ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

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

September 13, 2018

Mathew Sam
Detroit Public Schools
1601 Farnsworth
Detroit, Michigan 48202

SUBMITTED VIA EMAIL TO: mathew.sam@detroitk12.org

SUBJECT: **Drinking Water Screening Report**
Nichols Academy
3000 Burns
Detroit, Michigan

Dear Mr. Sam:

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 Pace Analytical Services, LLC, for Michigan Department of Environmental Quality (MDEQ) Drinking Water Certified lead and copper analysis.

SCOPE OF WORK

At the request of the Detroit Public Schools (DPS), ATC collected drinking water samples as a general screening for copper and lead at the subject school. The water sampling conducted included the sampling of fixtures within teacher's lounges, kitchens, water fountains and pre-k classrooms. One (1) sample was collected at each outlet: a first draw (Primary) sample. The Primary samples were collected from outlets that had been inactive for a minimum of eight to eighteen hours. The fixture inventory locations including the sample locations are shown on the Fixture Inventory Locations Map included under Attachment A and fixture inventory photos including the sample location photos are included in a Fixture Inventory Photo Log under Attachment B.

The drinking water samples were collected in 125 milliliter, wide-mouth sample containers, containing nitric acid (preservative). Each sample container was labeled utilizing a unique coding system that identified: the type of drinking outlet sampled as well as the location.

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The samples were transported under chain of custody to Pace Analytical Services, LLC, located at 5560 Corporate Exchange Ct. SE Grand Rapids, MI for MDEQ drinking water certified lead and copper analysis, using analytical method EPA 200.8 rev 5.4.

FINDINGS

Analytical results indicate that three (3) of the samples analyzed were above the EPA recommended limits of 15 micrograms per liter (ug/L) for lead. None of the samples analyzed were above the EPA recommended limits of 1300 micrograms per liter (ug/L) for copper. The table below summarizes the analytical results for the samples submitted. The laboratory analytical reports and chain of custody are provided in Attachment C.

Table 1 – Water Testing Results (August 30, 2018)

Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
3-HW-B-1	next to room 304 across from 301	Bubbler	**28.4 ug/L**	6.1 ug/L
3-HW-B-3	between restrooms (middle fixture)	Bubbler	14.3 ug/L	20.3 ug/L
3-HW-B-4	between restrooms (right fixture)	Bubbler	6.8 ug/L	3.1 ug/L
3-HW-B-6	across from room 311 (right fixture)	Bubbler	12.2 ug/L	157 ug/L
2-HW-B-8	Next to kitchen on the right (right fixture)	Bubbler	4 ug/L	140 ug/L
2-K-KS-9	first faucet on the left @dish washing station	kitchen faucet	**68.7 ug/L**	555 ug/L
2-K-KS-10	faucet on the right @dish washing station	kitchen faucet	**17.5 ug/L**	280 ug/L
2-HW-B-12	between restrooms (left fixture)	Bubbler	5.2 ug/L	4.9 ug/L
2-HW-B-13	between restrooms (right fixture)	Bubbler	6.3 ug/L	5.4 ug/L
2-HW-B-15	, located in a 2nd floor hallway next room 204	Bubbler	7.0 ug/L	8.5 ug/L

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Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
1-HW-B-18	between room 105 & south fan room	Bubbler	1.1 ug/L	295 ug/L

Key: NA - Not Analyzed

ug/L- micrograms per liter /parts per billion (ppb)

Analysis of samples of the bubbler next to room 304 across from 301 and two kitchen sinks, located in the kitchen indicate that lead levels were above the MCL. No samples indicate that copper levels were above the MCL. See recommendations below.

RECOMMENDATIONS

For drinking water fixtures that exceed the MCL after the initial sampling, ATC recommends the following:

1. Implement a plan in accordance with MDEQ Guidance on Drinking Water Sampling for Lead and Copper, April, 2016 Version2; OR
2. Remove fixture from service.
3. Implement a flush plan for fixtures that exceed the MCL of the initial sample according to MDEQ Guidance and the EPA's 3T's for Reducing Lead in Drinking Water in Schools.

LIMITATIONS

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

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,

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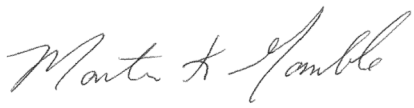
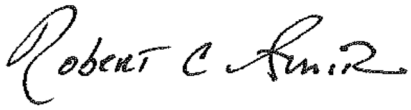
ATC Group Services, LLC





Martin K. Gamble
Senior Project Manager

Robert C. Smith
Building Science Department Manager

Attachments

Attachment A: Fixture Inventory Locations Map/Form
Attachment B: Fixture Inventory Photo Log
Attachment C: Laboratory Analytical Report

School Name: Nichols Academy

Address 3000 Burns

Fixture Identification	Fixture Location	Fixture Description	Photo #
3-HW-B-1	next to room 304 across from 301	Bubbler	1
3-HW-B-2	between restrooms (left fixture)	Bubbler Not Working	2
3-HW-B-3	between restrooms (middle fixture)	Bubbler	3
3-HW-B-4	between restrooms (right fixture)	Bubbler	4
3-HW-B-5	across from room 311 (left fixture)	Bubbler Not Working	5
3-HW-B-6	across from room 311 (right fixture)	Bubbler	6
2-HW-B-7	Next to kitchen on the right (Left fixture)	Bubbler Not Working	7
2-HW-B-8	Next to kitchen on the right (right fixture)	Bubbler	8
2-K-KS-9	first faucet on the left @dish washing station	kitchen faucet	9
2-K-KS-10	faucet on the right @dish washing station	kitchen faucet	10
2-K-KS-11	in kitchen	hand wash	11

School Name: Nichols Academy

Address 3000 Burns

Fixture Identification	Fixture Location	Fixture Description	Photo #
2-HW-B-12	between restrooms (left fixture)	Bubbler	12
2-HW-B-13	between restrooms (right fixture)	Bubbler	13
2-207-BF-14	In Kindergarten classroom	hand wash	14
2-HW-B-15	, located in a 2nd floor hallway next room 204	Bubbler	15
1-102-CF-16	in kindergarten classroom on the left	class room faucet	16
1-102-BF-17	kindergarten classroom bathroom	hand wash	17
1-HW-B-18	between room 105 & south fan room	Bubbler	18

FIXTURE INVENTORY PHOTOLOG
Nichols Academy
Detroit, Michigan

Photo 1: Bubbler, located on the 3rd floor next to room 304 & across from room 301.

Photo 2:Bubbler located on 3rd floor between restrooms (left fixture)

Photo 3: Bubbler located on 3rd floor between restrooms (middle fixture)

Photo 4: Bubbler located on 3rd floor between restrooms (right fixture)

Photo 5: Bubbler located on 3rd floor hallway across from room 311 (left fixture)

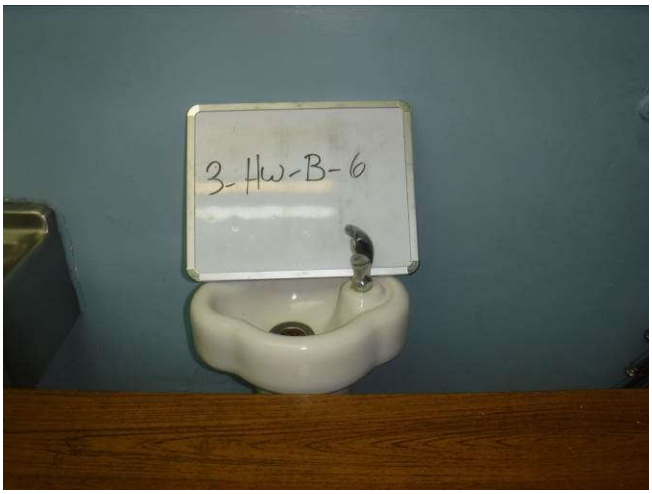


Photo 6: Bubbler located on 3rd floor hallway across from room 311 (right fixture)

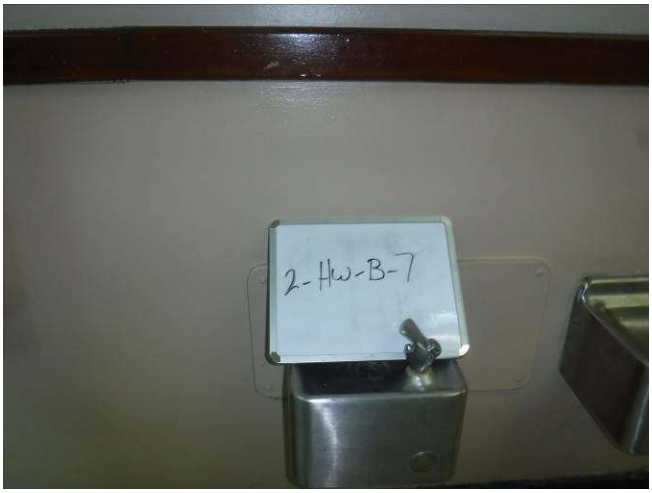


Photo 7: Bubbler located on 2nd floor hallway next to kitchen on the right (left fixture).

Photo 8: Bubbler located on 2nd floor hallway next to kitchen on the right (right fixture).

Photo 9: kitchen faucet, first faucet on the left @ dish washing station located in kitchen 2nd floor

Photo 10: kitchen faucet, faucet on the right @ dish washing station located in kitchen 2nd floor

Photo 11:hand wash faucet, located in kitchen 2nd floor

Photo 12: Bubbler, between restrooms in 2nd floor (left fixture)

Photo 13: Bubbler, between restrooms in 2nd floor (right fixture)

Photo 14: Hand wash faucet, bathroom in kindergarten classroom

Photo 15 Bubbler, located in a 2nd floor hallway next room 204

Photo 16: classroom faucet, located on the 1st floor room 102 (Kindergarten)

Photo 17: hand wash faucet, located on the 1st floor room102 in bathroom (Kindergarten)

Photo 18: Bubbler, located in 1st floor between room 105 & south fan room

Pace Analytical Services, LLC
5560 Corporate Exchange Ct. SE
Grand Rapids, MI 49512
(616)975-4500

August 30, 2018

Robert Smith
ATC Group Services
46555 Humboldt
Suite 100
Novi, MI 48377

RE: Project: Nichols Academy
Pace Project No.: 4616516

Dear Robert Smith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 17, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Will Cole
will.cole@pacelabs.com
(616)975-4500
Project Manager

Enclosures

cc: AP c/o Abigail Jardine, ATC Group Services
Michael Hauswirth, ATC Group Services

Pace Analytical Services, LLC
5560 Corporate Exchange Ct. SE
Grand Rapids, MI 49512
(616)975-4500

CERTIFICATIONS

Project: Nichols Academy
Pace Project No.: 4616516

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512
Minnesota Department of Health, Certificate #1385941
Arkansas Department of Environmental Quality, Certificate #18-046-0
Georgia Environmental Protection Division, Stipulation
Illinois Environmental Protection Agency, Certificate #004325
Michigan Department of Environmental Quality, Laboratory #0034
New York State Department of Health, Serial #57971 and 57972
North Carolina Division of Water Resources, Certificate #659
Virginia Department of General Services, Certificate #9780
Wisconsin Department of Natural Resources, Laboratory #999472650
U.S. Department of Agriculture Permit to Receive Soil, Permit #P330-17-00278

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Grand Rapids, MI 49512
(616)975-4500

SAMPLE SUMMARY

Project: Nichols Academy
Pace Project No.: 4616516

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4616516001	**3-HW-B-1**	Drinking Water	08/08/18 09:14	08/17/18 18:00
4616516002	**3-HW-B-3**	Drinking Water	08/08/18 09:16	08/17/18 18:00
4616516003	**3-HW-B-4**	Drinking Water	08/08/18 09:18	08/17/18 18:00
4616516004	**3-HW-B-6**	Drinking Water	08/08/18 09:19	08/17/18 18:00
4616516005	**2-HW-B-8**	Drinking Water	08/08/18 09:23	08/17/18 18:00
4616516006	**2-K-KS-9**	Drinking Water	08/08/18 09:25	08/17/18 18:00
4616516007	**2-K-KS-10**	Drinking Water	08/08/18 09:26	08/17/18 18:00
4616516008	**2-HW-B-12**	Drinking Water	08/08/18 09:29	08/17/18 18:00
4616516009	**2-HW-B-13**	Drinking Water	08/08/18 09:30	08/17/18 18:00
4616516010	**2-HW-B-15**	Drinking Water	08/08/18 09:32	08/17/18 18:00
4616516011	**1-HW-B-18**	Drinking Water	08/08/18 09:33	08/17/18 18:00

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SAMPLE ANALYTE COUNT

Project: Nichols Academy
Pace Project No.: 4616516

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4616516001	**3-HW-B-1**	EPA 200.8	NHAM	2
4616516002	**3-HW-B-3**	EPA 200.8	NHAM	2
4616516003	**3-HW-B-4**	EPA 200.8	NHAM	2
4616516004	**3-HW-B-6**	EPA 200.8	NHAM	2
4616516005	**2-HW-B-8**	EPA 200.8	NHAM	2
4616516006	**2-K-KS-9**	EPA 200.8	NHAM	2
4616516007	**2-K-KS-10**	EPA 200.8	NHAM	2
4616516008	**2-HW-B-12**	EPA 200.8	NHAM	2
4616516009	**2-HW-B-13**	EPA 200.8	NHAM	2
4616516010	**2-HW-B-15**	EPA 200.8	NHAM	2
4616516011	**1-HW-B-18**	EPA 200.8	NHAM	2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 3-HW-B-1 **Lab ID: 4616516001** Collected: 08/08/18 09:14 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**6.1**	ug/L	1.0	1300	1		08/28/18 10:57	7440-50-8	
Lead	**28.4**	ug/L	1.0	15	1		08/28/18 10:57	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 3-HW-B-3 **Lab ID: 4616516002** Collected: 08/08/18 09:16 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**20.3**	ug/L	1.0	1300	1		08/28/18 10:58	7440-50-8	
Lead	**14.3**	ug/L	1.0	15	1		08/28/18 10:58	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 3-HW-B-4 **Lab ID: 4616516003** Collected: 08/08/18 09:18 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**3.1**	ug/L	1.0	1300	1		08/28/18 11:02	7440-50-8	
Lead	**6.8**	ug/L	1.0	15	1		08/28/18 11:02	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 3-HW-B-6 **Lab ID: 4616516004** Collected: 08/08/18 09:19 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**157**	ug/L	1.0	1300	1		08/28/18 11:07	7440-50-8	
Lead	**12.2**	ug/L	1.0	15	1		08/28/18 11:07	7439-92-1	

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 2-HW-B-8 **Lab ID: 4616516005** Collected: 08/08/18 09:23 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**140**	ug/L	1.0	1300	1		08/28/18 11:08	7440-50-8	
Lead	**4.0**	ug/L	1.0	15	1		08/28/18 11:08	7439-92-1	

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 2-K-KS-9 **Lab ID: 4616516006** Collected: 08/08/18 09:25 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**555**	ug/L	5.0	1300	5		08/28/18 12:34	7440-50-8	
Lead	**68.7**	ug/L	1.0	15	1		08/28/18 11:09	7439-92-1	

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 2-K-KS-10 **Lab ID: 4616516007** Collected: 08/08/18 09:26 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**280**	ug/L	1.0	1300	1		08/28/18 11:11	7440-50-8	
Lead	**17.5**	ug/L	1.0	15	1		08/28/18 11:11	7439-92-1	

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 2-HW-B-12 **Lab ID: 4616516008** Collected: 08/08/18 09:29 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**4.9**	ug/L	1.0	1300	1		08/28/18 11:12	7440-50-8	
Lead	**5.2**	ug/L	1.0	15	1		08/28/18 11:12	7439-92-1	

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 2-HW-B-13 **Lab ID: 4616516009** Collected: 08/08/18 09:30 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**5.4**	ug/L	1.0	1300	1		08/28/18 11:13	7440-50-8	
Lead	**6.3**	ug/L	1.0	15	1		08/28/18 11:13	7439-92-1	

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 2-HW-B-15 **Lab ID: 4616516010** Collected: 08/08/18 09:32 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**8.5**	ug/L	1.0	1300	1		08/28/18 11:14	7440-50-8	
Lead	**7.0**	ug/L	1.0	15	1		08/28/18 11:14	7439-92-1	

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ANALYTICAL RESULTS

Project: Nichols Academy
Pace Project No.: 4616516

Sample: 1-HW-B-18 **Lab ID: 4616516011** Collected: 08/08/18 09:33 Received: 08/17/18 18:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**295**	ug/L	1.0	1300	1		08/28/18 11:15	7440-50-8	
Lead	**1.1**	ug/L	1.0	15	1		08/28/18 11:15	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Nichols Academy
Pace Project No.: 4616516

QC Batch: 31842 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep
Associated Lab Samples: 4616516001, 4616516002, 4616516003, 4616516004, 4616516005, 4616516006, 4616516007, 4616516008, 4616516009, 4616516010, 4616516011

METHOD BLANK: 128561 Matrix: Water
Associated Lab Samples: 4616516001, 4616516002, 4616516003, 4616516004, 4616516005, 4616516006, 4616516007, 4616516008, 4616516009, 4616516010, 4616516011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	08/28/18 10:38	
Lead	ug/L	<1.0	1.0	08/28/18 10:38	

LABORATORY CONTROL SAMPLE: 128562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	20	18.1	91	85-115	
Lead	ug/L	20	18.4	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 128563 128564

Parameter	Units	4616515021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	498	100	100	603	588	106	90	70-130	3	20	
Lead	ug/L	<1.0	20	20	22.0	21.4	110	106	70-130	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 128566 128567

Parameter	Units	4616516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	20.3	20	20	39.8	39.8	97	98	70-130	0	20	
Lead	ug/L	14.3	20	20	35.9	35.1	108	104	70-130	2	20	

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

REPORT OF LABORATORY ANALYSIS

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Grand Rapids, MI 49512
(616)975-4500

QUALIFIERS

Project: Nichols Academy
Pace Project No.: 4616516

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

Pace Analytical Services, LLC
5560 Corporate Exchange Ct. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Nichols Academy
Pace Project No.: 4616516

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4616516001	**3-HW-B-1**	EPA 200.8	31842		
4616516002	**3-HW-B-3**	EPA 200.8	31842		
4616516003	**3-HW-B-4**	EPA 200.8	31842		
4616516004	**3-HW-B-6**	EPA 200.8	31842		
4616516005	**2-HW-B-8**	EPA 200.8	31842		
4616516006	**2-K-KS-9**	EPA 200.8	31842		
4616516007	**2-K-KS-10**	EPA 200.8	31842		
4616516008	**2-HW-B-12**	EPA 200.8	31842		
4616516009	**2-HW-B-13**	EPA 200.8	31842		
4616516010	**2-HW-B-15**	EPA 200.8	31842		
4616516011	**1-HW-B-18**	EPA 200.8	31842		

WO# : 4616516

4616516

CHAIN-OF-CUSTODY / Analytical Request Document # 19849

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

Section C Invoice Information:	
Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Will Cole
Pace Profile #:	Profile 236 - Line 2

oject Information:		
Company:	ATC Group Services LLC	
Address:	46555 Humboldt Drive, Suite 100	
Novi, MI 48377		
Email:	robert.smith@atcgs.com	
Phone:	248-669-5140	Fax: 248-669-5147
Requested Due Date:		
Report To:	Robert Smith	
Copy To:		
Purchase Order #:		
Project Name:	Lead & Copper Testing	
Project #:	Nichols Academy	

Regulatory Agency
State / Location
MI

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Lead & Copper	Residual Chlorine (Y/N)	(8-28) CERT 3
1	3-HW-B-1	DW	G	8/8/18	9:14				1			X						X		
2	3-HW-B-3	DW	G	8/8/18	9:16				1			X						X		
3	3-HW-B-4	DW	G	8/8/18	9:18				1			X						X		
4	3-HW-B-6	DW	G	8/8/18	9:19				1			X						X		
5	2-HW-B-8	DW	G	8/8/18	9:23				1			X						X		
6	2-K-KS-9	DW	G	8/8/18	9:25				1			X						X		
7	2-K-KS-10	DW	G	8/8/18	9:26				1			X						X		
8	2-HW-B-12	DW	G	8/8/18	9:29				1			X						X		
9	2-HW-B-13	DW	G	8/8/18	9:30				1			X						X		
10	2-HW-B-15	DW	G	8/8/18	9:32				1			X						X		
11	1-HW-B-18	DW	G	8/8/18	9:33				1			X						X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		8/17/18	1800	D. Nordin	8/17/18	1242	
					8/17/18	1800	

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	Dominique Greer				
SIGNATURE of SAMPLER:		DATE Signed: 8/8/2018	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLE RECEIVING / LOG-IN CHECKLIST

Pace Analytical®

Client: QTC	Work Order #: 4616516	
Receipt Record Page/Line #: 8-28		
Recorded by (initials/date): JN 8-17-18	☑ Cooler ☐ Box ☐ Other	Qty Received: 1
Thermometer Used	☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ IR Gun (#402)	

Cooler # 0005092 Time 2053	Cooler # Time	Cooler # Time	Cooler # Time
Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☑ None	Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None
Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom
Temp Blank Present: ☐ Yes ☐ No	Temp Blank Present: ☐ Yes ☐ No	Temp Blank Present: ☐ Yes ☐ No	Temp Blank Present: ☐ Yes ☐ No
If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative	If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative	If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative	If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

Cooler 1:

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:		0	25.0
Sample 2:		0	25.0
Sample 3:		0	25.2

When above 6 °C take a 3 Sample Average °C: 25.1

☐ VOC Trip Blank received?

Coolers 2–4:

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

When above 6 °C take a 3 Sample Average °C:

☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ______
☑		Received for Lab Signed/Date/Time?
☐	☑	USDA Soil Documents?
☐	☑	Sampling / Field Forms?
☐	☑	Other ______

COC Information

☑ Pace COC ☐ Other ______

COC ID Numbers: 19849

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑	☐	All containers indicated are received?

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 have headspace?
	☐	☑	Extra sample locations?
	☐	☑	Containers not listed on COC?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Temperature Blank **OR** average sample temperature, ≥6° C?
☐	☐	☑	If "Yes" was thermal preservation required?
☑	☐	☐	If "Yes" were ALL samples collected the same day as receipt?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", add wire tag and fill out Non-Conformance Form?
☑	☐		Received unpreserved Terracore kit?
			If "Yes" unpreserved vials must be frozen

Work Order Not Logged In with Short Hold / Rush

☐ Copies of COC To Lab Areas

Notes

Yes	No	
☐	☐	Were all samples logged into Epic?
☐	☐	Were all samples labelled?
☐	☐	Were samples placed on scan locations?

Initial / Date :

Pace Analytical® AQUEOUS SAMPLE PRESERVATION VERIFICATION

Client: QTC

Work Order #: 461616

Receipt Log #: 8-28

Completed By (initials/date): JN 8-17-18

COC ID #: 19819

Adjusted by: _____

Date: _____

pH Strip Reagent or Lot #: ☑ HC739245 ☐ Other

Container Type	BP3C or AG3O		BP1-4S		AG2S		BP1-4N Total		BP1-4N Dissolved			
Preservative	NaOH >12		H_2SO_4 <2		H_2SO_4 <2		HNO_3 <2		HNO_3 <2			
pH	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted
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							✓					
COC Line #11							✓					
COC Line #12												

Comments:

Place a check mark in the Received box if pH is acceptable. If pH is not acceptable, document the Received and Adjusted pH values in the appropriate columns (project manager will review all adjustments at work order release). Never add more than 2x the default preservation volume (see table below for default volumes). Complete and attach a wire tag to all adjusted samples. A Sample Receiving Non-Conformance Report must be completed if a pH adjustment was required.

COC ID #: _____

Adjusted by: _____

Date: _____

Container Type	BP3C or AG3O		BP1-4S		AG2S		BP1-4N Total		BP1-4N Dissolved			
Preservative	NaOH >12		H_2SO_4 <2		H_2SO_4 <2		HNO_3 <2		HNO_3 <2			
pH	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted
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												
COC Line #11												
COC Line #12												

Comments:

Container Size (mL)	Default Preservative Volume (mL)
Container Types 5 / 23	NaOH
250	1.3
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
Container Types 6 / 15	HNO_3
125	0.7
250	1.25
500	2.5
1000	5.0