PERFORMANCE
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 # 161312**

FOR

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

AT

**Madison-Carver Academy**
**19900 McIntyre Street**
**Detroit, MI**

**Report Date: May 12, 2016**

# TABLE OF CONTENTS


1.0 SUMMARY OF FINDINGS ..... 1

2.0 BACKGROUND ..... 2

3.0 ASSESSMENT METHODOLOGY ..... 2

3.1 Drinking Water Testing ..... 2

4.0 RESULTS ..... 2

4.1 Drinking Water Analysis ..... 2

5.0 BACKGROUND INFORMATION ..... 3

5.1 Health Effects of Lead Exposure ..... 3

5.2 Health Effects of Copper Exposure ..... 4

6.0 LIMITATIONS ..... 4

APPENDIX ..... ANALYTICAL RESULTS

## 1.0 SUMMARY OF FINDINGS

In accordance with your request, Performance Environmental Services, Inc. (*Performance*) conducted drinking water testing on April 29, 2016 at Madison-Carver Academy located at 19900 McIntyre Street 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 Madison-Carver Academy located at 19900 McIntyre Street in Detroit, 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

Fifteen (15) 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) |
|---|---|---|---|
| 19900-01 | Fountain – Outside main office | 390 | 1,300 |
| 19900-02 | Sink – Kitchen food prep | 350 | 1,300 |
| 19900-03 | Sink – Teacher's lounge | 90 | 1,300 |
| 19900-04 | Fountain – Auditorium | 180 | 1,300 |
| 19900-05 | Fountain – Room 144 | 130 | 1,300 |
| 19900-06 | Sink – Room 144 | 620 | 1,300 |
| 19900-07 | Sink – Room 141 | 1,000 | 1,300 |
| 19900-08 | Fountain – Room 141 | 60 | 1,300 |
| 19900-09 | Fountain – Room 139 | 220 | 1,300 |
| 19900-10 | Sink – Room 139 | 1,100 | 1,300 |
| 19900-11 | Fountain – Room 138 | 770 | 1,300 |
| 19900-12 | Fountain – Room 137 | 400 | 1,300 |

| Sample ID | Location | Result (ppb) | EPA Action Level (ppb) |
|---|---|---|---|
| 19900-13 | Fountain – Near room 224 | 100 | 1,300 |
| 19900-14 | Fountain – Next to room 221 | 120 | 1,300 |
| 19900-15 | Sink – 2nd Floor teacher's lounge | 690 | 1,300 |

**Lead Results:**

| Sample ID | Location | Result (ppb) | EPA Action Level (ppb) |
|---|---|---|---|
| 19900-01 | Fountain – Outside main office | Not detected | 20 |
| 19900-02 | Sink – Kitchen food prep | 1 | 20 |
| 19900-03 | Sink – Teacher's lounge | Not detected | 20 |
| 19900-04 | Fountain – Auditorium | Not detected | 20 |
| 19900-05 | Fountain – Room 144 | Not detected | 20 |
| 19900-06 | Sink – Room 144 | 3 | 20 |
| 19900-07 | Sink – Room 141 | 9 | 20 |
| 19900-08 | Fountain – Room 141 | 1 | 20 |
| 19900-09 | Fountain – Room 139 | 17 | 20 |
| 19900-10 | Sink – Room 139 | 1 | 20 |
| 19900-11 | Fountain – Room 138 | 8 | 20 |
| 19900-12 | Fountain – Room 137 | Not detected | 20 |
| 19900-13 | Fountain – Near room 224 | Not detected | 20 |
| 19900-14 | Fountain – Next to room 221 | 1 | 20 |
| 19900-15 | Sink – 2nd Floor teacher's lounge | 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**

Brighton Analytical L.L.C.™
2105 Pless Drive · Brighton, Michigan 48114 · Phone (810) 229-7575 · Fax (810) 229-8650 · E-mail bai-brighton@sbcglobal.net

May 10, 2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

Subject: Madison Carver Acad-19900 McIntyre,Detroit
161312

Dear Mr. Gross :

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 38816 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: bai-brighton@sbcglobal.net
2105 Pless Drive — Phone: 810-229-7575
Brighton, MI 48114 — Fax: 810-229-8650

BA PROJECT #: 36816

PROJECT NAME: Madison Career Academy 19900 McIntyre, Detroit
PROJECT #: 161312
PO #: (PLEASE NOTE IF DIFFERENT BILLING ADDRESS) 161312
Sample collected by: Jeff Gross

**ABBREVIATIONS FOR MATRIX**
S = Solid
L = Liquid
DW = Drinking $H_2O$
O = Oil
P = Wipe
A = Air (Tedlar Bag)
F = Filter
T = Tube
M = Misc.

**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: _____

| Brighton ID # | Sample Description | Sample Coll. Date | Sample Coll. Time | Container Type & Quantity: VOA'S (PRES) Y N N/A | HDPE UNPRESERVED | HDPE $HNO_3$ | HDPE $H_2SO_4$ | HDPE NAOH | AMBER PRESERVED? | GLASS, NO PRESERVATIVE | STERILIZED BACTERIA | MEOH Preserved Y N | Sample Matrix | Analysis Requested/Method: Copper & Lead |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) 1718 | 19900-01, WF main off | 4-29 | 805 | | | X | | | | | | | DW | X |
| 2) 19 | -02, Sink kitch | | 808 | | | X | | | | | | | | X |
| 3) 20 | -03, Sink teach lounge | | 812 | | | X | | | | | | | | X |
| 4) 21 | -04, WF aud. | | 814 | | | X | | | | | | | | X |
| 5) 22 | -05, WF 144 | | 816 | | | X | | | | | | | | X |
| 6) 23 | -06, Sink 144 | | 816 | | | X | | | | | | | | X |
| 7) 24 | -07, ~~WF~~ Sink 141 | | 818 | | | X | | | | | | | | X |
| 8) 25 | -08, WF ~~144~~ 141 | | 818 | | | X | | | | | | | | X |
| 9) 24 | -09, ~~Sink~~ WF 139 | | 820 | | | X | | | | | | | | X |
| 10) 27 | -10, ~~OF~~ Sink 139 | | 820 | | | V | | | | | | | | X |

CMO.

**Special Instructions:**

PAGE 1 OF 2

**COMPANY/MAILING ADDRESS:**
Performance Env.
30553 Wixom Rd #500
Wixom MI 48393
ATTN: Lab data
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):**

**Drinking $H_2O$:**
Fax to LCHD? yes ☐ no ☒
Chlorinated Water Supply? yes ☒ no ☐
AMT.: NA

MCL Failure: yes ☑ no ☐
Client Notified (date/time/initials): 5/10/16 0001 726

*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 | [signature] | [signature] | 4.29.16 | 2:55 pm | 3 | | | | |
| 2 | | | | | 4 | | | | |

**Brighton Analytical, L.L.C.™**
Email: bai-brighton@sbcglobal.net
2105 Pless Drive — Phone: 810-229-7575
Brighton, MI 48114 — Fax: 810-229-8650


BA PROJECT #: 39816



**ABBREVIATIONS FOR MATRIX**
S = Solid
L = Liquid
DW = Drinking $H_2O$
O = Oil
P = Wipe
A = Air (Tedlar Bag)
F = Filter
T = Tube
M = Misc.

PROJECT NAME: Madison Career Academy 19900 McIntyre, Detroit
PROJECT #: 16312
PO #: (PLEASE NOTE IF DIFFERENT BILLING ADDRESS) 16312
Sample collected by: Jeff Gross

**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.

| Brighton ID # | Sample Description | Date | Time | VOA'S (PRES) Y N N/A | HDPE UNPRESERVED | HDPE $HNO_3$ | HDPE $H_2SO_4$ | HDPE NAOH | AMBER PRESERVED? | GLASS, NO PRESERVATIVE | STERILIZED BACTERIA | MEOH Preserved Y N | Sample Matrix | Copper & Lead | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) 1728 | 19900-11, WF 138 | 4/29 | 8:22 | | | X | | | | | | | DW | X | | | | | | | |
| 2) 29 | -12, WF 137 | | 8:24 | | | X | | | | | | | | X | | | | | | | |
| 3) 30 | -13, WF 224 | | 8:26 | | | X | | | | | | | | X | | | | | | | |
| 4) 31 | -14, WF 221 | | 8:28 | | | X | | | | | | | | X | | | | | | | |
| 5) 32 | -15, Sink 2nd FL teach. lounge | | 8:30 | | | X | | | | | | | | X | | | | | | | |
| 6) | | | | | | | | | | | | | | | | | | | | | |
| 7) | | | | | | | | | | | | | | | | | | | | | |
| 8) | | | | | | | | | | | | | | | | | | | | | |
| 9) | | | | | | | | | | | | | | | | | | | | | |
| 10) | | | | | | | | | | | | | | | | | | | | | |

per bottle JH 5/2

**Special Instructions:**

COMPANY/MAILING ADDRESS:
Performance Env.
30553 Wixom Rd #500
Wixom MI 48393
ATTN: Lab data
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):

**Drinking $H_2O$:**
Fax to LCHD? yes ☐ no ☐
Chlorinated Water Supply? yes ☐ no ☐
AMT.: _____

MCL Failure: yes ☐ no ☐
Client Notified (date/time/initials): _____

***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 | Jeff Gross | [illegible] | 4.29.16 | 2:55 pm | 3 | | | | |
| 2 | | | | | 4 | | | | |

**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 08:05
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01718**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-01, WF Main Off**

| 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 | 11:12 | 05/06/2016 |
| Total Lead (Drinking Water) | Not detected | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 11:12 | 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 08:08
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01719**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-02, Sink Kitch**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 350 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 11:16 | 05/06/2016 |
| Total Lead (Drinking Water) | 1 | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 11:16 | 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 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 08:12
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01720**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-03, Sink Teach Lounge**

| 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 | 11:21 | 05/06/2016 |
| Total Lead (Drinking Water) | Not detected | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 11:21 | 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 08:14
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01721**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-04, WF Aud.**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 180 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 11:25 | 05/06/2016 |
| Total Lead (Drinking Water) | Not detected | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 11:25 | 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 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 08:16
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01722**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-05, WF 144**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 130 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 11:30 | 05/06/2016 |
| Total Lead (Drinking Water) | Not detected | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 11:30 | 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 _____
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 08:16
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01723**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-06, Sink 144**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 620 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 11:34 | 05/06/2016 |
| Total Lead (Drinking Water) | 3 | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 11:34 | 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 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 08:18
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01724**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-07, Sink 141**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 1000 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 11:53 | 05/06/2016 |
| Total Lead (Drinking Water) | 9 | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 11:53 | 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 08:18
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01725**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-08, WF 141**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 60 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 12:11 | 05/06/2016 |
| Total Lead (Drinking Water) | 1 | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 12:11 | 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 08:20
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01726**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-09, WF 139**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 220 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 12:15 | 05/06/2016 |
| Total Lead (Drinking Water) | 17 | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 12:15 | 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 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 08:20
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01727**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-10, Sink 139**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 1100 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 12:20 | 05/06/2016 |
| Total Lead (Drinking Water) | 1 | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 12:20 | 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 08:22
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01728**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-11, WF 138**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 770 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 12:24 | 05/06/2016 |
| Total Lead (Drinking Water) | 8 | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 12:24 | 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 08:24
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01729**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-12, WF 137**

| 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 | 12:29 | 05/06/2016 |
| Total Lead (Drinking Water) | Not detected | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 12:29 | 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 08:26
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01730**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-13, WF 224**

| 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 | 12:33 | 05/06/2016 |
| Total Lead (Drinking Water) | Not detected | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 12:33 | 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 08:28
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01731**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-14, WF 221**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 120 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 12:52 | 05/06/2016 |
| Total Lead (Drinking Water) | 1 | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 12:52 | 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 08:30
Submit Date/Time: 4/29/2016 14:55
Report Date: 5/10/2016

Performance Environmental
30553 Wixom Road
Suite 500
Wixom, MI 48393

BA Project # **38816**
BA Sample ID **CD01732**

Project Name: **Madison Carver Acad-19900 McIntyre,Detroit**
Project Number:**161312**
Sample ID: **19900-15, Sink 2nd Fl Teach. Lounge**

| Analyte Name | Result | Units | RL | MCL | Method Reference | Analysis Time | Analysis Date |
|---|---|---|---|---|---|---|---|
| **Drinking Water Metal Analysis** | | | | | | | |
| Total Copper (Drinking Water) | 690 | ug/L | 20 | 1300 | EPA 200.8 rev5.4 | 12:56 | 05/06/2016 |
| Total Lead (Drinking Water) | Not detected | ug/L | 1 | 15 | EPA 200.8 rev5.4 | 12:56 | 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 L.L.C.

# BRIGHTON ANALYTICAL, LLC

# QUALITY ASSURANCE/QUALITY CONTROL

# ICP-MS
# METHOD 200.8

## REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: 5/6/2016 Standard ID: 050416 H2O Batch: 5/4/2016 W7

Matrix Spike Lab ID: CD01724 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 (%) |
| Chromium | 1078 | 1066 | 1.1 | 1000 | 107.8 | 106.6 | 0 | <1 | 108.1 | 99.3 |
| Copper | 2078 | 2050 | 1.4 | 1000 | 108.2 | 105.4 | 996 | <1 | 105.5 | 97.7 |
| Zinc | 1985 | 1963 | 1.1 | 1000 | 100.5 | 98.3 | 980 | <5 | 101.2 | 97.5 |
| Arsenic | 1054 | 1043 | 1.0 | 1000 | 105.4 | 104.3 | 0 | <1 | 104.6 | 98.2 |
| Selenium | 985 | 947 | 3.9 | 1000 | 98.5 | 94.7 | 0 | <1 | 95.9 | 94.8 |
| Silver | 9.25 | 9.45 | 2.1 | 10 | 92.5 | 94.5 | 0 | 0.5 | 95.4 | 92.6 |
| Cadmium | 989 | 964 | 2.6 | 1000 | 98.9 | 96.4 | 0 | <0.2 | 99.3 | 92.2 |
| Barium | 1007 | 993 | 1.4 | 1000 | 99.3 | 97.9 | 14 | <5 | 99.3 | 94.9 |
| Lead | 978 | 953 | 2.6 | 1000 | 96.9 | 94.4 | 9 | <1 | 96.6 | 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: _____