/12/18	11/12/18	Fa	x: (952)	Fax: (952)935-5077		
Laboratory	Analyte	Sample	Parameter	Sample Collection	ollection	Sample Analysis	nalysis	Test		Approved methods used in analyzing the
Sample ID		Location		Date	Time	Date	Time	Results	Units	samples listed above have the following
18-14740	Lead	Kitchen sink (#58)	Drinking Water	11/08/18	10:30	11/12/18	13:29	<2.0	µg/L	reporting levels:
18-14741	Lead	Schnoll (#6)	Drinking Water	11/08/18	10:50	11/12/18	13:34	<2.0	µg/L	SM3113 - Lead, 2.0 μg / L
18-14742	Lead	Kitchen line entry sink (#70)	Drinking Water 11/08/18	11/08/18	10:28	11/12/18	13:39	4.55	μg/L	Maximum contaminant level: Lead, 15.0 μg /L
18-14743	Lead	Kitchen Groen (#61)	Drinking Water	11/08/18	10:31	11/12/18	13:44	<2.0	μg/L	
18-14744	Lead	Eliason Science RM (#26)	Drinking Water 11/08/18	11/08/18	10:48	11/12/18	13:49	<2.0	μg/L	Sample Collected by: X Client TCWC
										Sample Temp.: 10° C

methods are certified by the Minnesota Department of Health, unless otherwise noted. 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

Approved By:

Bill Van Arsdale Laboratory Manager collection. These are retest results.

Discussion: DF = drinking fountain

Notes: Sample locations flushed prior to sample

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Sample Collected by: X Client TCWC		<2.0	13:49	11/12/18	10:48	11/08/18	Drinking Water	Eliason Science RM (#26)	Lead	18-14744
	1/8n	<2.0	13:44	11/12/18	10:31	11/08/18	Drinking Water	Kitchen Groen (#61)	Lead	18-14743
Maximum contaminant level: Lead, 15.0 μg/L		4.55	13:39	11/12/18	10:28	11/08/18	Drinking Water	Kitchen line entry sink (#70)	Lead	18-14742
SM3113 - Lead, 2.0 μg / L		<2.0	13:34	11/12/18	10:50	11/08/18	Drinking Water	Schnoll (#6)	Lead	18-14741
reporting levels:	µg/L	<2.0	13:29	11/12/18	10:30	11/80/11	Drinking Water	Kitchen sink (#58)	Lead	18-14740
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