
August 30, 2018

Mathew Sam
Detroit Public Schools
1601 Farnsworth
Detroit, Michigan 48202

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

**SUBJECT: Drinking Water Screening Report
 Brewer
 18025 Brock
 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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46555 Humboldt Drive
Novi, Michigan 48377
Telephone 248-669-5140
www.atcgroupservices.com

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 six (6) 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 20, 2018)

Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
1-Hall-B-3	Across from room 111	Left	6.7 ug/L	26.1 ug/L
1-Hall-B-4	Across from room 111	Right	14.7 ug/L	70.6 ug/L
1-Hall-B-6	Across from main office	right	7.9 ug/L	67.9 ug/L
1-K-KS-7	Kitchen	Hand sink	<1.0 ug/L	218 ug/L
1-K-KS-8	Kitchen	Hand sink	2.6 ug/L	183 ug/L
1-K-KS-9	Kitchen	3 Chamber sink	<1.0 ug/L	91.1 ug/L
1-K-KS-10	Kitchen	3 Chamber sink	<1.0 ug/L	115 ug/L
1-MO-SRF-11	Main Office	Staff sink	9.9 ug/L	102 ug/L
2-208-SRF-13	Room 208	From left to right	18.6 ug/L	410 ug/L



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Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
2-208-SRF-14	Room 208	Staff sink	316 ug/L	178 ug/L
2-208-SRF-15	Room 208	Staff sink	120 ug/L	363 ug/L
2-208-SRF-16	Room 208	Staff sink	121 ug/L	123 ug/L
2-Hall-B-17	Next to room 208	Left	35.1 ug/L	396 ug/L
2-Hall-B-18	Next to room 208	Right	5.9 ug/L	99.7 ug/L
2-Hall-B-19	Next to room 206	Left	6.2 ug/l	90.6 ug/L
2-Hall-B-20	Next to room 206	Right	3.9 ug/L	112 ug/L
2-Hall-B-21	Across from room 211	Left	17.7 ug/L	63.1 ug/L

Key: NA - Not Analyzed

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

Analysis of samples room 208 and across from room 211 indicate that lead 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.

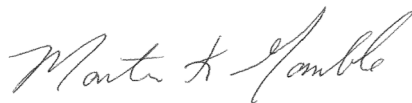
LIMITATIONS

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 plumbing 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.

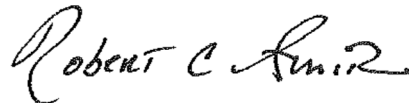
Future drinking water evaluation and sampling in accordance with the recommendations may be predicated on applicable guidelines by the MDEQ or EPA and will be determined prior to developing a sampling plan for the school.

Sincerely,

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:

Brewer

Address

18025 Brock

Fixture Identification	Fixture Location	Fixture Description	Photo #
1-117-CF- 1	Room 117	Kindergarten	1
1-119-B-2	Room 119	Pre-K- Not Working	2
1-Hall- B-3	Across form room 111	Left	3
1-Hall- B-4	Across form room 111	Right	4
1-Hall- B-5	Across from main office	left- Not Working	5
1-Hall- B-6	Across from main office	right	6
1-K-KS-7	Kitchen	Hand sink	7
1-K-KS-8	Kitchen	Hand sink	8
1-K-KS-9	Kitchen	3 Chamber sink	9
1-K-KS-10	Kitchen	3 Chamber sink	10
1-MO-SRF-11	Main Office	Staff sink	11
1-Hall- B- 12	Near room 110	Not Working	12

2-208-SRF-13	Room 208	From left to right	13
2-208-SRF-14	Room 208	Staff sink	14
2-208-SRF-15	Room 208	Staff sink	15
2-208-SRF-16	Room 208	Staff sink	16
2-Hall-B-17	Next to room 208	Left	17
2-Hall-B-18	Next to room 208	Right	18
2-Hall-B-19	Next to room 206	Left	19
2-Hall-B-20	Next to room 206	Right	20
2-Hall-B-21	Across from room 211	Left	21
2-Hall-B-22	Across from room 211	Right- Not Working	22

FIXTURE INVENTORY PHOTOLOG

Brewer
18025 Brock
Detroit, Michigan



Photo 1: Classroom faucet, located on the 1st floor in room 117.



Photo 2: Bubbler, located on the 1st floor in room 119.



Photo 3: Bubbler, located on the 1st floor across from room 111.



Photo 4: Bubbler, located on the 1st floor across from room 111.

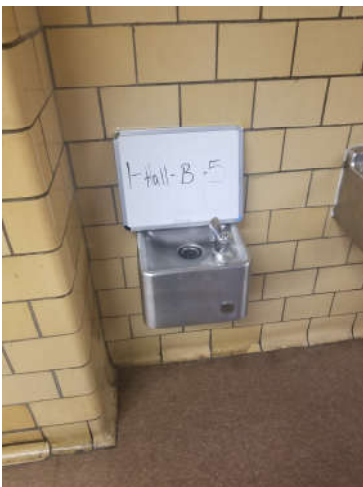


Photo 5: Bubbler, located on the 1st floor across from the main office.



Photo 6: Bubbler, located on the 1st floor across from the main office.

FIXTURE INVENTORY PHOTOLOG

Brewer
18025 Brock
Detroit, Michigan



Photo 7: Kitchen sink, located on the 1st floor in the kitchen.
From left to right.



Photo 8: Kitchen sink, located on the 1st floor in the kitchen.



Photo 9: Kitchen sink, located on the 1st floor in the kitchen.



Photo 10: Kitchen sink, located on the 1st floor in the kitchen.



Photo 11: Staff room faucet, located in the main office.



Photo 12: Bubbler, located on the 1st floor next to room 110.

FIXTURE INVENTORY PHOTOLOG

Brewer
18025 Brock
Detroit, Michigan



Photo 13: Staff room faucet, located on the 2nd floor in room 208. From left to right.



Photo 14: Staff room faucet, located on the 2nd floor in room 208. From left to right.



Photo 15: Girls Staff room faucet, located on the 2nd floor in room 208. From left to right.



Photo 16: Staff room faucet, located on the 2nd floor in room 208. From left to right.



Photo 17: Bubbler, located on the 2nd floor next to room 208.

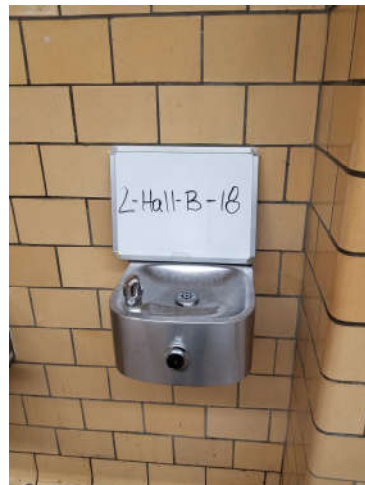


Photo 18: Bubbler, located on the 2nd floor next to room 208.

FIXTURE INVENTORY PHOTOLOG

Brewer
18025 Brock
Detroit, Michigan

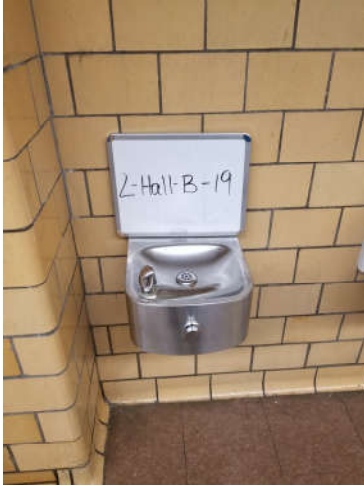


Photo 19: Bubbler, located on the 2nd floor next to room 206.

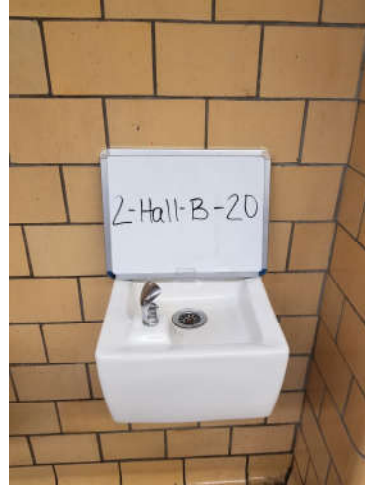


Photo 20: Bubbler, located on the 2nd floor next to room 206.



Photo 21: Bubbler, located on the 2nd floor next to room 211.

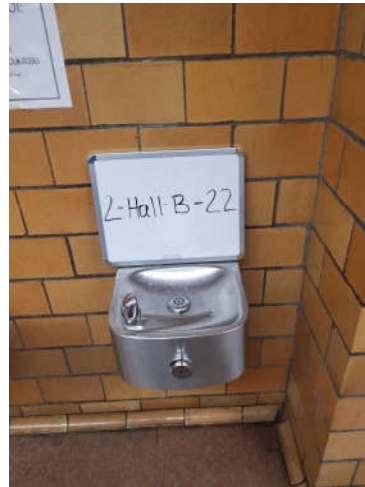


Photo 22: Bubbler, located on the 2nd floor next to room 211.

FIXTURE INVENTORY PHOTOLOG

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Detroit, Michigan



Photo 1: Classroom faucet, located on the 1st floor in room 117.



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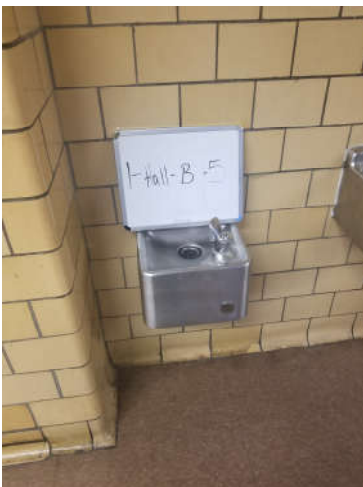


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Detroit, Michigan



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From left to right.



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Photo 12: Bubbler, located on the 1st floor next to room 110.

FIXTURE INVENTORY PHOTOLOG

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Detroit, Michigan



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Photo 16: Staff room faucet, located on the 2nd floor in room 208. From left to right.



Photo 17: Bubbler, located on the 2nd floor next to room 208.

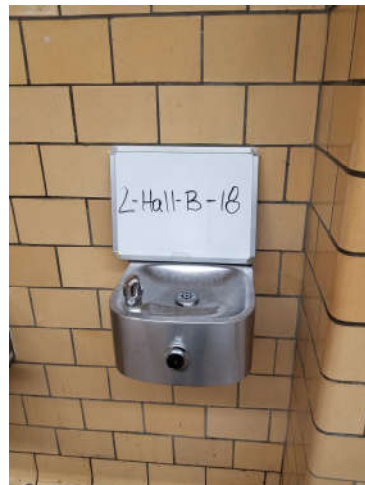


Photo 18: Bubbler, located on the 2nd floor next to room 208.

FIXTURE INVENTORY PHOTOLOG

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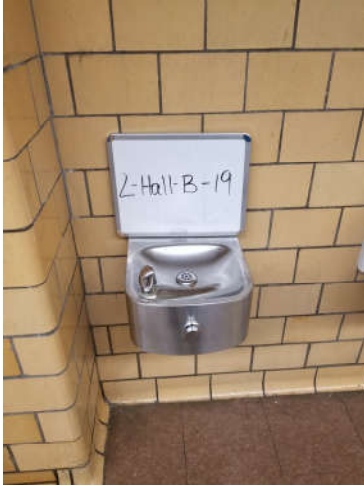


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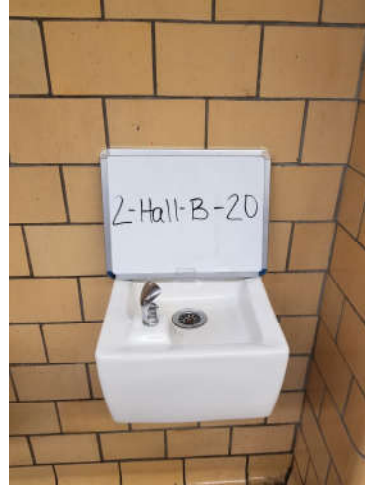


Photo 20: Bubbler, located on the 2nd floor next to room 206.



Photo 21: Bubbler, located on the 2nd floor next to room 211.

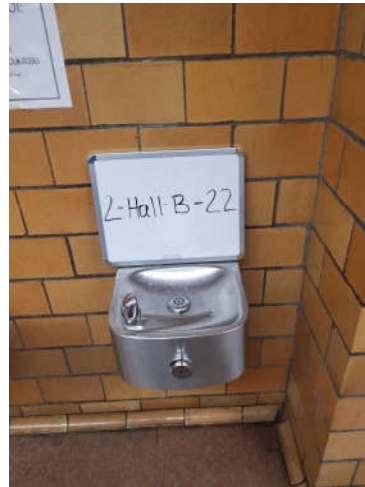


Photo 22: Bubbler, located on the 2nd floor next to room 211.

August 20, 2018

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

RE: Project: DW-Brewer
Pace Project No.: 4616072

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: DW-Brewer

Pace Project No.: 4616072

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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SAMPLE SUMMARY

Project: DW-Brewer

Pace Project No.: 4616072

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4616072001	1-Hall-B-3	Drinking Water	07/31/18 09:36	08/08/18 17:35
4616072002	1-Hall-B-4	Drinking Water	07/31/18 09:40	08/08/18 17:35
4616072003	1-Hall-B-6	Drinking Water	07/31/18 09:41	08/08/18 17:35
4616072004	1-K-KS-7	Drinking Water	07/31/18 09:43	08/08/18 17:35
4616072005	1-K-KS-8	Drinking Water	07/31/18 09:44	08/08/18 17:35
4616072006	1-K-KS-9	Drinking Water	07/31/18 09:45	08/08/18 17:35
4616072007	1-K-KS-10	Drinking Water	07/31/18 09:46	08/08/18 17:35
4616072008	1-MO-SRF-11	Drinking Water	07/31/18 09:50	08/08/18 17:35
4616072009	2-208-SRF-13	Drinking Water	07/31/18 09:53	08/08/18 17:35
4616072010	2-208-SRF-14	Drinking Water	07/31/18 09:54	08/08/18 17:35
4616072011	2-208-SRF-15	Drinking Water	07/31/18 09:55	08/08/18 17:35
4616072012	2-208-SRF-16	Drinking Water	07/31/18 09:56	08/08/18 17:35
4616072013	2-Hall-B-17	Drinking Water	07/31/18 09:57	08/08/18 17:35
4616072014	2-Hall-B-18	Drinking Water	07/31/18 09:58	08/08/18 17:35
4616072015	2-Hall-B-19	Drinking Water	07/31/18 10:00	08/08/18 17:35
4616072016	2-Hall-B-20	Drinking Water	07/31/18 10:01	08/08/18 17:35
4616072017	2-Hall-B-21	Drinking Water	07/31/18 10:02	08/08/18 17:35

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SAMPLE ANALYTE COUNT

Project: DW-Brewer

Pace Project No.: 4616072

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4616072001	1-Hall-B-3	EPA 200.8	CKD	2
4616072002	1-Hall-B-4	EPA 200.8	CKD	2
4616072003	1-Hall-B-6	EPA 200.8	CKD	2
4616072004	1-K-KS-7	EPA 200.8	CKD	2
4616072005	1-K-KS-8	EPA 200.8	CKD	2
4616072006	1-K-KS-9	EPA 200.8	CKD	2
4616072007	1-K-KS-10	EPA 200.8	CKD	2
4616072008	1-MO-SRF-11	EPA 200.8	CKD	2
4616072009	2-208-SRF-13	EPA 200.8	CKD	2
4616072010	2-208-SRF-14	EPA 200.8	CKD	2
4616072011	2-208-SRF-15	EPA 200.8	CKD	2
4616072012	2-208-SRF-16	EPA 200.8	CKD	2
4616072013	2-Hall-B-17	EPA 200.8	CKD	2
4616072014	2-Hall-B-18	EPA 200.8	CKD	2
4616072015	2-Hall-B-19	EPA 200.8	CKD	2
4616072016	2-Hall-B-20	EPA 200.8	CKD	2
4616072017	2-Hall-B-21	EPA 200.8	CKD	2

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 1-Hall-B-3		Lab ID: 4616072001		Collected: 07/31/18 09:36		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	26.1	ug/L	1.0	1300	1		08/17/18 10:36	7440-50-8	
Lead	6.7	ug/L	1.0	15	1		08/17/18 10:36	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 1-Hall-B-4		Lab ID: 4616072002		Collected: 07/31/18 09:40		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	70.6	ug/L	1.0	1300	1		08/17/18 10:40	7440-50-8	
Lead	14.7	ug/L	1.0	15	1		08/17/18 10:40	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 1-Hall-B-6		Lab ID: 4616072003		Collected: 07/31/18 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	67.9	ug/L	1.0	1300	1		08/17/18 10:42	7440-50-8	
Lead	7.9	ug/L	1.0	15	1		08/17/18 10:42	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 1-K-KS-7		Lab ID: 4616072004		Collected: 07/31/18 09:43		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	218	ug/L	5.0	1300	5		08/17/18 13:31	7440-50-8	
Lead	<1.0	ug/L	1.0	15	1		08/17/18 10:43	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 1-K-KS-8		Lab ID: 4616072005		Collected: 07/31/18 09:44		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	183	ug/L	5.0	1300	5		08/17/18 13:33	7440-50-8	
Lead	2.6	ug/L	1.0	15	1		08/17/18 10:44	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 1-K-KS-9		Lab ID: 4616072006		Collected: 07/31/18 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	91.1	ug/L	1.0	1300	1		08/17/18 10:48	7440-50-8	
Lead	<1.0	ug/L	1.0	15	1		08/17/18 10:48	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 1-K-KS-10		Lab ID: 4616072007		Collected: 07/31/18 09:46		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	115	ug/L	5.0	1300	5		08/17/18 13:34	7440-50-8	
Lead	<1.0	ug/L	1.0	15	1		08/17/18 10:49	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 1-MO-SRF-11		Lab ID: 4616072008		Collected: 07/31/18 09:50		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	102	ug/L	5.0	1300	5		08/17/18 13:35	7440-50-8	
Lead	9.9	ug/L	1.0	15	1		08/17/18 10:50	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 2-208-SRF-13		Lab ID: 4616072009		Collected: 07/31/18 09:53		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	410	ug/L	5.0	1300	5		08/17/18 13:36	7440-50-8	
Lead	18.6	ug/L	1.0	15	1		08/17/18 10:51	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 2-208-SRF-14		Lab ID: 4616072010		Collected: 07/31/18 09:54		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	178	ug/L	5.0	1300	5		08/17/18 13:37	7440-50-8	
Lead	316	ug/L	5.0	15	5		08/17/18 13:37	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 2-208-SRF-15		Lab ID: 4616072011		Collected: 07/31/18 09:55		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	363	ug/L	5.0	1300	5		08/17/18 13:41	7440-50-8	
Lead	120	ug/L	5.0	15	5		08/17/18 13:41	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 2-208-SRF-16		Lab ID: 4616072012		Collected: 07/31/18 09:56		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	123	ug/L	5.0	1300	5		08/17/18 13:46	7440-50-8	
Lead	121	ug/L	5.0	15	5		08/17/18 13:46	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 2-Hall-B-17		Lab ID: 4616072013		Collected: 07/31/18 09:57		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	396	ug/L	5.0	1300	5		08/17/18 13:47	7440-50-8	
Lead	35.1	ug/L	1.0	15	1		08/17/18 11:07	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 2-Hall-B-18		Lab ID: 4616072014		Collected: 07/31/18 09:58		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	99.7	ug/L	1.0	1300	1		08/17/18 11:08	7440-50-8	
Lead	5.9	ug/L	1.0	15	1		08/17/18 11:08	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 2-Hall-B-19		Lab ID: 4616072015		Collected: 07/31/18 10:00		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	90.6	ug/L	1.0	1300	1		08/17/18 11:10	7440-50-8	
Lead	6.2	ug/L	1.0	15	1		08/17/18 11:10	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 2-Hall-B-20		Lab ID: 4616072016		Collected: 07/31/18 10:01		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	112	ug/L	5.0	1300	5		08/17/18 13:48	7440-50-8	
Lead	3.9	ug/L	1.0	15	1		08/17/18 11:11	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: DW-Brewer

Pace Project No.: 4616072

Sample: 2-Hall-B-21		Lab ID: 4616072017		Collected: 07/31/18 10:02		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	63.1	ug/L	1.0	1300	1		08/17/18 11:12	7440-50-8	
Lead	17.7	ug/L	1.0	15	1		08/17/18 11:12	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: DW-Brewer
Pace Project No.: 4616072

QC Batch: 31003 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep
Associated Lab Samples: 4616072001, 4616072002, 4616072003, 4616072004, 4616072005, 4616072006, 4616072007, 4616072008, 4616072009, 4616072010, 4616072011, 4616072012, 4616072013, 4616072014, 4616072015, 4616072016, 4616072017

METHOD BLANK: 124811 Matrix: Water
Associated Lab Samples: 4616072001, 4616072002, 4616072003, 4616072004, 4616072005, 4616072006, 4616072007, 4616072008, 4616072009, 4616072010, 4616072011, 4616072012, 4616072013, 4616072014, 4616072015, 4616072016, 4616072017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	08/17/18 10:33	
Lead	ug/L	<1.0	1.0	08/17/18 10:33	

LABORATORY CONTROL SAMPLE: 124812

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	20	21.1	106	85-115	
Lead	ug/L	20	21.1	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 124813 124814

Parameter	Units	4616072001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	26.1	20	20	45.9	46.7	99	103	70-130	2	20	
Lead	ug/L	6.7	20	20	27.2	27.5	103	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 124816 124817

Parameter	Units	4616072011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	363	100	100	467	468	105	105	70-130	0	20	
Lead	ug/L	120	100	100	222	224	102	104	70-130	1	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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QUALIFIERS

Project: DW-Brewer
Pace Project No.: 4616072

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: DW-Brewer

Pace Project No.: 4616072

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4616072001	1-Hall-B-3	EPA 200.8	31003		
4616072002	1-Hall-B-4	EPA 200.8	31003		
4616072003	1-Hall-B-6	EPA 200.8	31003		
4616072004	1-K-KS-7	EPA 200.8	31003		
4616072005	1-K-KS-8	EPA 200.8	31003		
4616072006	1-K-KS-9	EPA 200.8	31003		
4616072007	1-K-KS-10	EPA 200.8	31003		
4616072008	1-MO-SRF-11	EPA 200.8	31003		
4616072009	2-208-SRF-13	EPA 200.8	31003		
4616072010	2-208-SRF-14	EPA 200.8	31003		
4616072011	2-208-SRF-15	EPA 200.8	31003		
4616072012	2-208-SRF-16	EPA 200.8	31003		
4616072013	2-Hall-B-17	EPA 200.8	31003		
4616072014	2-Hall-B-18	EPA 200.8	31003		
4616072015	2-Hall-B-19	EPA 200.8	31003		
4616072016	2-Hall-B-20	EPA 200.8	31003		
4616072017	2-Hall-B-21	EPA 200.8	31003		

REPORT OF LABORATORY ANALYSIS

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WO#: 4616072



N-OF-CUSTODY / Analytical Request Document

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

#20237

Page : 1 Of 2

Section A

Required Client Information:

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

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 #	MATRIX	CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Y/N	Analyses Test	Lead & Copper	Residual Chlorine (Y/N)	41-12
				START	END			H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other								
1	Drinking Water	DW	DW/G	7/31/18	9:36		1															
2	Water	WT	DW/G	7/31/18	9:40		1															
3	Waste Water	WW	DW/G	7/31/18	9:41		1															
4	Product	P	DW/G	7/31/18	9:43		1															
5	Soil/Solid	SL	DW/G	7/31/18	9:44		1															
6	Oil	OL	DW/G	7/31/18	9:45		1															
7	Wipe	WP	DW/G	7/31/18	9:46		1															
8	Air	AR	DW/G	7/31/18	9:50		1															
9	Other	OT	DW/G	7/31/18	9:53		1															
10	Tissue	TS	DW/G	7/31/18	9:54		1															
11			DW/G	7/31/18	9:55		1															
12			DW/G	7/31/18	9:56		1															

WO#: 4616072

PM: WDC

Due Date: 08/23/18

CLIENT: ATC

HAIN-OF-CUSTODY / Analytical Request Document

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

#20238

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 C

Invoice Information:

Report To: Robert Smith
Copy To:
Company Name:
Address:
Purchase Order #:
Project Name: Lead & Copper Testing
Project #: Brewer

Page : 2 Of 2

Regulatory Agency

State / Location

MI

Requested Analysis Filtered (Y/N)

ITEM #	MATRIX	CODE	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analyses Test	Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)
				START	END			DATE	TIME	DATE	TIME	H2SO4	HNO3	HCl	NaOH	Na2SO3	Methanol	Other												
13	2-Hall-B-17	DW	G	7/31/18	9:57		1					X							X											
14	2-Hall-B-18	DW	G	7/31/18	9:58		1					X							X											
15	2-Hall-B-19	DW	G	7/31/18	10:00		1					X							X											
16	2-Hall-B-20	DW	G	7/31/18	10:01		1					X							X											
17	2-Hall-B-21	DW	G	7/31/18	10:02		1					X							X											

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS			

SAMPLE RECEIVING / LOG-IN CHECKLIST

Pace Analytical®

Client ATC- Brewer
Receipt Record Page/Line # 41-12

Work Order # 4616072

Recorded by (initials/date)

aw 08/08/18

☒ Cooler
☐ Box
☐ Other

Qty Received

1

Thermometer Used

☒ IR Gun (#202)
☐ Digital Thermometer (#54)
☐ IR Gun (#402)

Cooler #

Time

Paw 452 2114

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:	<u>25.8</u>		<u>25.8</u>
Sample 2:	<u>29.7</u>		<u>25.7</u>
Sample 3:	<u>25.3</u>		<u>25.3</u>

When above 6 °C take a

3 Sample Average °C: 25.4

☐ VOC Trip Blank received?

Cooler #

Time

Custody Seals:

☐ None
☐ Present / Intact
☐ Present / Not Intact

Coolant Type:

☐ Loose Ice
☐ Bagged Ice
☐ Blue Ice
☐ None

Coolant Location:

Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is:

☐ Representative ☐ Not Representative

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

When above 6 °C take a

3 Sample Average °C:

☐ VOC Trip Blank received?

Cooler #

Time

Custody Seals:

☐ None
☐ Present / Intact
☐ Present / Not Intact

Coolant Type:

☐ Loose Ice
☐ Bagged Ice
☐ Blue Ice
☐ None

Coolant Location:

Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is:

☐ Representative ☐ Not Representative

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

When above 6 °C take a

3 Sample Average °C:

☐ VOC Trip Blank received?

Cooler #

Time

Custody Seals:

☐ None
☐ Present / Intact
☐ Present / Not Intact

Coolant Type:

☐ Loose Ice
☐ Bagged Ice
☐ Blue Ice
☐ None

Coolant Location:

Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is:

☐ Representative ☐ Not Representative

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

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:

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 :

aw 08/08/18

AQUEOUS SAMPLE PRESERVATION VERIFICATION

Client: ATC - Brewer	Work Order #: 4666072
Receipt Log #: (41-12)	Completed By (initials/date): aw 08/08/18

COC ID # 20237						Adjusted by: _____			
						Date: _____			
Container Type	BP3C or AG30	BP1-4S		AG2S		3 BP1-4N Total		BP1-4N Dissolved	
Preservative	NaOH >12	H ₂ SO ₄ <2		H ₂ SO ₄ <2		HNO ₃ <2		HNO ₃ <2	
pH	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received
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:

pH Strip
Reagent or Lot #

☒ **HC739245**

☐ Other

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 # 20238						Adjusted by: _____			
						Date: _____			
Container Type	BP3C or AG30	BP1-4S		AG2S		3 BP1-4N Total		BP1-4N Dissolved	
Preservative	NaOH >12	H ₂ SO ₄ <2		H ₂ SO ₄ <2		HNO ₃ <2		HNO ₃ <2	
pH	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received
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 ₂ SO ₄
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H ₂ SO ₄
500	2.5
Container Types 6 / 15	HNO ₃
125	0.7
250	1.25
500	2.5
1000	5.0



SAMPLE RECEIVING NON-CONFORMANCE REPORT

Client	ATC - Brewer	Work Order #	44616072
Receipt Log #	(41-12)	Project Chemist	
Completed By (initials/date)	DW 08/08/18		

List non-conformance issues associated with this work order in the chart below/left. Identify discrepancies between the COC and sample tags in the chart below/right. Add comments as needed.

[illegible]

General Comments:

Entered per Doc.

Project Chemist (initials/date)