April 11, 2017

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

Project: School Drinking Water Testing

Dear Mr. Robert Smith,

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

Work Order	Received	Description
1703456	03/28/2017	Thurgood Marshall

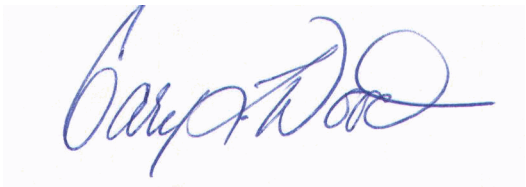
This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ANAB DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Georgia EPD (#026-999-161/1023062); Illinois DEP (#200026/003329); Kentucky DEP (AL123065/#0021); Michigan DPH (#0034); Minnesota DPH (#026-999-161/1023062); 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
Client Services Manager

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

STATEMENT OF DATA QUALIFICATIONS

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

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

ANALYTICAL REPORT

Client:	**ATC Group Services**	Work Order:	**1703456**
Project:	School Drinking Water Testing	Description:	Thurgood Marshall
Client Sample ID:	**DWF-P-TM-Hall @ 310 (R)**	Sampled:	03/28/17 06:25
Lab Sample ID:	**1703456-01**	Sampled By:	ATC
Matrix:	Drinking Water	Received:	03/28/17 18:45

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
Copper	**0.033**	0.0010	1.3	mg/L	1	USEPA-200.8 Rev. 5.4	04/07/17 10:22	KLV	1702816
Lead	**0.016**	0.0010	0.015	mg/L	1	USEPA-200.8 Rev. 5.4	04/06/17 14:16	KLV	1702816

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

ANALYTICAL REPORT

Client:	**ATC Group Services**	Work Order:	**1703456**
Project:	School Drinking Water Testing	Description:	Thurgood Marshall
Client Sample ID:	**DWF-F-TM-Hall @ 310 (R)**	Sampled:	03/28/17 06:26
Lab Sample ID:	**1703456-02**	Sampled By:	ATC
Matrix:	Drinking Water	Received:	03/28/17 18:45

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
Copper	**0.022**	0.0010	1.3	mg/L	1	USEPA-200.8 Rev. 5.4	04/07/17 10:24	KLV	1702816
Lead	**0.034**	0.0010	0.015	mg/L	1	USEPA-200.8 Rev. 5.4	04/06/17 14:18	KLV	1702816

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

ANALYTICAL REPORT

Client:	**ATC Group Services**	Work Order:	**1703456**
Project:	School Drinking Water Testing	Description:	Thurgood Marshall
Client Sample ID:	**DWF-P-TM-Hall @ 214 (R)**	Sampled:	03/28/17 06:28
Lab Sample ID:	**1703456-03**	Sampled By:	ATC
Matrix:	Drinking Water	Received:	03/28/17 18:45

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
Copper	**0.046**	0.0010	1.3	mg/L	1	USEPA-200.8 Rev. 5.4	04/05/17 11:33	KLV	1702811
Lead	**0.027**	0.0010	0.015	mg/L	1	USEPA-200.8 Rev. 5.4	04/05/17 11:33	KLV	1702811

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

ANALYTICAL REPORT

Client:	**ATC Group Services**	Work Order:	**1703456**
Project:	School Drinking Water Testing	Description:	Thurgood Marshall
Client Sample ID:	**DWF-F-TM-Hall @ 214 (R)**	Sampled:	03/28/17 06:29
Lab Sample ID:	**1703456-04**	Sampled By:	ATC
Matrix:	Drinking Water	Received:	03/28/17 18:45

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
Copper	**0.010**	0.0010	1.3	mg/L	1	USEPA-200.8 Rev. 5.4	04/07/17 10:27	KLV	1702817
Lead	**0.069**	0.0010	0.015	mg/L	1	USEPA-200.8 Rev. 5.4	04/06/17 14:24	KLV	1702817

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

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: Copper/USEPA-200.8 Rev. 5.4									
QC Batch: 1702811 (200.2 Digestion)							Analyzed: 04/05/2017		By: KLV
Method Blank			<0.0010	mg/L					0.0010
Laboratory Control Sample		0.0500	**0.0517**	mg/L	103	85-115			0.0010
QC Batch: 1702816 (Metals Direct Analysis)							Analyzed: 04/06/2017		By: KLV
Method Blank			<0.0010	mg/L					0.0010
Laboratory Control Sample		0.0400	**0.0395**	mg/L	99	85-115			0.0010
QC Batch: 1702817 (Metals Direct Analysis)							Analyzed: 04/06/2017		By: KLV
Method Blank			<0.0010	mg/L					0.0010
Laboratory Control Sample		0.0400	**0.0395**	mg/L	99	85-115			0.0010
QC Batch: 1702817 (Metals Direct Analysis)							Analyzed: 04/07/2017		By: KLV
1703456-04 [DWF-F-TM-Hall @ 214 (R)]									
Matrix Spike	0.0104	0.0200	**0.0302**	mg/L	99	70-130			0.0010
Matrix Spike Duplicate	0.0104	0.0200	**0.0294**	mg/L	95	70-130	3	20	0.0010
Analyte: Lead/USEPA-200.8 Rev. 5.4									
QC Batch: 1702811 (200.2 Digestion)							Analyzed: 04/05/2017		By: KLV
Method Blank			<0.0010	mg/L					0.0010
Laboratory Control Sample		0.0500	**0.0486**	mg/L	97	85-115			0.0010
QC Batch: 1702816 (Metals Direct Analysis)							Analyzed: 04/06/2017		By: KLV
Method Blank			<0.0010	mg/L					0.0010
Laboratory Control Sample		0.0400	**0.0391**	mg/L	98	85-115			0.0010
QC Batch: 1702817 (Metals Direct Analysis)							Analyzed: 04/06/2017		By: KLV
Method Blank			<0.0010	mg/L					0.0010
Laboratory Control Sample		0.0400	**0.0391**	mg/L	98	85-115			0.0010
1703456-04 [DWF-F-TM-Hall @ 214 (R)]									
Matrix Spike	0.0694	0.0200	**0.0914**	mg/L	110	70-130			0.0010
Matrix Spike Duplicate	0.0694	0.0200	**0.0904**	mg/L	105	70-130	1	20	0.0010

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

PRETREATMENT SUMMARY PAGE

Client: **ATC Group Services**
Project: **School Drinking Water Testing**

Pretreatment	Lab Sample ID	Batch	By	Date & Time Prepared
USEPA-200.2 Metals Digestion	1703456-03	1702811	JBA	03/31/17 13:00
USEPA 600/R-94/173	1703456-01	1702816	JBA	03/30/17 16:53
	1703456-02	1702816	JBA	03/30/17 16:53
	1703456-04	1702817	JBA	03/30/17 16:55

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

TRIMATRIX LABORATORIES

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

Chain of Custody Record

COC No. 156839

Pg. 1 of 1

For Lab Use Only
Cart: INOR9
VOA Rack/Tray: -
Receipt Log No.: 49-12
Project Chemist:
Work Order No.: 1703456

Client Name: ATC GROUP SERVICES
Address: 46555 HUMBOLDT DRIVE
City, State Zip: NOVI, MI 46377
Phone/Fax: 248-669-5140/248-669-5147
Email: robert.smith@dtrassociates.com

Project Name: THURGOOD MARSHALL
Client Project No. / P.O. No.:
Invoice To: ROBERT SMITH — ☑ 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 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 (corresponds to Container Packing List)	Total	Sample Comments
		-01	1 DWF-P-TM-HALL @ 310(R)		3/28/17	6:25	X		DW	BB / LEAD COPPER		
		-02	2 DWF-F-TM-HALL @ 310(R)			6:26						
		-03	3 DWF-P-TM-HALL @ 214 (R)			6:28						
		-04	4 DWF-F-TM-HALL @ 214(R)			6:29						
			5									
			6									
			7									
			8									
			9									
			10									

Number of Containers Submitted

Sampled By (print): KIMBERLY JOHNSON
Sampler's Signature: Kimberly Johnson
Company: ATC GROUP SERVICES

How Shipped? Hand ____ Carrier ____
Tracking No.

Comments

1. Relinquished By: KIMBERLY JOHNSON Date: 3/28/17 Time:
1. Received By: Dmc Date: 3-28-17 Time: 1200

2. Relinquished By: Date: 3-28-17 Time: 1845
2. Received By: Date: Time:

3. Relinquished By: Date: Time:
3. Received For Lab By: J.N Jardin Date: 3-28-17 Time: 1845

WHITE COPY - REPORT YELLOW COPY - LABORATORY PINK COPY - FIELD

SAMPLE RECEIVING / LOG-IN CHECKLIST

Pace Analytical®

Client: QTC	New / Add To	Work Order #: 1703456
Receipt Record Page/Line #: 49-12	Project Chemist	Sample #s

Recorded by (initials/date)		Qty Received	Thermometer Used	
DN 3-28-17	☒ Cooler ☐ Box ☐ Other	1	☒ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#)	☐ See Additional Cooler Information Form

	Cooler 1	Cooler 2	Cooler 3	Cooler 4
Cooler # / Time	TM3503 / 1910			
Custody Seals	☒ None ☐ Present / Intact ☐ Present / Not Intact	☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Type	☒ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None
Coolant Location	Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom
Temp Blank Present	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
If Present, Temperature Blank Location is	☐ Representative ☐ Not Representative	☐ Representative ☐ Not Representative	☐ Representative ☐ Not Representative	☐ Representative ☐ Not Representative

Cooler 1 temperatures:

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:	3.4	0	3.4
Sample 2:	4.3	0	4.3
Sample 3:	5.8	0	5.8

3 Sample Average °C: 4.5

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

(Coolers 2–4: Temp Blank, Sample 1, Sample 2, Sample 3, 3 Sample Average °C blank; ☐ 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

☒ Pace COC ☐ Other ______

COC ID Numbers: 156839

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-Pace 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 3-28-17	3-28-17	Yes / No

SAMPLE PRESERVATION VERIFICATION FORM

Pace Analytical®

Client: QTC	Work Order #: 1703456
Receipt Log #: 49-12	Completed By (initials/date): DM 3-28-17
	Project Chemist:

COC ID #: 156839

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

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

pH Strip Reagent # / Lot #

☑ 7021862 / HC693124

☐ Other _____

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.

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