ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

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

September 5, 2018

Mathew Sam
Detroit Public Schools
1601 Farnsworth
Detroit, Michigan 48202

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

SUBJECT: **Drinking Water Screening Report**
West Side Academy
4701 McKinley
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 2 of the samples analyzed were above the EPA recommended limits of 15 micrograms per liter (ug/L) for lead. Additionally, 2 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 22, 2018)

Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
1-Hall- B- 1	Next to room JC 115, across from gym	left	<1.0 ug/L	910 ug/L
1-Hall- B-2	Next to room JC 115, across from gym	right	<1.0 ug/L	958 ug/L
1-K-SRF- 4	Kitchen at Multi-Purpose Room	sink	2.2 ug/L	132 ug/L
1-Hall- B- 5	Across from room 117 Custodian's Office	left	13.2 ug/L	282 ug/L
1-Hall- B-6	Across from room 117 Custodian's Office	right	1.8 ug/L	186 ug/L
1-Hall- DWF- 7	Next to front entrance & elevator equipment room	left	<1.0 ug/L	482 ug/L
1-Hall- DWF- 8	Next to front entrance & elevator equipment room	right	<1.0 ug/L	405 ug/L
1-SL-SRF- 9	Staff Lounge	Staff sink	<1.0 ug/L	419 ug/L
1-K-KS-19	Kitchen	3 chamber sink, left	**63.1 ug/L**	384 ug/L
1-K-KS-20	Kitchen	3 chamber sink, center	**19.9 ug/L**	345 ug/L

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Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
1-102-B-23	Room 102	bubbler w/ sink and 2nd sink	<1.0 ug/L	1230 ug/L
1-103-B-24	Room 103	bubbler w/ sink and 2nd sink	2.4 ug/L	543 ug/L
1-111-B-25	Room 111	bubbler w/ sink and 2nd sink	3.0 ug/L	**1350 ug/L**
1-110-B-26	Room 110	bubbler w/ sink and 2nd sink	<1.0 ug/L	374 ug/L
1-109-B-27	Room 109	bubbler w/ sink and 2nd sink	<1.0 ug/L	395 ug/L
1-108-B-28	Room 108	bubbler w/ sink and 2nd sink	<1.0 ug/L	1130 ug/L
1-105-B-29	Room 105	bubbler w/ sink and 2nd sink	1.6 ug/L	583 ug/L
1-104-B-30	Room 104	bubbler w/ sink and 2nd sink. Bubbler not working well; sampled sink associated with bubbler.	8.1 ug/L	701 ug/L
1-107-B-31	Room 107	bubbler w/ sink and 2nd sink	1.1 ug/L	339 ug/L
2-Hall-DWF- 17	Across from room 208	left	<1.0 ug/L	284 ug/L
2-Hall-DWF- 18	Across from room 208	right	<1.0 ug/L	390 ug/L
2-207-DWF- 15	Room 207 Cafeteria	left	<1.0 ug/L	759 ug/L
2-207-DWF- 16	Room 207 Cafeteria	right	<1.0 ug/L	**2330 ug/L**
2-K-KS-12	Kitchen	3 chamber sink, left	<1.0 ug/L	436 ug/L

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Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
2-K-KS- 13	Kitchen	3 chamber sink, center	1.1 ug/L	425 ug/L
2-Hall-DWF-11	Across from Room 213, right of Kitchen	right	<1.0 ug/L	761 ug/L

Key: NA - Not Analyzed

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

Analysis of samples of the two kitchen 3 chamber sinks indicate that lead levels were above the MCL. Additionally, analysis of the bubbler in room 111 and the drinking water fountain in room 207 cafeteria 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.

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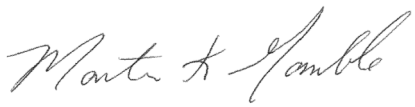
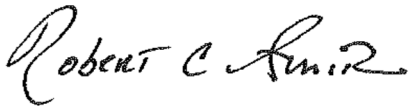
Sincerely,

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: West Side Academy

Address 4701 McKinley

Fixture Identification	Fixture Location	Fixture Description	Photo #
1-Hall- B- 1	Next to room JC 115, across from gym	left	1
1-Hall- B-2	Next to room JC 115, across from gym	right	2
1-Hall- B- 3	Next to kitchen, across from room 101	NOT WORKING	3
1-K-SRF- 4	Kitchen at Multi-Purpose Room	sink	4
1-Hall- B- 5	Across from room 117 Custodian's Office	left	5
1-Hall- B-6	Across from room 117 Custodian's Office	right	6
1-Hall- DWF- 7	Next to front entrance & elevator equipment room	left	7
1-Hall- DWF- 8	Next to front entrance & elevator equipment room	right	8
1-SL-SRF- 9	Staff Lounge		9
2-Hall-DWF-10	Across from Room 213, right of Kitchen	left, NOT WORKING	10
2-Hall-DWF-11	Across from Room 213, right of Kitchen	right	11
2-K-KS-12	Kitchen	3 chamber sink, left	12

2-K-KS- 13	Kitchen	3 chamber sink, center	13
2-K-KS-14	Kitchen	Dishwasher, spray nozzle	14
2-207-DWF- 15	Room 207 Cafeteria	left	15
2-207-DWF- 16	Room 207 Cafeteria	right	16
2-Hall-DWF- 17	Across from room 208	left	17
2-Hall-DWF- 18	Across from room 208	right	18
1-K-KS-19	Kitchen	3 chamber sink, left	19
1-K-KS-20	Kitchen	3 chamber sink, center	20
1-K-KS-21	Kitchen	Dishwasher, spray nozzle	21
1-K-KS-22	Kitchen	hand sink	22
1-102-B-23	Room 102	bubbler w/ sink and 2nd sink	23
1-103-B-24	Room 103	bubbler w/ sink and 2nd sink	24
1-111-B-25	Room 111	bubbler w/ sink and 2nd sink	25
1-110-B-26	Room 110	bubbler w/ sink and 2nd sink	26
1-109-B-27	Room 109	bubbler w/ sink and 2nd sink	27
1-108-B-28	Room 108	bubbler w/ sink and 2nd sink	28
1-105-B-29	Room 105	bubbler w/ sink and 2nd sink	29
1-104-B-30	Room 104	bubbler w/ sink and 2nd sink. Bubbler not working well; sampled sink associated with bubbler.	30
1-107-B-31	Room 107	bubbler w/ sink and 2nd sink	31
2-SL-SRF-32	Staff Lounge	converted to office, custodian no key	32
2-K-KS-33	Kitchen, 2nd floor	hand sink	33

Photo 1: Bubbler near 115.

Photo 2: Bubbler near 115.

Photo 3: Bubbler in the older building, next to the kitchen.

Photo 4: Staff room faucet, located in the kitchen, across from 101. .

Photo 5: Bubbler across from 117.

Photo 6: Bubbler across from 117.

Photo 7: Drinking water faucet, near the front entrance and the elevator equipment room.

Photo 8: Drinking water faucet, near the front entrance and the elevator equipment room.

Photo 9: Staff room faucet, located in the staff lounge, next to the kitchen.

Photo 10: Drinking water faucet next to 213.

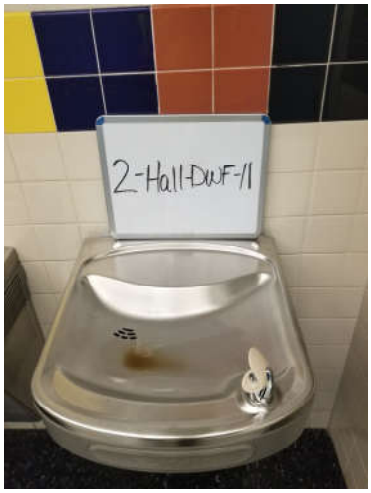


Photo 11: Drinking water faucet next to 213.

Photo 12: Kitchen sink, on the 2nd floor in the kitchen. From left to right.

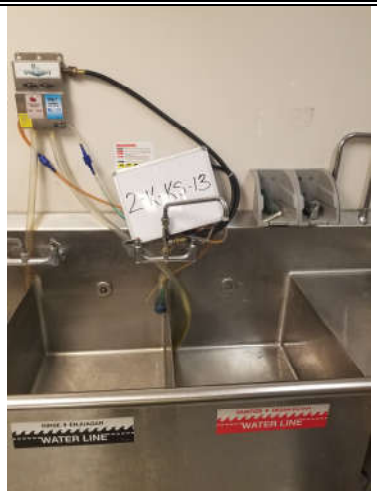


Photo 13: Kitchen sink, on the 2nd floor in the kitchen. From left to right.

Photo 14: Kitchen sink, on the 2nd floor in the kitchen. From left to right.

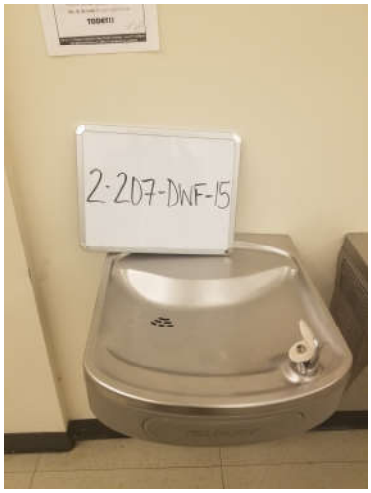


Photo 15: Drinking water faucet in 207.

Photo 16: Drinking water faucet in 207.

Photo 17: Drinking water faucet across from 208.

Photo 18: Drinking water faucet across from 208.

Photo 19: Kitchen sink, on the1st floor in the kitchen. From left to right.

Photo 20: Kitchen sink, on the1st floor in the kitchen. From left to right.

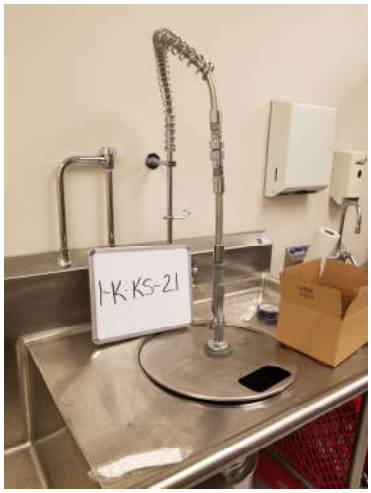


Photo 21: Kitchen sink, on the1st floor in the kitchen. From left to right.

Photo 22: Kitchen sink, on the1st floor in the kitchen. From left to right.

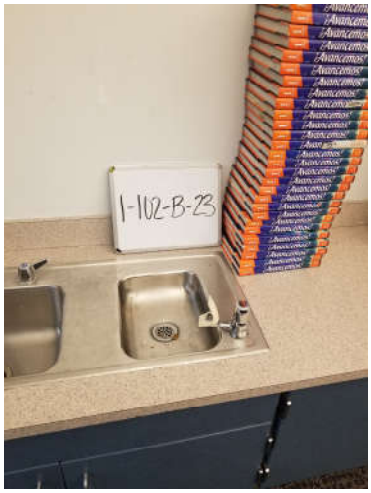


Photo 23: Bubbler in 102.

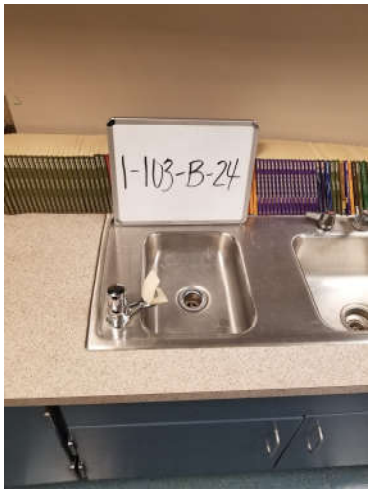


Photo 24: Bubbler in 103.

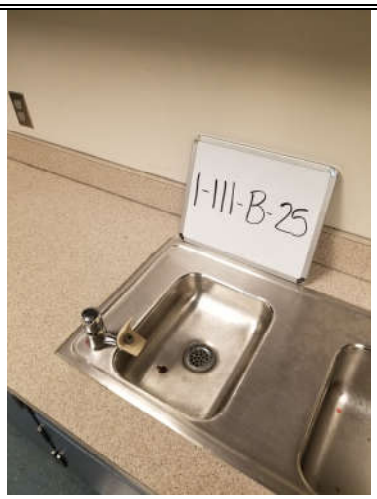


Photo 25: Bubbler in 111.

Photo 26: Bubbler in 110.

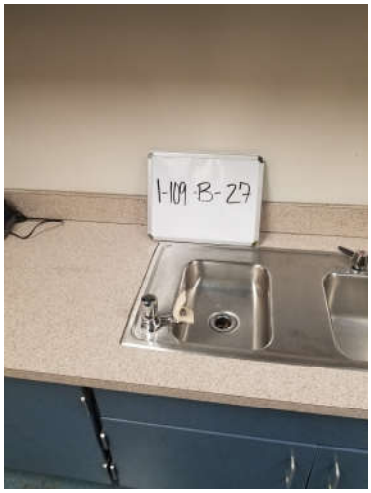


Photo 27: Bubbler in 109.

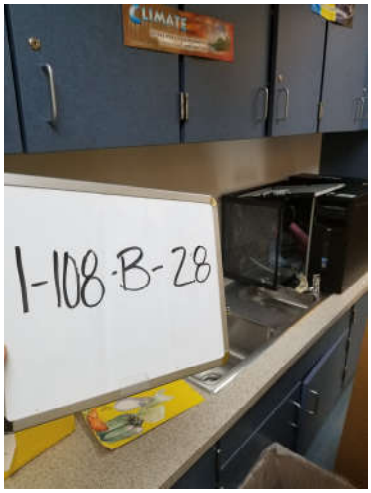


Photo 28: Bubbler in 108.

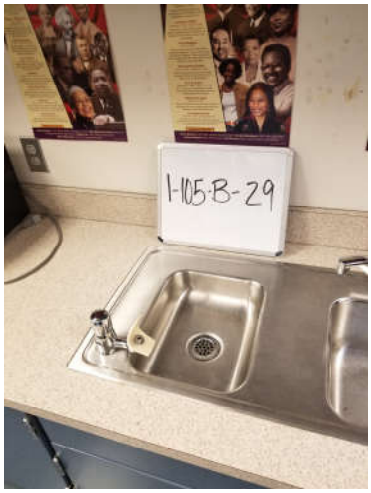


Photo 29: Bubbler in 105.

Photo 30: Bubbler in 104.

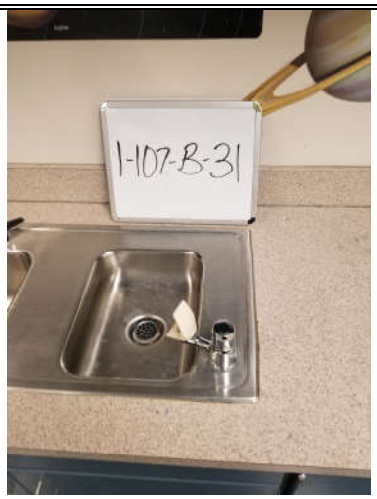


Photo 31: Bubbler in 107.

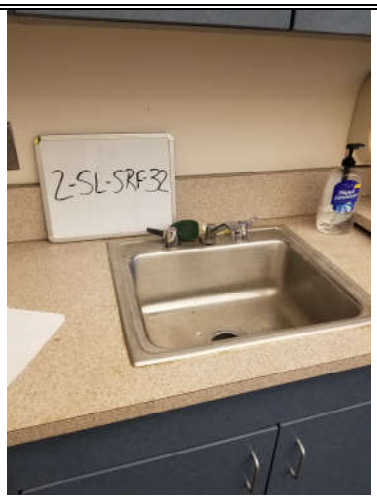


Photo 32: Staff room faucet, located on the 2nd floor in the staff lounge.

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

August 22, 2018

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

RE: Project: West Side Academy
Pace Project No.: 4616086

Dear Robert Smith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 08, 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: West Side Academy
Pace Project No.: 4616086

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

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: West Side Academy
Pace Project No.: 4616086

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4616086001	**1-Hall-B-1**	Drinking Water	08/03/18 08:38	08/08/18 17:35
4616086002	**1-Hall-B-2**	Drinking Water	08/03/18 08:38	08/08/18 17:35
4616086003	**1-K-SRF-4**	Drinking Water	08/03/18 08:42	08/08/18 17:35
4616086004	**1-Hall-B-5**	Drinking Water	08/03/18 08:45	08/08/18 17:35
4616086005	**1-Hall-B-6**	Drinking Water	08/03/18 08:45	08/08/18 17:35
4616086006	**1-Hall-DWF-7**	Drinking Water	08/03/18 08:51	08/08/18 17:35
4616086007	**1-Hall-DWF-8**	Drinking Water	08/03/18 08:51	08/08/18 17:35
4616086008	**1-SL-SRF-9**	Drinking Water	08/03/18 08:55	08/08/18 17:35
4616086009	**1-K-KS-19**	Drinking Water	08/03/18 08:59	08/08/18 17:35
4616086010	**1-K-KS-20**	Drinking Water	08/03/18 08:59	08/08/18 17:35
4616086011	**1-102-B-23**	Drinking Water	08/03/18 09:04	08/08/18 17:35
4616086012	**1-102-B-24**	Drinking Water	08/03/18 09:10	08/08/18 17:35
4616086013	**1-111-B-25**	Drinking Water	08/03/18 09:15	08/08/18 17:35
4616086014	**1-110-B-26**	Drinking Water	08/03/18 09:17	08/08/18 17:35
4616086015	**1-109-B-27**	Drinking Water	08/03/18 09:23	08/08/18 17:35
4616086016	**1-108-B-28**	Drinking Water	08/03/18 09:25	08/08/18 17:35
4616086017	**1-105-B-29**	Drinking Water	08/03/18 09:28	08/08/18 17:35
4616086018	**1-104-B-30**	Drinking Water	08/03/18 09:30	08/08/18 17:35
4616086019	**1-107-B-31**	Drinking Water	08/03/18 09:32	08/08/18 17:35
4616086020	**2-Hall-DWF-17**	Drinking Water	08/03/18 09:35	08/08/18 17:35
4616086021	**2-Hall-DWF-18**	Drinking Water	08/03/18 09:35	08/08/18 17:35
4616086022	**2-207-DWF-15**	Drinking Water	08/03/18 09:41	08/08/18 17:35
4616086023	**2-207-DWF-16**	Drinking Water	08/03/18 09:41	08/08/18 17:35
4616086024	**2-K-KS-12**	Drinking Water	08/03/18 09:45	08/08/18 17:35
4616086025	**2-K-KS-13**	Drinking Water	08/03/18 09:45	08/08/18 17:35
4616086026	**2-Hall-DWF-11**	Drinking Water	08/03/18 09:49	08/08/18 17:35

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

SAMPLE ANALYTE COUNT

Project: West Side Academy
Pace Project No.: 4616086

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4616086001	**1-Hall-B-1**	EPA 200.8	CKD	2
4616086002	**1-Hall-B-2**	EPA 200.8	CKD	2
4616086003	**1-K-SRF-4**	EPA 200.8	CKD	2
4616086004	**1-Hall-B-5**	EPA 200.8	CKD	2
4616086005	**1-Hall-B-6**	EPA 200.8	CKD	2
4616086006	**1-Hall-DWF-7**	EPA 200.8	CKD	2
4616086007	**1-Hall-DWF-8**	EPA 200.8	CKD	2
4616086008	**1-SL-SRF-9**	EPA 200.8	CKD	2
4616086009	**1-K-KS-19**	EPA 200.8	CKD	2
4616086010	**1-K-KS-20**	EPA 200.8	CKD	2
4616086011	**1-102-B-23**	EPA 200.8	CKD	2
4616086012	**1-102-B-24**	EPA 200.8	CKD	2
4616086013	**1-111-B-25**	EPA 200.8	CKD	2
4616086014	**1-110-B-26**	EPA 200.8	CKD	2
4616086015	**1-109-B-27**	EPA 200.8	CKD	2
4616086016	**1-108-B-28**	EPA 200.8	CKD	2
4616086017	**1-105-B-29**	EPA 200.8	CKD	2
4616086018	**1-104-B-30**	EPA 200.8	CKD	2
4616086019	**1-107-B-31**	EPA 200.8	CKD	2
4616086020	**2-Hall-DWF-17**	EPA 200.8	CKD	2
4616086021	**2-Hall-DWF-18**	EPA 200.8	CKD	2
4616086022	**2-207-DWF-15**	EPA 200.8	CKD	2
4616086023	**2-207-DWF-16**	EPA 200.8	CKD	2
4616086024	**2-K-KS-12**	EPA 200.8	CKD	2
4616086025	**2-K-KS-13**	EPA 200.8	CKD	2
4616086026	**2-Hall-DWF-11**	EPA 200.8	CKD	2

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

ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-Hall-B-1 **Lab ID: 4616086001** Collected: 08/03/18 08:38 Received: 08/08/18 17:35 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	**910**	ug/L	20.0	1300	20		08/20/18 16:38	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 12:56	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-Hall-B-2 **Lab ID: 4616086002** Collected: 08/03/18 08:38 Received: 08/08/18 17:35 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	**958**	ug/L	20.0	1300	20		08/20/18 16:43	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:01	7439-92-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-K-SRF-4 **Lab ID: 4616086003** Collected: 08/03/18 08:42 Received: 08/08/18 17:35 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	**132**	ug/L	5.0	1300	5		08/20/18 16:44	7440-50-8	
Lead	**2.2**	ug/L	1.0	15	1		08/20/18 13:02	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-Hall-B-5 **Lab ID: 4616086004** Collected: 08/03/18 08:45 Received: 08/08/18 17:35 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	**282**	ug/L	5.0	1300	5		08/20/18 16:45	7440-50-8	
Lead	**13.2**	ug/L	1.0	15	1		08/20/18 13:03	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-Hall-B-6 **Lab ID: 4616086005** Collected: 08/03/18 08:45 Received: 08/08/18 17:35 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	**186**	ug/L	5.0	1300	5		08/20/18 16:46	7440-50-8	
Lead	**1.8**	ug/L	1.0	15	1		08/20/18 13:04	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-Hall-DWF-7 **Lab ID: 4616086006** Collected: 08/03/18 08:51 Received: 08/08/18 17:35 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	**482**	ug/L	10.0	1300	10		08/20/18 16:47	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:05	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-Hall-DWF-8 **Lab ID: 4616086007** Collected: 08/03/18 08:51 Received: 08/08/18 17:35 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	**405**	ug/L	5.0	1300	5		08/20/18 16:51	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:15	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-SL-SRF-9 **Lab ID: 4616086008** Collected: 08/03/18 08:55 Received: 08/08/18 17:35 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	**419**	ug/L	5.0	1300	5		08/20/18 16:52	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:16	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-K-KS-19 **Lab ID: 4616086009** Collected: 08/03/18 08:59 Received: 08/08/18 17:35 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	**384**	ug/L	5.0	1300	5		08/20/18 16:53	7440-50-8	
Lead	**63.1**	ug/L	1.0	15	1		08/20/18 13:17	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-K-KS-20 **Lab ID: 4616086010** Collected: 08/03/18 08:59 Received: 08/08/18 17:35 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	**345**	ug/L	5.0	1300	5		08/20/18 16:54	7440-50-8	
Lead	**19.9**	ug/L	1.0	15	1		08/20/18 13:18	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-102-B-23 **Lab ID: 4616086011** Collected: 08/03/18 09:04 Received: 08/08/18 17:35 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	**1230**	ug/L	20.0	1300	20		08/20/18 16:55	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:19	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-102-B-24 **Lab ID: 4616086012** Collected: 08/03/18 09:10 Received: 08/08/18 17:35 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	**543**	ug/L	10.0	1300	10		08/20/18 16:59	7440-50-8	
Lead	**2.4**	ug/L	1.0	15	1		08/20/18 13:23	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-111-B-25 **Lab ID: 4616086013** Collected: 08/03/18 09:15 Received: 08/08/18 17:35 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	**1350**	ug/L	20.0	1300	20		08/20/18 17:00	7440-50-8	
Lead	**3.0**	ug/L	1.0	15	1		08/20/18 13:24	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-110-B-26 **Lab ID: 4616086014** Collected: 08/03/18 09:17 Received: 08/08/18 17:35 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	**374**	ug/L	5.0	1300	5		08/20/18 17:03	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:32	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-109-B-27 **Lab ID: 4616086015** Collected: 08/03/18 09:23 Received: 08/08/18 17:35 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	**395**	ug/L	5.0	1300	5		08/20/18 17:04	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:33	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-108-B-28 **Lab ID: 4616086016** Collected: 08/03/18 09:25 Received: 08/08/18 17:35 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	**1130**	ug/L	20.0	1300	20		08/20/18 17:05	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:34	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-105-B-29 **Lab ID: 4616086017** Collected: 08/03/18 09:28 Received: 08/08/18 17:35 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	**583**	ug/L	10.0	1300	10		08/20/18 17:06	7440-50-8	
Lead	**1.6**	ug/L	1.0	15	1		08/20/18 13:35	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-104-B-30 **Lab ID: 4616086018** Collected: 08/03/18 09:30 Received: 08/08/18 17:35 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	**701**	ug/L	10.0	1300	10		08/20/18 17:07	7440-50-8	
Lead	**8.1**	ug/L	1.0	15	1		08/20/18 13:36	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 1-107-B-31 **Lab ID: 4616086019** Collected: 08/03/18 09:32 Received: 08/08/18 17:35 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	**339**	ug/L	5.0	1300	5		08/20/18 17:08	7440-50-8	
Lead	**1.1**	ug/L	1.0	15	1		08/20/18 13:37	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 2-Hall-DWF-17 **Lab ID: 4616086020** Collected: 08/03/18 09:35 Received: 08/08/18 17:35 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	**284**	ug/L	5.0	1300	5		08/20/18 17:09	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:38	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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(616)975-4500

ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 2-Hall-DWF-18 **Lab ID: 4616086021** Collected: 08/03/18 09:35 Received: 08/08/18 17:35 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	**390**	ug/L	5.0	1300	5		08/20/18 17:10	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:41	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 2-207-DWF-15 **Lab ID: 4616086022** Collected: 08/03/18 09:41 Received: 08/08/18 17:35 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	**759**	ug/L	10.0	1300	10		08/20/18 17:32	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:47	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 2-207-DWF-16 **Lab ID: 4616086023** Collected: 08/03/18 09:41 Received: 08/08/18 17:35 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	**2330**	ug/L	50.0	1300	50		08/20/18 17:33	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:48	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 2-K-KS-12 **Lab ID: 4616086024** Collected: 08/03/18 09:45 Received: 08/08/18 17:35 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	**436**	ug/L	5.0	1300	5		08/20/18 17:34	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:49	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 2-K-KS-13 **Lab ID: 4616086025** Collected: 08/03/18 09:45 Received: 08/08/18 17:35 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	**425**	ug/L	5.0	1300	5		08/20/18 17:35	7440-50-8	
Lead	**1.1**	ug/L	1.0	15	1		08/20/18 13:51	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: West Side Academy
Pace Project No.: 4616086

Sample: 2-Hall-DWF-11 **Lab ID: 4616086026** Collected: 08/03/18 09:49 Received: 08/08/18 17:35 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	**761**	ug/L	10.0	1300	10		08/20/18 17:36	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		08/20/18 13:52	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: West Side Academy
Pace Project No.: 4616086

QC Batch: 31183 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep
Associated Lab Samples: 4616086001, 4616086002, 4616086003, 4616086004, 4616086005, 4616086006, 4616086007, 4616086008, 4616086009, 4616086010, 4616086011, 4616086012, 4616086013, 4616086014, 4616086015, 4616086016, 4616086017, 4616086018, 4616086019, 4616086020

METHOD BLANK: 125676 Matrix: Water
Associated Lab Samples: 4616086001, 4616086002, 4616086003, 4616086004, 4616086005, 4616086006, 4616086007, 4616086008, 4616086009, 4616086010, 4616086011, 4616086012, 4616086013, 4616086014, 4616086015, 4616086016, 4616086017, 4616086018, 4616086019, 4616086020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	08/20/18 12:52	
Lead	ug/L	<1.0	1.0	08/20/18 12:52	

LABORATORY CONTROL SAMPLE: 125677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	20	21.2	106	85-115	
Lead	ug/L	20	20.8	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 125678 125679

Parameter	Units	4616086001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	910	400	400	1320	1330	103	105	70-130	1	20	
Lead	ug/L	<1.0	20	20	22.1	22.1	108	108	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 125728 125729

Parameter	Units	4616086011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	1230	400	400	1650	1650	104	105	70-130	0	20	
Lead	ug/L	<1.0	20	20	22.4	22.5	108	108	70-130	0	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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QUALITY CONTROL DATA

Project: West Side Academy
Pace Project No.: 4616086

QC Batch: 31184 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep
Associated Lab Samples: 4616086021, 4616086022, 4616086023, 4616086024, 4616086025, 4616086026

METHOD BLANK: 125681 Matrix: Water
Associated Lab Samples: 4616086021, 4616086022, 4616086023, 4616086024, 4616086025, 4616086026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	08/20/18 13:39	
Lead	ug/L	<1.0	1.0	08/20/18 13:39	

LABORATORY CONTROL SAMPLE: 125682

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	20	21.5	107	85-115	
Lead	ug/L	20	21.0	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 125683 125684

Parameter	Units	4616086021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	390	100	100	486	489	96	99	70-130	1	20	
Lead	ug/L	<1.0	20	20	21.8	22.0	107	108	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 125686 125687

Parameter	Units	4616087005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	220	100	100	326	325	107	106	70-130	0	20	
Lead	ug/L	<1.0	20	20	21.9	21.7	106	105	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: West Side Academy
Pace Project No.: 4616086

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.

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(616)975-4500

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: West Side Academy
Pace Project No.: 4616086

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4616086001	**1-Hall-B-1**	EPA 200.8	31183		
4616086002	**1-Hall-B-2**	EPA 200.8	31183		
4616086003	**1-K-SRF-4**	EPA 200.8	31183		
4616086004	**1-Hall-B-5**	EPA 200.8	31183		
4616086005	**1-Hall-B-6**	EPA 200.8	31183		
4616086006	**1-Hall-DWF-7**	EPA 200.8	31183		
4616086007	**1-Hall-DWF-8**	EPA 200.8	31183		
4616086008	**1-SL-SRF-9**	EPA 200.8	31183		
4616086009	**1-K-KS-19**	EPA 200.8	31183		
4616086010	**1-K-KS-20**	EPA 200.8	31183		
4616086011	**1-102-B-23**	EPA 200.8	31183		
4616086012	**1-102-B-24**	EPA 200.8	31183		
4616086013	**1-111-B-25**	EPA 200.8	31183		
4616086014	**1-110-B-26**	EPA 200.8	31183		
4616086015	**1-109-B-27**	EPA 200.8	31183		
4616086016	**1-108-B-28**	EPA 200.8	31183		
4616086017	**1-105-B-29**	EPA 200.8	31183		
4616086018	**1-104-B-30**	EPA 200.8	31183		
4616086019	**1-107-B-31**	EPA 200.8	31183		
4616086020	**2-Hall-DWF-17**	EPA 200.8	31183		
4616086021	**2-Hall-DWF-18**	EPA 200.8	31184		
4616086022	**2-207-DWF-15**	EPA 200.8	31184		
4616086023	**2-207-DWF-16**	EPA 200.8	31184		
4616086024	**2-K-KS-12**	EPA 200.8	31184		
4616086025	**2-K-KS-13**	EPA 200.8	31184		
4616086026	**2-Hall-DWF-11**	EPA 200.8	31184		

WO#: 4616086

4616086

CHAIN-OF-CUSTODY / Analytical Request Document #19792

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

Page : 1 Of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ATC Group Services LLC	Report To:	Robert Smith	Attention:	
Address:	46555 Humboldt Drive, Suite 100	Copy To:		Company Name:	
	Novi, MI 48377			Address:	
Email:	robert.smith@atcgs.com	Purchase Order #:		Pace Quote:	
Phone:	248-669-5140 Fax: 248-669-5147	Project Name:	Lead & Copper Testing	Pace Project Manager:	Will Cole
Requested Due Date:		Project #:	West Side Academy	Pace Profile #:	Profile 236 - Line 2

Regulatory Agency:

State / Location: MI

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	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	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Lead & Copper	Residual Chlorine (Y/N)	
1	1-Hall- B- 1	DW	G	08/03/18	8:38				1			X							X		(41-5) CART 6
2	1-Hall- B-2	DW	G	08/03/18	8:38				1			X							X		
3	1-K-SRF- 4	DW	G	08/03/18	8:42				1			X							X		
4	1-Hall- B- 5	DW	G	08/03/18	8:45				1			X							X		
5	1-Hall- B-6	DW	G	08/03/18	8:45				1			X							X		
6	1-Hall- DWF- 7	DW	G	08/03/18	8:51				1			X							X		
7	1-Hall- DWF- 8	DW	G	08/03/18	8:51				1			X							X		
8	1-SL-SRF- 9	DW	G	08/03/18	8:55				1			X							X		
9	1-K-KS-19	DW	G	08/03/18	8:59				1			X							X		
10	1-K-KS-20	DW	G	08/03/18	8:59				1			X							X		
11	1-102-B-23	DW	G	08/03/18	9:04				1			X							X		
12	1-103-B-24	DW	G	08/03/18	9:10				1			X							X		

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
1-26 WSA	Fashbaugh / ATC	8/3/18	15:30	[signature]	8/8/18	1400	
	[signature]	8/8/18	1735	[signature] Hardin	8-8-18	1735	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jennifer M. Fashbaugh

SIGNATURE of SAMPLER: Fashbaugh

DATE Signed: 08/03/18

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document #19793

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

Section A — Required Client 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:	

Section B — Required Project Information:

Report To:	Robert Smith
Copy To:	
Purchase Order #:	
Project Name:	Lead & Copper Testing
Project #:	West Side Academy

Section C — Invoice Information:

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

Regulatory Agency

State / Location: MI

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	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	Analyses Test: Lead & Copper	Residual Chlorine (Y/N)
13	1-111-B-25	DW	G	08/03/18	9:15				1			X						X	
14	1-110-B-26	DW	G	08/03/18	9:17				1			X						X	
15	1-109-B-27	DW	G	08/03/18	9:23				1			X						X	
16	1-108-B-28	DW	G	08/03/18	9:25				1			X						X	
17	1-105-B-29	DW	G	08/03/18	9:28				1			X						X	
18	1-104-B-30	DW	G	08/03/18	9:30				1			X						X	
19	1-107-B-31	DW	G	08/03/18	9:32				1			X						X	
20	2-Hall-DWF- 17	DW	G	08/03/18	9:35				1			X						X	
21	2-Hall-DWF- 18	DW	G	08/03/18	9:35				1			X						X	
22	2-207-DWF- 15	DW	G	08/03/18	9:41				1			X						X	
23	2-207-DWF- 16	DW	G	08/03/18	9:41				1			X						X	
24	2-K-KS-12	DW	G	08/03/18	9:45				1			X						X	

(41-5)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
1-26 WSA	Jen Fashbaugh/ATC	8/3/18	15:30		8/8/18	14∞	
		8/8/18	1735	Q. NURDIN	8-8-18	1735	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jennifer M. Fashbaugh

SIGNATURE of SAMPLER: Fashbaugh — DATE Signed: 08/03/18

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document #19794

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ATC Group Services LLC	Report To:	Robert Smith	Attention:	
Address:	46555 Humboldt Drive, Suite 100	Copy To:		Company Name:	
Novi, MI 48377				Address:	
Email:	robert.smith@atcgs.com	Purchase Order #:		Pace Quote:	
Phone:	248-669-5140 Fax: 248-669-5147	Project Name:	Lead & Copper Testing	Pace Project Manager:	Will Cole
Requested Due Date:		Project #:	West Side Academy	Pace Profile #:	Profile 236 - Line 2

Regulatory Agency	
State / Location	MI

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	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)
25	2-K-KS- 13	DW	G	08/03/18	9:45				1			X							X	
26	2-Hall-DWF-11	DW	G	08/03/18	9:49				1			X							X	

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

(41-5)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
1-26 WSA	Fashbaugh/ATC	8/3/18	15:30		8/8/18	1400	
		8/8/18	1735		8-8-18	1735	

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	Jennifer M. Fashbaugh				
SIGNATURE of SAMPLER:		DATE Signed:	08/03/18		

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 #: 4616086
Receipt Record Page/Line #: 41.5	

Recorded by (initials/date): JN 8-8-18

☑ Cooler ☐ Box ☐ Other____ Qty Received: 1

Thermometer Used: ☐ IR Gun (#202) ☐ Digital Thermometer (#54) ☑ IR Gun (#402)

Cooler #	Time	Cooler #	Time	Cooler #	Time	Cooler #	Time
—	1948						

Cooler 1

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:		0	34.0
Sample 2:		0	34.1
Sample 3:		0	34.1

When above 6 °C take a 3 Sample Average °C: 34.1

☐ VOC Trip Blank received?

Coolers 2–4 (blank)

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:			

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: 19792, 19793, 19794

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: TS 8/9/18

Pace Analytical® AQUEOUS SAMPLE PRESERVATION VERIFICATION

Client: DTC

Work Order #: 4616086

Receipt Log #: 41-5

Completed By (initials/date): JW 8-8-18

COC ID # 19792

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 # 19793

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

Pace Analytical®

AQUEOUS SAMPLE PRESERVATION VERIFICATION

Client: GTC

Work Order #: 4616086

Receipt Log #: 41-5

Completed By (initials/date): JW 8-8-18

COC ID #: 19794

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