



Environmental Services, Inc.

30553 Wixom Road, Suite 500 • Wixom, Michigan 48393 • Voice: 248.926.3800 • Fax: 248.926.3838
12330 Perry Highway, Suite 240 • Wexford, PA 15090 • Voice: 412.463.6576

**DRINKING WATER TESTING REPORT
(COPPER AND LEAD)**

(Results of Testing Conducted on April 29, 2016)

**PERFORMANCE ENVIRONMENTAL SERVICES
Project # 161311**

FOR

**Ms. Regan Hamilton
Director of Facilities
Cornerstone Charter Schools
P.O. Box 2000
Taylor, Michigan 48180**

AT

**Washington Parks Academy
11685 Appleton
Redford, MI**

Report Date: May 12, 2016

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1.0 SUMMARY OF FINDINGS

In accordance with your request, Performance Environmental Services, Inc. (*Performance*) conducted drinking water testing on April 29, 2016 at Washington Parks Academy located at 11685 Appleton in Detroit, Michigan. The purpose of the testing was to document the absence or presence of potential health hazards associated with the exposure of copper and lead in the drinking water. The study included the collection of representative drinking water samples.

The results of the drinking water testing do not indicate a need for response actions to reduce exposure at this time.

Enclosed, please find the Drinking Water Testing Report. If there are any questions or comments concerning this report or our recommendations, please do not hesitate to contact us.

Respectfully,

PERFORMANCE ENVIRONMENTAL SERVICES, INC.



Dennis A. Wood
Senior Project Manager

DAW:hr

2.0 BACKGROUND

In accordance with your request, Performance Environmental Services, Inc. (*Performance*) conducted drinking water testing for copper and lead at Washington Parks Academy located at 11685 Appleton in Redford, Michigan. The purpose of the testing was to document the absence or presence of potential health hazards associated with copper and lead in the drinking water as described in the EPA document entitled “3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance” for facilities not defined as a public water system who are required to adhere to the EPA Lead and Copper Rule (40 CFR Part 141 Subpart I). The study included the collection of representative drinking water samples. *Performance* conducted the drinking water testing on April 29, 2016.

3.0 ASSESSMENT METHODOLOGY

3.1 Drinking Water Testing

Performance implemented sampling methodologies as described in section 4 of the “3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance” to collect drinking water samples for concentrations of copper and lead. The samples were collected first draw (stagnant sample) using laboratory provided 250 ml containers. The samples were maintained under a chain-of-custody record and submitted to a laboratory for analysis by Inductively Coupled Plasma – Mass Spectrometry (EPA method 200.8). The samples were analyzed by Brighton Analytical, L.L.C. located at 2105 Pless Drive, Brighton, MI 48116 (810)229-7575.

4.0 RESULTS

4.1 Drinking Water Analysis

Nineteen (19) samples were collected for concentrations of copper and lead. The EPA Lead and Copper rule requires that copper concentrations not exceed an action level of 1.3 ppm (1,300 ppb) and lead concentrations not exceed an action level of 20 ppb. The results are as follows:

Copper Results:

Sample ID	Location	Result (ppb)	EPA Action Level (ppb)
11685-1	Drinking fountain at door 9	90	1,300
11685-2	Kitchen sink in faculty lounge	400	1,300
11685-3	Kitchen wash sink	440	1,300
11685-4	Principal’s bathroom sink	100	1,300
11685-5	Mail room sink	380	1,300
11685-6	Boys bathroom sink by room 121	240	1,300
11685-7	Sink in room 121	910	1,300
11685-8	East drinking fountain by room 125	300	1,300
11685-9	West drinking fountain by room 125	200	1,300
11685-10	East drinking fountain across from room 132	390	1,300
11685-11	West drinking fountain across from room 132	210	1,300
11685-12	Sink in room 131	150	1,300

Sample ID	Location	Result (ppb)	EPA Action Level (ppb)
11685-13	Southwest sink in room 145	900	1,300
11685-14	East 2nd floor drinking fountain by room 223	310	1,300
11685-15	West 2nd floor drinking fountain by room 223	240	1,300
11685-16	Sink in 2nd floor copy room	490	1,300
11685-17	East 2nd floor drinking fountain by room 231	90	1,300
11685-18	West 2nd floor drinking fountain by room 231	100	1,300
11685-19	Sink in 2nd floor teachers bathroom next to room 231	140	1,300

Lead Results:

Sample ID	Location	Result (ppb)	EPA Action Level (ppb)
11685-1	Drinking fountain at door 9	Not detected	20
11685-2	Kitchen sink in faculty lounge	1	20
11685-3	Kitchen wash sink	Not detected	20
11685-4	Principal's bathroom sink	1	20
11685-5	Mail room sink	Not detected	20
11685-6	Boys bathroom sink by room 121	1	20
11685-7	Sink in room 121	Not detected	20
11685-8	East drinking fountain by room 125	Not detected	20
11685-9	West drinking fountain by room 125	Not detected	20
11685-10	East drinking fountain across from room 132	Not detected	20
11685-11	West drinking fountain across from room 132	Not detected	20
11685-12	Sink in room 131	Not detected	20
11685-13	Southwest sink in room 145	15	20
11685-14	East 2nd floor drinking fountain by room 223	Not detected	20
11685-15	West 2nd floor drinking fountain by room 223	Not detected	20
11685-16	Sink in 2nd floor copy room	10	20
11685-17	East 2nd floor drinking fountain by room 231	Not detected	20
11685-18	West 2nd floor drinking fountain by room 231	Not detected	20
11685-19	Sink in 2nd floor teachers bathroom next to room 231	Not detected	20

5.0 BACKGROUND INFORMATION

5.1 Health Effects of Lead Exposure

Lead can cause serious health problems if too much enters your body from drinking water or other sources. Some facts about lead exposure include:

- Infants, young children and pregnant women are at greatest risk to lead exposure;

- Increased lead levels have been shown to cause damage to the brain and kidneys;
- Increased lead levels interfere with the production of red blood cells that carry oxygen to all parts of your body;
- Scientists have linked the effects of lead on the brain to lowered intelligence quotient (IQ) in children;
- Adults with kidney problems and high blood pressure can be affected by lower levels of lead more than healthy adults;
- Lead is stored in the bones and it can be released later in life; and,
- During pregnancy, the fetus can receive lead from the mother's bones which may affect brain development.

5.2 Health Effects of Copper Exposure

Excess copper exposure can cause stomach and intestinal distress, liver or kidney damage, and complications of Wilson's disease. In addition, children's bodies absorb more copper than the average adult because of their rapid development and higher metabolism.

6.0 LIMITATIONS

The results of our tests represent conditions only at the time sampling occurred; thus, this report should not be relied on to represent conditions at other locations, times, or dates. Our opinions are based upon findings and upon our professional expertise with no warranty or guarantee implied herein. This report is intended for the sole use of your firm and its assigned agents. *Performance* accepts no responsibility for interpretation of this report by others. Its content shall not be used or relied on by other parties without prior written authorization of *Performance*.

APPENDIX

ANALYTICAL RESULTS

CONTENTS

-
- ▶ **CERTIFICATES OF LABORATORY ANALYSIS**
 - ▶ **CHAIN OF CUSTODY RECORDS**

May 10, 2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

Subject: Washington Parks Academy-11685 Appleton
Redford, MI, 161311

Dear Mr. Carpenter :

Thank you for making Brighton Analytical, L.L.C. your laboratory of choice. Attached are the results for the samples submitted on 04/29/2016 for the above mentioned project. NELAP/TNI Accredited Analysis and MDEQ Drinking Water Certified Analysis will be identified in their respective reporting formats. Hard copies can be supplied at your request for a fee of \$20.00 per copy.

The invoice for this project will be emailed separately. If you have any questions concerning the data or invoice, please don't hesitate to contact our office. We welcome your comments and suggestions to improve our quality systems. Please reference Brighton Analytical, L.L.C. Project ID 38813 when calling or emailing. We thank you for this opportunity to partner with you on this project and hope to work with you again in the future.

Sincerely,
Brighton Analytical, L.L.C.

BA Brighton Analytical, L.L.C. TM <small>Email: bai-brighton@sbglobal.net</small> 2105 Pless Drive Brighton, MI 48114 Phone: 810-229-7575 Fax: 810-229-8650		BA PROJECT #: 38813		Analysis Requested/Method										PAGE <u>1</u> OF <u>2</u> COMPANY/MAILING ADDRESS: Performance Environmental 30553 S. Wixom Rd Wixom, MI 48393 ATTN: Lab data PHONE: 248-926-3800 FAX OR EMAIL:	
		PROJECT NAME: Washington Parks Academy - 11685 Appleton, Redford, MI PROJECT #: 161311 PO #: (PLEASE NOTE IF DIFFERENT BILLING ADDRESS)		Sample Matrix										Samples received within hold time? yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Temperature of samples °C: pHs verified in login? yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Headspace/bubbles in VOA's? yes <input type="checkbox"/> no <input type="checkbox"/> n/a <input checked="" type="checkbox"/> Sample containers and COC match? yes <input checked="" type="checkbox"/> no <input type="checkbox"/>	
Sample collected by: <u>Thomas W. Carpenter</u> REQUESTED TURNAROUND: (circle one) Rush: 1-3 business days (verify with lab & specify date needed) 1 Day - 2.5X Cost 2 Day - 2X Cost 3 Day - 1.5X Cost Standard: 5 business days		IF RUSH, approved by: _____ Sample Coll. Date Time		Container Type & Quantity										MEQ Preserved Y N STERILIZED BACTERIA GLASS, NO PRESERVATIVE AMBER PRESERVED? HDPE NAOH HDPE H ₂ SO ₄ HDPE HNO ₃ HDPE UNPRESERVED VOAS (PRES) Y N N/A	
				Sample Description											
Brighton ID #		Sample Description										Date		Time	
1) 1675 11685-1 DF		4-29 9:00										X		X	
2) 76 11685-2 Sink		9:05										X		X	
3) 77 11685-3 Sink		9:06										X		X	
4) 78 11685-4 Sink		9:08										X		X	
5) 79 11685-5 Sink		9:09										X		X	
6) 80 11685-6 Sink		9:10										X		X	
7) 81 11685-7 Sink		9:12										X		X	
8) 82 11685-8 DF		9:13										X		X	
9) 83 11685-9 DF		9:14										X		X	
10) 84 11685-10 DF		9:15										X		X	
Drinking H ₂ O: Fax to LCHD? yes <input type="checkbox"/> no <input checked="" type="checkbox"/> Chlorinated Water Supply? yes <input checked="" type="checkbox"/> no <input type="checkbox"/> AMT: <u>AA</u>														MCL Failure: yes <input type="checkbox"/> no <input checked="" type="checkbox"/> Client Notified (date/time/initials): _____	

Special Instructions:

Please fill out the Chain of Custody completely and review. Incorrect or incomplete information will result in a "hold" on all analyses.

Trans. #	RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	RELINQUISHED BY:	DATE:	TIME:
1	Thomas W. Carpenter		4-29-14	2:50pm			
2							



Brighton Analytical, L.L.C.™

Email: bai-brighton@sbglobal.net

2105 Pless Drive

Brighton, MI 48114

Phone: 810-229-7575

Fax: 810-229-8650

PROJECT NAME: Washington Parks Academy - 11685 Appleton, Redford, MI

PROJECT #:

161311

PO #: (PLEASE NOTE IF DIFFERENT BILLING ADDRESS)

Sample collected by: Thomas W. Carpenter

REQUESTED TURNAROUND: (circle one)

Rush: 1-3 business days (verify with lab & specify date needed)

1 Day = 2.5X Cost 2 Day = 2X Cost 3 Day = 1.5X Cost

Standard: 5 business days

IF RUSH, approved by:

Sample Coll.

Date Time

Sample Description

Brighton ID #

1) 11685 11685-11 DF 4-29 9:20

2) 88 11685-12 Sink 9:22

3) 87 11685-13 Sink 9:24

4) 88 11685-14 DF 9:26

5) 89 11685-15 DF 9:28

6) 90 11685-16 Sink 9:30

7) 91 11685-17 DF 9:40

8) 92 11685-18 DF 9:43

9) 93 11685-19 Sink 9:45

10)

Special Instructions:

Please fill out the Chain of Custody completely and review. Incorrect or incomplete information will result in a "hold" on all analyses.

Trans. #	RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	Trans. #	RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:
1	Thomas W. Carpenter	DeeDee	4-29-16	2:50 PM	3				
2					4				

BA PROJECT #: 30813		Analysis Requested/Method		PAGE 2 OF 2	
ABBREVIATIONS FOR MATRIX S = Solid L = Liquid DW = Drinking H ₂ O O = Oil P = Wipe A = Air (Tetlar Bag) F = Filter T = Tube M = Misc.		COMPANY/MAILING ADDRESS: Performance Environmental 30553 S. Wixom Rd. Wixom, MI 48393 ATTN: Lab data PHONE: 248-926-3800 FAX OR EMAIL:			
Container Type & Quantity		Samples received within hold time? yes <input type="checkbox"/> no <input type="checkbox"/>		Temperature of samples °C:	
VOA'S (PRES) Y N NA		pHs verified in login? yes <input type="checkbox"/> no <input type="checkbox"/>		Headspace/bubbles in VOA's? yes <input type="checkbox"/> no <input type="checkbox"/> n/a <input type="checkbox"/>	
HDPE UNPRESERVED		Sample containers and COC match? yes <input type="checkbox"/> no <input type="checkbox"/>		BILLING ADDRESS (IF REQUIRED):	
HDPE HNO ₃					
HDPE H ₂ SO ₄					
HDPE NAOH					
AMBER PRESERVED?					
CLASS, NO PRESERVATIVE					
STERILIZED BACTERIA					
MEOH Preserved Y N					

Drinking H₂O:

Fax to LCHD? yes ☐ no ☐

Chlorinated Water Supply? yes ☐ no ☐

AMT: _____

MCL Failure: yes ☐ no ☐

Client Notified (date/time/initials): _____

Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507



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NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:05
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01676**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-2 Sink**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	400	ug/L	20	1300	EPA 200.8 rev5.4	05:17	05/06/2016
Total Lead (Drinking Water)	1	ug/L	1	15	EPA 200.8 rev5.4	05:17	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date

[Signature]
5/10/16



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Phone: (810)229-7575 (810)229-8650
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NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:08
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01678**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-4 Sink**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	100	ug/L	20	1300	EPA 200.8 rev5.4	05:26	05/06/2016
Total Lead (Drinking Water)	1	ug/L	1	15	EPA 200.8 rev5.4	05:26	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

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Date

W. Fred
5/10/16



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Sample Date/Time: 4/29/2016 09:09
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01679**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-5 Sink**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
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Drinking Water Metal Analysis

Total Copper (Drinking Water)	380	ug/L	20	1300	EPA 200.8 rev5.4	05:31	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	05:31	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by _____

Date _____

[Signature]
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Sample Date/Time: 4/29/2016 09:10
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01680**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-6 Sink**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	240	ug/L	20	1300	EPA 200.8 rev5.4	05:35	05/06/2016
Total Lead (Drinking Water)	1	ug/L	1	15	EPA 200.8 rev5.4	05:35	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date

[Signature]
5/10/16



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Sample Date/Time: 4/29/2016 09:12
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01681**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-7 Sink**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
--------------	--------	-------	----	-----	------------------	---------------	---------------

Drinking Water Metal Analysis

Total Copper (Drinking Water)	910	ug/L	20	1300	EPA 200.8 rev5.4	05:40	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	05:40	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date

[Signature]
5/10/16



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Sample Date/Time: 4/29/2016 09:13
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01682**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-8 DF**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	300	ug/L	20	1300	EPA 200.8 rev5.4	05:58	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	05:58	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date

utropeol
5/10/16



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e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:14
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01683**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-9 DF**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	200	ug/L	20	1300	EPA 200.8 rev5.4	06:03	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	06:03	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

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Date

[Signature]
5/10/16



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NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:15
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01684**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-10 DF**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	390	ug/L	20	1300	EPA 200.8 rev5.4	06:07	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	06:07	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date

W. Ford
5/10/16



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MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:20
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01685**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-11 DF**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	210	ug/L	20	1300	EPA 200.8 rev5.4	06:25	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	06:25	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by _____

Date _____

[Signature]
5/10/16



Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:22
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01686**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-12 Sink**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	150	ug/L	20	1300	EPA 200.8 rev5.4	06:30	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	06:30	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by W. Wood
Date 5/10/16



Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:22
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01687**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-13 Sink**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	900	ug/L	20	1300	EPA 200.8 rev5.4	06:34	05/06/2016
Total Lead (Drinking Water)	15	ug/L	1	15	EPA 200.8 rev5.4	06:34	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date

[Signature]
5/10/16



Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:26
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01688**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-14 DF**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	310	ug/L	20	1300	EPA 200.8 rev5.4	06:39	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	06:39	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by _____

Date _____

[Signature]
5/10/16

Date _____



Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:30
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01690**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-16 Sink**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	490	ug/L	20	1300	EPA 200.8 rev5.4	07:02	05/06/2016
Total Lead (Drinking Water)	10	ug/L	1	15	EPA 200.8 rev5.4	07:02	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by _____

Date _____

[Signature]
5/10/16



Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:40
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01691**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-17 DF**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	90	ug/L	20	1300	EPA 200.8 rev5.4	07:06	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	07:06	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by _____

Date _____

[Signature]
5/10/16



Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:43
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01692**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-18 DF**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	100	ug/L	20	1300	EPA 200.8 rev5.4	07:11	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	07:11	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date


5/10/16



Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 4/29/2016 09:45
Submit Date/Time: 4/29/2016 14:50
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38813**
BA Sample ID **CD01693**

Project Name: **Washington Parks Academy-11685 Appleton**
Project Number: **Redford, MI, 161311**
Sample ID: **11685-19 Sink**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
Drinking Water Metal Analysis							
Total Copper (Drinking Water)	140	ug/L	20	1300	EPA 200.8 rev5.4	07:15	05/06/2016
Total Lead (Drinking Water)	Not detected	ug/L	1	15	EPA 200.8 rev5.4	07:15	05/06/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date

[Signature]
5/10/16



BRIGHTON ANALYTICAL, LLC

QUALITY ASSURANCE/QUALITY
CONTROL

ICP-MS

METHOD 200.8/6020

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: 5/6/2016	Standard ID: 050416 H2O	Batch: 5/4/2016 W5
Matrix Spike Lab ID: CD01684	Matrix: Total	Analyst: LT

Metals	Matrix Spike - Precision *			Matrix Spike - Accuracy**				Miscellaneous***		
	Matrix Spike (ug/kg)	Matrix Spike Dup (ug/kg)	RPD (%)	Spk Conc (ug/kg)	MS Recovery (%)	MSD Recovery (%)	Sample Conc (ug/kg)	Method Blk (ug/kg)	LCS-Method STD (%)	Ind. Std. (%)
Copper	1473	1445	1.9	1000	108.3	105.5	390	<20	104.9	97.7
Lead	962	955	0.7	1000	96.2	95.5	0	<1	97.6	92.8

* Matrix spike precision range +/- 20% RPD

** Matrix spike accuracy range +/- 20% recovery

*** LCS accuracy range +/- 15% recovery / Ind std accuracy range +/- 10% recovery

Comments: _____



Environmental Services, Inc.

30553 Wixom Road, Suite 500 • Wixom, Michigan 48393 • Voice: 248.926.3800 • Fax: 248.926.3838
12330 Perry Highway, Suite 240 • Wexford, PA 15090 • Voice: 412.463.6576

**POST REMEDIATION DRINKING WATER TESTING REPORT
(COPPER AND LEAD)**

(Results of Testing Conducted on August 22, 2016)

**PERFORMANCE ENVIRONMENTAL SERVICES
Project # 161540**

FOR

**Ms. Regan Hamilton
Director of Facilities
Cornerstone Charter Schools
P.O. Box 2000
Taylor, Michigan 48180**

AT

**Washington Parks Academy
11685 Appleton
Redford, MI**

Report Date: August 25, 2016

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1.0 SUMMARY OF FINDINGS

In accordance with your request, Performance Environmental Services, Inc. (*Performance*) conducted post remediation drinking water testing on August 22, 2016 at Washington Parks Academy located at 11685 Appleton in Redford, Michigan. The purpose of the testing was to document the absence or presence of potential health hazards associated with the exposure of copper and lead in the drinking water after remediation activities. The study included the collection of a representative drinking water sample.

The results of the drinking water testing do not indicate a need for response actions to reduce exposure at this time.

Enclosed, please find the Drinking Water Testing Report. If there are any questions or comments concerning this report or our recommendations, please do not hesitate to contact us.

Respectfully,

PERFORMANCE ENVIRONMENTAL SERVICES, INC.



Dennis A. Wood
Senior Project Manager

DAW:hr

2.0 BACKGROUND

In accordance with your request, Performance Environmental Services, Inc. (*Performance*) conducted post remediation drinking water retesting for copper and lead at Washington Parks Academy located at 11685 Appleton in Redford, Michigan. The purpose of the testing was to document the absence or presence of potential health hazards associated with copper and lead in the drinking water. The study included the collection of a representative drinking water sample from a location that originally exceeded the MDEQ level of 15 ppb. *Performance* conducted the drinking water testing on August 22, 2016.

3.0 ASSESSMENT METHODOLOGY

3.1 Drinking Water Testing

Performance implemented sampling methodologies as described in section 4 of the “3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance” to collect drinking water samples for concentrations of copper and lead. The sample was collected first draw (stagnant sample) using laboratory provided 250 ml containers. The sample was maintained under a chain-of-custody record and submitted to a laboratory for analysis by Inductively Coupled Plasma – Mass Spectrometry (EPA method 200.8). The sample was analyzed by Brighton Analytical, L.L.C. located at 2105 Pless Drive, Brighton, MI 48116 (810)229-7575.

4.0 RESULTS

4.1 Drinking Water Analysis

One (1) sample was collected for concentrations of copper and lead. The EPA Lead and Copper rule requires that copper concentrations not exceed an action level of 1.3 ppm (1,300 ppb) and lead concentrations not exceed an action level of 15 ppb. The results are as follows:

Copper Results:

Sample ID	Location	Result (ppb)	MDEQ/EPA Action Level For Schools (ppb)
8*22-01	SW sink in room 145	580	1,300

Lead Results:

Sample ID	Location	Result (ppb)	MDEQ/EPA Action Level For Schools (ppb)
8*22-01	SW sink in room 145	6	15

5.0 BACKGROUND INFORMATION

5.1 Health Effects of Lead Exposure

Lead can cause serious health problems if too much enters your body from drinking water or other sources. Some facts about lead exposure include:

- Infants, young children and pregnant women are at greatest risk to lead exposure;
- Increased lead levels have been shown to cause damage to the brain and kidneys;
- Increased lead levels interfere with the production of red blood cells that carry oxygen to all parts of your body;
- Scientists have linked the effects of lead on the brain to lowered intelligence quotient (IQ) in children;
- Adults with kidney problems and high blood pressure can be affected by lower levels of lead more than healthy adults;
- Lead is stored in the bones and it can be released later in life; and,
- During pregnancy, the fetus can receive lead from the mother's bones which may affect brain development.

5.2 Health Effects of Copper Exposure

Excess copper exposure can cause stomach and intestinal distress, liver or kidney damage, and complications of Wilson's disease. In addition, children's bodies absorb more copper than the average adult because of their rapid development and higher metabolism.

6.0 LIMITATIONS

The results of our tests represent conditions only at the time sampling occurred; thus, this report should not be relied on to represent conditions at other locations, times, or dates. Our opinions are based upon findings and upon our professional expertise with no warranty or guarantee implied herein. This report is intended for the sole use of your firm and its assigned agents. *Performance* accepts no responsibility for interpretation of this report by others. Its content shall not be used or relied on by other parties without prior written authorization of *Performance*.

APPENDIX

ANALYTICAL RESULTS

CONTENTS

- ▶ **CERTIFICATES OF LABORATORY ANALYSIS**
- ▶ **CHAIN OF CUSTODY RECORD**

August 25, 2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

Subject: Cornerstone Schools Assoc. 11685 Appleton, Redford
161540 SW Sink Room 145

Dear Mr. Varcoe :

Thank you for making Brighton Analytical, L.L.C. your laboratory of choice. Attached are the results for the samples submitted on 08/22/2016 for the above mentioned project. NELAP/TNI Accredited Analysis and MDEQ Drinking Water Certified Analysis will be identified in their respective reporting formats. Hard copies can be supplied at your request for a fee of \$20.00 per copy.

The invoice for this project will be emailed separately. If you have any questions concerning the data or invoice, please don't hesitate to contact our office. We welcome your comments and suggestions to improve our quality systems. Please reference Brighton Analytical, L.L.C. Project ID 40583 when calling or emailing. We thank you for this opportunity to partner with you on this project and hope to work with you again in the future.

Sincerely,
Brighton Analytical, L.L.C.





Brighton Analytical, L.L.C.
Email: ba@brighton-analytical.net

2105 Pless Drive
Brighton, MI 48114
Phone: 810-229-7575
Fax: 810-229-8650

PROJECT NAME: Cornstone Schools Association

PROJECT #: 161540 Sewer Sink in Room 145

PO #: (PLEASE NOTE IF DIFFERENT BILLING ADDRESS)

Sample collected by:

REQUESTED TURNAROUND: (circle one)
Rush: 1-3 business days (verify with lab & specify date needed)
1 Day = 2.5X Cost 2 Day = 2X Cost 3 Day = 1.5X Cost
Standard: 5 business days

If RUSH, approved by: _____
Sample Coll. _____

Container Type & Quantity						
VOA'S (PRES) Y N N/A	HDPE UNPRESERVED	HDPE HNO ₃	HDPE H ₂ SO ₄	HDPE NAOH	AMBER PRESERVED?	GLASS, NO PRESERVATIVE
						STERILIZED BACTERIA
						MEOH Preserved Y N

Sample Matrix

Copper and Lead
Hold

BA PROJECT #:
40583

Analysis Requested/Method

PAGE 1 OF 1
COMPANY/MAILING ADDRESS:

Performance Env
30553 Wilken Rd

ATTN: William 48393

PHONE: 248-926-3800

FAX OR EMAIL:

Samples received within hold time? yes ☒ no ☐

Temperature of samples °C:

pHs verified in login? yes ☒ no ☐

Headspace/bubbles in VOA's? yes ☐ no ☐ n/a ☒

Sample containers and COC match? yes ☒ no ☐

BILLING ADDRESS (IF REQUIRED):

Trans. #	RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	Trans. #	RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:
1	<u>WJ</u>	<u>WJ</u>	<u>8/22</u>	<u>1230</u>	3				
2					4				

Special Instructions:

Please fill out the Chain of Custody completely and review. Incorrect or incomplete information will result in a "hold" on all analyses.

Drinking H₂O:

Fax to LCHD? yes ☐ no ☒

Chlorinated Water Supply? yes ☐ no ☒

AMT: 100

MCL Failure: yes ☐ no ☐

Client Notified (date/time/initials): _____



Brighton Analytical LLC
2105 Pless Drive
Brighton, Michigan 48114
Phone: (810)229-7575 (810)229-8650
e-mail: bai-brighton@sbcglobal.net
MDNRE Certified #9404
NELAC Accredited #176507

Sample Date/Time: 8/22/2016 11:15
Submit Date/Time: 8/22/2016 12:30
Report Date: 8/25/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **40583**
BA Sample ID **CE00399**

Project Name: **Cornerstone Schools Assoc. 11685 Appleton, Redford**
Project Number: **161540 SW Sink Room 145**
Sample ID: **8X22-01 First Draw**

Analyte Name	Result	Units	RL	MCL	Method Reference	Analysis Time	Analysis Date
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Drinking Water Metal Analysis

Total Copper (Drinking Water)	580	ug/L	20	1300	EPA 200.8 rev5.4	18:28	08/24/2016
Total Lead (Drinking Water)	6	ug/L	1	15	EPA 200.8 rev5.4	18:28	08/24/2016

RL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

MCL = Maximum contaminant Levels.

Analysis not specifically identified as drinking water are for non-regulatory compliance purposes.

Released by

Date


8/25/16



BRIGHTON ANALYTICAL, LLC

QUALITY ASSURANCE/QUALITY
CONTROL

ICP-MS METHOD 200.8

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: 8/24/2016

Standard ID: 082216 H2O

Batch: 8/23/2016 W1

Matrix Spike Lab ID: CE00399

Matrix: Total

Analyst: LT

Metals	Matrix Spike - Precision *			Matrix Spike - Accuracy**				Miscellaneous***		
	Matrix Spike (ug/L)	Matrix Spike Dup (ug/L)	RPD (%)	Spk Conc (ug/L)	MS Recovery (%)	MSD Recovery (%)	Sample Conc (ug/L)	Method Blk (ug/L)	LCS-Method STD (%)	Ind. Std. SPEX 1&3 (%)
Sodium	14387	14320	0.5	10000	97.0	96.3	4692	<100	96.4	91.4
Magnesium	16407	16351	0.3	10000	92.8	92.3	7123	<100	95.3	90.9
Potassium	10227	10210	0.2	10000	93.2	93.1	904	<100	95.0	91.5
Calcium	35255	34564	2.0	10000	94.9	88.0	25762	<100	93.4	90.1
Copper	1548	1535	0.8	1000	96.8	95.5	580	<20	99.8	95.0
Arsenic	944	953	0.9	1000	94.4	95.3	0	<1	95.5	90.8
Lead	970	966	0.4	1000	96.4	96.0	6	<1	97.7	91.6

* Matrix spike precision range +/- 20% RPD

** Matrix spike accuracy range +/- 20% recovery

*** LCS accuracy range +/- 15% recovery / Ind std accuracy range +/- 10% recovery

Comments: _____