ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

46555 Humboldt Drive
Novi, Michigan 48377
Telephone 248-669-5140
www.atcgroupservices.com

August 1, 2016

Debra Spring
Matrix Head Start
2051 Rosa Parks Boulevard
Detroit, Michigan 48216

SUBMITTED VIA EMAIL TO: dspring@matrix.org

SUBJECT: Drinking Water Screening Report
Saint Stephen
1235 Lawndale Street
Detroit, Michigan 48209

Dear Ms. Spring:

ATC Group Services, LLC (ATC) is pleased to submit this Drinking Water Screening Report for the subject school. The drinking water samples collected from the school were submitted to TriMatrix Laboratories, for Michigan Department of Environmental Quality (MDEQ) Drinking Water Certified lead analysis.

SCOPE OF WORK

At the request of the Matrix Head Start (Matrix), ATC collected drinking water samples as a general screening for lead at the subject school. Matrix in coordination with the City of Detroit Health Department determined that the screening would consist of collection of water samples from three (3) high priority water outlets (drinking fountains, kitchen/food preparation area faucets, etc.), regularly used by students and staff for drinking, as designated by Matrix personnel. Two (2) samples were collected at each outlet: a first draw (Primary) sample; and a Flush sample. The Primary samples were collected from outlets that had been inactive for a minimum of eight hours. The Flush samples were collected after the water was allowed to run for a minimum of thirty (30) seconds at each of the sample locations.

The drinking water samples were collected in 125 milliliter, wide-mouth sample containers, containing nitric acid (preservative). Each sample container was labeled utilizing a coding system that identified: the type of drinking outlet sampled, Drinking Water Fountain (DWF), Drinking Water Cooler (DWC), Kitchen Faucet (KF) etc.; and a (P) for primary samples and a (F) for flush samples.

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The samples were transported under chain of custody to TriMatrix Laboratories, located at 5560 Corporate Exchange Court SE, Grand Rapids Michigan for MDEQ drinking water certified lead analysis, using analytical method EPA 200.8 rev 5.4.

As per the EPA's *3T's for Reducing Lead in Drinking Water in Schools, Revised Technical Guidance (October 2006)* analysis of the flush sample(s) was only performed if analysis of the first draw (Primary) sample(s) indicated lead and/or copper concentrations greater than the EPA established Maximum Contaminate Level (MCL).

FINDINGS

Analytical results indicate that none of the samples analyzed were above the EPA recommended limits of 0.015 milligrams per liter (mg/L) for lead. The table below summarizes the analytical results for the samples submitted. The laboratory analytical reports and chain of custody are provided in Attachment A.

Sample Number	Total Lead (Drinking Water)	MCL
1-DF-P-SS/Drinking Fountain (@ Boy's Bath – Main Hall)	0.0037 mg/L	0.015 mg/L
1-DF-F-SS/Drinking Fountain (@ Boy's Bath – Main Hall)	NA	0.015 mg/L
2-BSB-P-SS/Bathroom Sink (Boy's Bath Sink – Right)	<0.0010 mg/L	0.015 mg/L
2-BSB-F-SS/Bathroom Sink (Boy's Bath Sink – Right)	NA	0.015 mg/L
3-KS-P-SS/Kitchen Sink (Kitchen Off Gym)	<0.0010 mg/L	0.015 mg/L
3-KS-F-SS/Kitchen Sink (Kitchen Off Gym)	NA	0.015 mg/L

Key: NA - Not Analyzed

mg/L- milligrams per liter /parts per million (ppm)

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LIMITATIONS

The sampling and analysis completed was: a preliminary screening for lead only, to assess lead concentrations (mg/L) at drinking water outlets in the school designated as high use by Matrix, and may not be representative of all drinking water outlets within the school. If lead concentrations are identified above their respective MCL's at any of the drinking water outlets tested, further review of the plumping system, fixtures affected, and testing should be completed to assess the source of the elevated levels of lead, as well as, any other response actions deemed necessary by Matrix.

The drinking water screening proposed and conducted by ATC was devised in cooperation with Matrix, City of Detroit Health Department and utilizing the EPA's 3Ts for Reducing Lead in Drinking Water in Schools and may not meet all of the recommendations provided by the MDEQ "*Guidance on Drinking Water Sampling for Lead and Copper at Schools and Daycares on Community Water Supplies*" Version 2.0 - April 13, 2016. Future drinking water evaluation and sampling in accordance with the recommendations may be predicated on applicable guidelines by the MDEQ or EPA and will be determined prior to developing a sampling plan for the school.

Sincerely,

ATC Group Services, LLC

Martin Gamble
Senior Project Manager

Robert C. Smith
Building Science Department Manager

APPENDIX A

LABORATORY ANALYTICAL REPORT

June 08, 2016

ATC Group Services
Attn: Mr. Robert Smith
46555 Humboldt, Suite 100
Novi, MI 48377

Project: HM-St. Steven's

Dear Mr. Robert Smith,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1605667	05/27/2016	1235 Lawndale

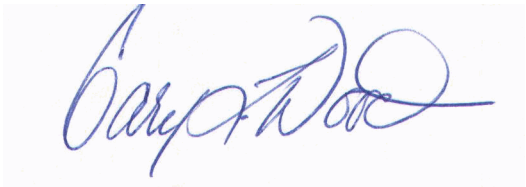
This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ANAB DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kentucky DEP (AL123065/#0021); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/53116); North Carolina DNRE (#659); Virginia DCLS (#460153/7952); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-14-00305).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



Gary L. Wood
Project Chemist

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**ATC Group Services**	Work Order:	**1605667**
Project:	HM-St. Steven's	Description:	1235 Lawndale
Client Sample ID:	**1-DF-P-SS/Drinking Fountain**	Sampled:	05/25/16 06:49
Lab Sample ID:	**1605667-01**	Sampled By:	ATC
Matrix:	Drinking Water	Received:	05/27/16 16:45

Metals in Drinking Water by EPA 200 Series Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Lead	**0.0037**	0.0010	0.015	mg/L	1	USEPA-200.8 Rev. 5.4	06/07/16 10:16	DSC	1605652

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**ATC Group Services**	Work Order:	**1605667**
Project:	HM-St. Steven's	Description:	1235 Lawndale
Client Sample ID:	**2-BSB-P-SS/Bathroom Sink**	Sampled:	05/25/16 06:54
Lab Sample ID:	**1605667-03**	Sampled By:	ATC
Matrix:	Drinking Water	Received:	05/27/16 16:45

Metals in Drinking Water by EPA 200 Series Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Lead	<0.0010	0.0010	0.015	mg/L	1	USEPA-200.8 Rev. 5.4	06/07/16 10:18	DSC	1605652

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**ATC Group Services**	Work Order:	**1605667**
Project:	HM-St. Steven's	Description:	1235 Lawndale
Client Sample ID:	**3-KS-P-SS/Kitchen Sink**	Sampled:	05/25/16 06:57
Lab Sample ID:	**1605667-05**	Sampled By:	ATC
Matrix:	Drinking Water	Received:	05/27/16 16:45

Metals in Drinking Water by EPA 200 Series Methods

Analyte	Analytical Result	RL	Action Limit	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Lead	<0.0010	0.0010	0.015	mg/L	1	USEPA-200.8 Rev. 5.4	06/07/16 10:21	DSC	1605652

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Metals in Drinking Water by EPA 200 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: **Lead**/USEPA-200.8 Rev. 5.4									
QC Batch: 1605652 (Metals Direct Analysis)							Analyzed: 06/07/2016		By: DSC
Method Blank			<0.0010	mg/L					0.0010
Laboratory Control Sample		0.0400	**0.0386**	mg/L	96	85-115			0.0010

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TRIMATRIX LABORATORIES

PRETREATMENT SUMMARY PAGE

Client: **ATC Group Services**
Project: **HM-St. Steven's**

Pretreatment	Lab Sample ID	Batch	By	Date & Time Prepared
USEPA 600/R-94/173	1605667-01	1605652	LNS	06/02/16 08:15
	1605667-03	1605652	LNS	06/02/16 08:15
	1605667-05	1605652	LNS	06/02/16 08:15

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TRIMATRIX LABORATORIES

Chain of Custody Record

COC No. 160538293

Pg. 1 of 1

5560 Corporate Exchange Court SE, Grand Rapids, MI 49512
Phone (616) 975-4500 Fax (616) 942-7463 www.trimatrixlabs.com

For Lab Use Only
Cart: 13
VOA Rack/Tray: —
Receipt Log No.: 4-21
Project Chemist: Jim McFadden
Work Order No.: 160516167

Client Name: ATC Group Services, LLC
Address: 46555 Humboldt Drive Suite 100
City, State Zip: Novi, Michigan 48377
Phone: 248-669-5140 Fax 248-669-5147
Email: robert.smith@atcassociates.net

Project Name: HM-St. Stephen's - 1235 Lawndale
Client Project No. / P.O. No.:
Invoice To: ☑ Client ☐ Other (comments)
Contact/Report To: Robert Smith

Analyses Requested

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Container Type: Lead - Primary (P)	Container Type: Lead - Flush (F) - Hold	Total	Sample Comments
				Number of Containers Submitted										
01		01	1	1-DF-P-SS/Drinking Fountain	TM2531	5/25/16	649		x		X		1	@ Boys Bath - Main Hall
02		02	2	1-DF-F-SS/Drinking Fountain		5/25/16	650		x			X	1	@ Boys Bath - Main Hall
01		03	3	2-BSB-P-SS/Bathroom Sink		5/25/16	654		x		X		1	Boys Bath Sink-Right
02		04	4	2-BSB-F-SS/Bathroom Sink		5/25/16	655		x			X	1	Boys Bath Sink-Right
01		05	5	3-KS-P-SS/Kitchen Sink		5/25/16	657		x		X		1	Kitchen off Gym
02		06	6	3-KS-F-SS/Kitchen Sink		5/25/16	658		x			X	1	Kitchen off Gym
			7											
			8											
			9											
			10											

Sampled By (print) Andrew Ketchum

Sampler's Signature

How Shipped? Hand ____ Carrier ____

Tracking No.

Comments: If lead is above detection limits, please analyze flush samples

Company
ATC Group Services LLC
46555 Humboldt Dr. Ste 100
Novi, MI 48377

1. Relinquished By	Date	Time	2. Relinquished By	Date	Time	3. Relinquished By	Date	Time
	5/26/16	1419		5/27/16	1645			
1. Received By	**Date**	**Time**	**2. Received By**	**Date**	**Time**	**3. Received For Lab By**	**Date**	**Time**
	5/27/16	1240				JN	5/27/16	16

ORIGINAL - LABORATORY COPY - SAMPLER

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: QTC GROUP		Work Order #: 16051667	New / Add To
Receipt Record Page/Line #: 4-21		Project Chemist: JDM	Sample #s: 01-06

Recorded by (initials/date)		Qty Received	Thermometer Used	
DN 5/27/16	☑ Cooler ☐ Box ☐ Other	1	☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#______)	☐ See Additional Cooler Information Form

Cooler #: TR2531 **Time:** 1839

Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☑ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:	25.7	0	25.7
Sample 2:	24.6	0	24.6
Sample 3:	24.4	0	24.4

3 Sample Average °C: 24.9

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

Cooler #: **Time:**

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

Cooler #: **Time:**

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

Cooler #: **Time:**

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ________
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other ________

COC Information

☑ TriMatrix COC ☐ Other ________

COC ID Numbers: 160538293

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Temperature Blank OR average sample temperature, ≥6° C?
☐	☐	☑	If either is ≥6° C, was thermal preservation required?
☑	☐		If "Yes", Project Chemist Approval Initials: ________
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☑	☐	☐	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 5/27/16	5/27/16	Yes / No

TRIMATRIX LABORATORIES — SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: QTC	Work Order #: 1605667
Receipt Log #: 4-21	Completed By (initials/date): PN 5/27/16
	Project Chemist: JDM

COC ID #: 160538293 — Adjusted by: _____ Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1					✓			
COC Line #2					✓			
COC Line #3					✓			
COC Line #4					✓			
COC Line #5					✓			
COC Line #6					✓			
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

pH Strip Reagent #: ☒ 6040263 ☐ _____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

COC ID #: _____ — Adjusted by: _____ Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5