



N O R T H E R N
Analytical Services, LLC.
ENVIRONMENTAL CONSULTANTS

November 14, 2018

Project No: 180300

Ali DuBois
Muskegon Montessori Academy
2950 McCracken Street
Norton Shores, Michigan 49441

Re: Water Testing
Muskegon Montessori Academy

Dear Mr. Larkin:

Please find the enclosed laboratory results from water samples Northern Analytical Services, LLC. (NAS) collected at the site. Samples were collected to determine the levels of the lead and copper present in drinking water at each of the fixtures tested. Testing was limited to those fixtures that tested above the detection limit in previous testing. Testing was performed as part of an annual inspection of your building.

Samples were collected on October 4, 2018 by Juston Rehkopf, a State of Michigan accredited Lead Based Paint Inspector (P05558) of NAS. Samples were collected by filling a single 250 milliliter container, pre-treated by the laboratory with acid, at each faucet/drinking fountain and delivering them to the laboratory for analysis. Sample collection was conducted in the morning prior to the water being used by occupants as a "first draw" sample. NAS did not flush or otherwise run each faucet or fountain prior to sample collection; to our knowledge each faucet and fountain sat dormant for at least 6 hours prior to sample collection.

Once delivered to the laboratory (Pace Analytical), samples were analyzed for the presence of copper and lead in accordance with US EPA method 200.8. A copy of the laboratory report is attached.

According to the US EPA's Lead and Copper rule, which applies to schools and child care facilities that meet the definition of a public water system, the practical quantitation limit (PQL) for lead is 0.005 micrograms of lead per liter of water (mg/L) and 0.050 mg/L for copper. The PQL is the concentration of lead or copper that can be reliably measured within specified limits during routine laboratory operating conditions using approved methods. The action level is the concentration of lead or copper in potable water which determines whether a system may be required to install corrosion control treatment, collect water quality parameter samples, collect source water samples, replace lead service lines, and /or deliver public education about lead. The action level for lead is 0.015 mg/L and 1.3 mg/L for copper.

Essentially the PQL is the limit of detection and the Action Level is the level at which steps should be taken in order to minimize or eliminate exposure to lead or copper. Actions to be taken when the action level is exceeded include the following:

- Public education-provide information to building occupants about the water quality.
- Water quality parameter (WQP) monitoring-establish a routine monitoring program.
- Source water monitoring and source water treatment if necessary.
- Corrosion control treatment (CCT).

Choice Schools Associates
Muskegon Montessori Academy
Water Quality Testing
Project No. 180300
November 14, 2018

The following is a summary of our findings by fixture:

MM-1 (See Attached Drawing)

Sample Date	Copper Concentration (mg/L)	Lead Concentration (mg/L)
9/13/17	0.24*	0.0015
10/04/18	0.080*	0.0018

MM-3 (See Attached Drawing)

Sample Date	Copper Concentration (mg/L)	Lead Concentration (mg/L)
9/13/17	0.27*	0.0022
10/04/18	0.48*	ND

MM-4 (See Attached Drawing)

Sample Date	Copper Concentration (mg/L)	Lead Concentration (mg/L)
9/13/17	0.018	ND
10/04/18	0.0053	ND

* exceeds the PQL for lead or copper.

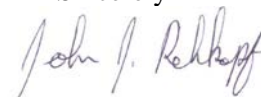
**exceeds the action level for lead or copper.

Based on the attached results, NAS recommends the following actions:

- Immediately post the public education poster found in appendix A of the Lead and Copper Rule near each faucet/fountain that exceeded the PQL for lead and distribute a copy of this information in pamphlet form to all building occupants.
- Immediately take the faucets/fountains described in samples TO-5 and TO-21 off line. Flush each of these units (allow water to run for at least 5 minutes) and re-test no sooner than 8 hours after flushing.
- Test the water source to determine the level of lead and copper present; copper levels appear to be elevated in most of the fixtures tested which suggests the water source may be responsible.
- Consider replacing these units if the re-test results exceed the PQL level.
- Consider the installation of point source (faucet/drinking fountain) water filtration for lead.
- Consider the replacement of all water pipes and fixtures as a permanent solution.
- Re-test all fixtures at least annually and following any major changes to the system.

NAS appreciates the opportunity to provide these services and looks forward to assisting you with any re-testing needed. Please do not hesitate to contact me with any questions.

Sincerely



John J. Rehkopf
President

October 18, 2018

John Rehkopf
Northern Analytical Services
14870 225th Avenue
Big Rapids, MI 49307

RE: Project: Muskegon Mont.
Pace Project No.: 4618672

Dear John Rehkopf:

Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melanie Booms
melanie.booms@pacelabs.com
(616)975-4500
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: Muskegon Mont.

Pace Project No.: 4618672

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512

Minnesota Department of Health, Certificate #1385941

Arkansas Department of Environmental Quality, Certificate
#18-046-0

Georgia Environmental Protection Division, Stipulation

Illinois Environmental Protection Agency, Certificate

#004325

Michigan Department of Environmental Quality, Laboratory

#0034

New York State Department of Health, Serial #57971 and
57972

North Carolina Division of Water Resources, Certificate
#659

Virginia Department of General Services, Certificate #9780

Wisconsin Department of Natural Resources, Laboratory

#999472650

U.S. Department of Agriculture Permit to Receive Soil,

Permit #P330-17-00278

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: Muskegon Mont.
Pace Project No.: 4618672

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4618672001	MM1	Drinking Water	10/04/18 11:36	10/05/18 13:22
4618672002	MM3	Drinking Water	10/04/18 11:37	10/05/18 13:22
4618672003	MM4	Drinking Water	10/04/18 11:38	10/05/18 13:22

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: Muskegon Mont.

Pace Project No.: 4618672

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4618672001	MM1	EPA 200.8	NHAM	2
4618672002	MM3	EPA 200.8	NHAM	2
4618672003	MM4	EPA 200.8	NHAM	2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Muskegon Mont.

Pace Project No.: 4618672

Sample: MM1		Lab ID: 4618672001		Collected: 10/04/18 11:36	Received: 10/05/18 13:22	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water		Analytical Method: EPA 200.8							
Copper	0.080	mg/L	0.0010		1		10/16/18 09:21	7440-50-8	
Lead	0.0018	mg/L	0.0010		1		10/16/18 09:21	7439-92-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Muskegon Mont.

Pace Project No.: 4618672

Sample: MM3 **Lab ID: 4618672002** Collected: 10/04/18 11:37 Received: 10/05/18 13:22 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water		Analytical Method: EPA 200.8							
Copper	0.48	mg/L	0.0020		2		10/16/18 13:47	7440-50-8	
Lead	ND	mg/L	0.0010		1		10/16/18 09:22	7439-92-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: Muskegon Mont.

Pace Project No.: 4618672

Sample: MM4 **Lab ID: 4618672003** Collected: 10/04/18 11:38 Received: 10/05/18 13:22 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water		Analytical Method: EPA 200.8							
Copper	0.0053	mg/L	0.0010		1		10/16/18 09:23	7440-50-8	
Lead	ND	mg/L	0.0010		1		10/16/18 09:23	7439-92-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: Muskegon Mont.
Pace Project No.: 4618672

QC Batch: 35847 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep
Associated Lab Samples: 4618672001, 4618672002, 4618672003

METHOD BLANK: 144810 Matrix: Water
Associated Lab Samples: 4618672001, 4618672002, 4618672003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	mg/L	ND	0.0010	10/16/18 08:46	
Lead	mg/L	ND	0.0010	10/16/18 08:46	

LABORATORY CONTROL SAMPLE: 144811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	mg/L	.02	0.019	96	85-115	
Lead	mg/L	.02	0.020	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 144812 144813

Parameter	Units	4618666001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result	MSD Result						
Copper	mg/L	0.030	.02	0.049	0.048	95	93	70-130	1	20		
Lead	mg/L	ND	.02	0.022	0.022	108	108	70-130	0	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 144815 144816

Parameter	Units	4618669003 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result	MSD Result						
Copper	mg/L	0.010	.02	0.029	0.029	96	94	70-130	1	20		
Lead	mg/L	ND	.02	0.023	0.022	111	107	70-130	4	20		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: Muskegon Mont.

Pace Project No.: 4618672

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Muskegon Mont.

Pace Project No.: 4618672

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4618672001	MM1	EPA 200.8	35847		
4618672002	MM3	EPA 200.8	35847		
4618672003	MM4	EPA 200.8	35847		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

WO#: 4618672



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section C

Invoice Information: Report to: John Rehkopf
 Attention: John Rehkopf
 Company Name: Northern Analytical Services
 Address: 14870 225th Avenue
 Big Rapids, MI 49307
 E-mail: john@northernas.com
 Phone: (231)679-0005 Fax: _____
 Requested Due Date: _____

Project Name: DWTR Cu & Pb Muskogee Market
 Project #: 190300
 Purchase Order #: _____
 PACE Project Manager: melanie.booms@pacelabs.com
 PACE Profile #: 479

Regulatory Agency: _____
 State / Location: MI

Page: 1 Of 1

# ITEM	MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique	COLLECTED		DATE	TIME	DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	DATE	TIME	TEMP in C	Received on	Ice (Y/N)	Sealed (Y/N)	Custody (Y/N)	Samples Intact (Y/N)	
				START	END																		
1			MM1			10-4	11:36																
2			MM3				11:37																
3			MM5				11:38																
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Additional Comments: Justin Rehkopf 10/5/18 1:19
 Relinquished by: Justin Rehkopf 10/5/18 1:19
 Date: 10/5/18 13:02
 Accepted by: Lynn Regel
 Date: 10-5-18
 Signature: Justin Rehkopf
 Signature: Lynn Regel
 Date Signed: 10-5-18



Sample Conditions Upon Rec

WO#: 4618672

Date: 10/5/18	Evaluated by: PS	PM: MSB	Due Date: 10/19/18	ice
Client: Northern Analytical		CLIENT: NORTH ANALYT		
Profile ID:	Project Manager:			
Sample Receiving Non Conformance Form Required: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Rush Turn Around Time Requested: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> Due Date:			
Page Of	Lab Notified of Rush or Short Holds: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>			

Lab Sample Receipt Checklist:

Samples Received Via:	FEDEX	UPS	CLIENT	PACE COURIER
Custody Seals Present and Intact:	YES	NO	NA	
USDA Regulated Soils:	YES	NO	NA	
Short Holds Present (< 72 Hours):	YES	NO	NA	
Samples Received in Hold:	YES	NO	NA	
Custody Signatures Present:	YES	NO	NA	
Collector Signature Present:	YES	NO	NA	
Samples Received On Ice:	YES	NO	NA	
Type of Ice: WET BLUE DRY NONE				
Packing Material Used:	YES	NO	NA	
IR Gun #: 202 329 402 Temp should be 0-6°C	Cooler Temp Upon Receipt: 11.4 °C			
Temp Blank Received:	YES	NO	NA	
Trip Blank Received: Type: HCL MeOH TSP OTHER	YES	NO	NA	
Bottles Intact:	YES	NO	NA	
Correct Bottles:	YES	NO	NA	
Sufficient Volume:	YES	NO	NA	
Sample pH Acceptable: All containers needing preservation are found to be in compliance with EPA recommendation Exceptions are VOA, coliform, TOC, O & G, HEM, DRO	YES	NO	NA	pH Strip Lot Number: HC734245
VOA Headspace Acceptable (<6mm):	YES	NO	NA	
Comments: Drinking waters				