
September 12, 2018

Mathew Sam
Detroit Public Schools
1601 Farnsworth
Detroit, Michigan 48202

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

**SUBJECT: Drinking Water Screening Report
 Cody High School
 18445 Cathedral Street
 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 eighteen (18) of the samples analyzed were above the EPA recommended limits of 15 micrograms per liter (ug/L) for lead. Additionally, two (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 (September 6, 2018)

Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
1-Kitchen-KF-1	Kitchen (wall next to sprayer)	Kitchen Faucet (dish washing)	<1.0 ug/L	100 ug/L
1-Kitchen-KF-3	Kitchen (along wall)	Kitchen Faucet (dish washing) - Left	1.6 ug/L	160 ug/L
1-Kitchen-KF-4	Kitchen (along wall)	Kitchen Faucet (dish washing) - Right	3.1 ug/L	159 ug/L
2-Hall@254-DWF-9	Hall across from room 254	Drinking Water Fountain - Left Fixture	8.7 ug/L	338 ug/L
2-Hall@Clock-B-11	Hall near the center of the hallway, near clock	Bubbler - Left Fixture	37.4 ug/L	5.1 ug/L
2-Hall@Clock-B-12	Hall near the center of the hallway, near clock	Bubbler - Right Fixture	14.7 ug/L	3.8 ug/L
2-Hall@243-DWF-13	Hall to the left of room 243	Drinking Water Fountain - Left Fixture	4.2 ug/L	97.8 ug/L
2-Hall@243-DWF-14	Hall to the left of room 243	Drinking Water Fountain - Right Fixture	22.7 ug/L	25.6 ug/L
2-Hall@219-B-15	Hall across from room 219	Bubbler - Left Fixture	48.9 ug/L	350 ug/L



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Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
2-Hall@219-B-16	Hall across from room 219	Bubbler - Right Fixture	24.0 ug/L	357 ug/L
2-Hall@206B-B-17	Hall to the right of room 206B	Bubbler - Left Fixture	47.5 ug/L	1080 ug/L
2-Hall@206B-B-18	Hall to the right of room 206B	Bubbler - Right Fixture	144 ug/L	763 ug/L
2-Hall@210-B-19	Hall to the right of room 210	Bubbler - Left Fixture	5.7 ug/L	297 ug/L
2-Hall@210-B-20	Hall to the right of room 210	Bubbler - Right Fixture	7.6 ug/L	52.8 ug/L
2-Hall@216A-B-23	Hall across from room 216A	Bubbler	6.7 ug/L	110 ug/L
2-Hall@216A-DWF-24	Hall across from room 216A	Drinking Water Fountain	2.8 ug/L	140 ug/L
3-Hall@306A-B-25	Hall to the right of room 306A (fan room)	Bubbler - Left Fixture	81.7 ug/L	481 ug/L
3-Hall@306A-B-26	Hall to the right of room 306A (fan room)	Bubbler - Right Fixture	20.5 ug/L	219 ug/L
3-Hall@310-B-27	Hall across from room 310	Bubbler - Left Fixture	12.6 ug/L	188 ug/L
3-Hall@310-B-28	Hall across from room 310	Bubbler - Right Fixture	10.2 ug/L	126 ug/L
3-Hall@316B-DWF-29	Hall to the right of room 316B	Drinking Water Fountain - Left Fixture	2.0 ug/L	804 ug/L
3-Hall@316B-DWF-30	Hall to the right of room 316B	Drinking Water Fountain - Right Fixture	6.6 ug/L	228 ug/L
3-Hall@328-DWF-31	Hall across from room 328	Drinking Water Fountain	2.7 ug/L	830 ug/L
3-Hall@303-B-33	Hall across from room 303	Bubbler - Left Fixture	2.2 ug/L	245 ug/L



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Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
3-Hall@303-B-34	Hall across from room 303	Bubbler - Right Fixture	<1.0 ug/L	311 ug/L
1-Hall@110-B-37	Hall across from room 110	Bubbler - Left Fixture	138 ug/L	2460 ug/L
1-Hall@110-B-38	Hall across from room 110	Bubbler - Right Fixture	131 ug/L	4090 ug/L
1-Hall@140-B-39	Hall to the left of room 140	Bubbler - Left Fixture	28.3 ug/L	8.7 ug/L
1-Hall@140-B-40	Hall to the left of room 140	Bubbler - Right Fixture	20.8 ug/L	45.5 ug/L
1-Hall@146-B-41	Hall across from room 146	Bubbler - Left Fixture	12.7 ug/L	72.1 ug/L
1-Hall@146-B-42	Hall across from room 146	Bubbler - Right Fixture	25.8 ug/L	63.5 ug/L
1-Hall@149-DWF-43	Hall across from room 149	Drinking Water Fountain - Left Fixture	1.6 ug/L	53.6 ug/L
1-Hall@149-DWF-44	Hall across from room 149	Drinking Water Fountain - Right Fixture	89.6 ug/L	80.4 ug/L
1-Hall@103-DWF-45	Hall across from room 103	Drinking Water Fountain	1.8 ug/L	89.9 ug/L
1-Hall@103-B-46	Hall across from room 103	Bubbler	74.0 ug/L	629 ug/L
1-Hall@118-B-53	Hall to the left of room 118	Bubbler - Left Fixture	1.3 ug/L	54.5 ug/L
1-Hall@118-B-54	Hall to the left of room 118	Bubbler - Right Fixture	1.6 ug/L	104 ug/L
2-Gym-B-5	Gym Hall (east hall)	Bubbler - Left Fixture	2.1 ug/L	250 ug/L
2-Gym-B-6	Gym Hall (east hall)	Bubbler - Right Fixture	3.2 ug/L	185 ug/L



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Sample Number	Location	Description	Total Lead (ug/l)	Total Copper (ug/l)
2-Gym-B-7	Gym Hall (west hall)	Bubbler - Left Fixture	76.1 ug/L	348 ug/L
2-Gym-B-8	Gym Hall (west hall)	Bubbler - Right Fixture	39.9 ug/L	521 ug/L
1-Hall@153-DWF-49	Hall across from room 110	Drinking Water Fountain	1.3 ug/L	261 ug/L
1-Hall@153-B-50	Hall across from room 110	Bubbler	83.8 ug/L	59.8 ug/L

Key: NA - Not Analyzed

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

Analysis of samples of the left bubbler on 2nd floor in hall near clock, right drinking water fountain near room 243, both bubblers near room 219 (2), both bubblers near room 206 (2), both bubblers near room 306 (2), both bubblers near room 110 (2), both bubblers near room 140 (2), right bubbler near room 146, right bubbler near room 149, right bubbler near room 103, bubblers in gym (2) and right bubbler near room 153 indicate that lead levels were above the MCL. Additionally, analysis of samples of the bubblers near room 110 (2) 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.



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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

A handwritten signature in black ink, reading 'Martin K. Gamble'.

Martin K. Gamble
Senior Project Manager

A handwritten signature in black ink, reading 'Robert C. Smith'.

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:

Cody High School

Address

18445 Cathedral Street, Detroit, MI 48228

Fixture Identification	Fixture Location	Fixture Description	Photo #
1-Kitchen-KF-1	Kitchen (wall next to sprayer)	Kitchen Faucet (dish washing)	1
1-Kitchen-KF-2	Kitchen (center island)	Kitchen Faucet (hand washing)	2
1-Kitchen-KF-3	Kitchen (along wall)	Kitchen Faucet (dish washing) - Left	3
1-Kitchen-KF-4	Kitchen (along wall)	Kitchen Faucet (dish washing) - Right	4
2-Gym-B-5	Gym Hall (east hall)	Bubbler - Left Fixture	5
2-Gym-B-6	Gym Hall (east hall)	Bubbler - Right Fixture	6
2-Gym-B-7	Gym Hall (west hall)	Bubbler - Left Fixture	7
2-Gym-B-8	Gym Hall (west hall)	Bubbler - Right Fixture	8
2-Hall@254-DWF-9	Hall across from room 254	Drinking Water Fountain - Left Fixture	9
2-Hall@254-DWF-10	Hall across from room 254	Drinking Water Fountain - Right Fixture Not Working	10
2-Hall@Clock-B-11	Hall near the center of the hallway, near clock	Bubbler - Left Fixture	11
2-Hall@Clock-B-12	Hall near the center of the hallway, near clock	Bubbler - Right Fixture	12

School Name:

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Fixture Identification	Fixture Location	Fixture Description	Photo #
2-Hall@243-DWF-13	Hall to the left of room 243	Drinking Water Fountain - Left Fixture	13
2-Hall@243-DWF-14	Hall to the left of room 243	Drinking Water Fountain - Right Fixture	14
2-Hall@219-B-15	Hall across from room 219	Bubbler - Left Fixture	15
2-Hall@219-B-16	Hall across from room 219	Bubbler - Right Fixture	16
2-Hall@206B-B-17	Hall to the right of room 206B	Bubbler - Left Fixture	17
2-Hall@206B-B-18	Hall to the right of room 206B	Bubbler - Right Fixture	18
2-Hall@210-B-19	Hall to the right of room 210	Bubbler - Left Fixture	19
2-Hall@210-B-20	Hall to the right of room 210	Bubbler - Right Fixture	20
2-Hall@228-B-21	Hall across from room 228	Bubbler - Left Fixture Not Working	21
2-Hall@228-B-22	Hall across from room 228	Bubbler - Right Fixture- Not Working	22
2-Hall@216A-B-23	Hall across from room 216A	Bubbler	23
2-Hall@216A-DWF-24	Hall across from room 216A	Drinking Water Fountain	24

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Fixture Identification	Fixture Location	Fixture Description	Photo #
3-Hall@306A-B-25	Hall to the right of room 306A (fan room)	Bubbler - Left Fixture	25
3-Hall@306A-B-26	Hall to the right of room 306A (fan room)	Bubbler - Right Fixture	26
3-Hall@310-B-27	Hall across from room 310	Bubbler - Left Fixture	27
3-Hall@310-B-28	Hall across from room 310	Bubbler - Right Fixture	28
3-Hall@316B-DWF-29	Hall to the right of room 316B	Drinking Water Fountain - Left Fixture	29
3-Hall@316B-DWF-30	Hall to the right of room 316B	Drinking Water Fountain - Right Fixture	30
3-Hall@328-DWF-31	Hall across from room 328	Drinking Water Fountain	31
3-Hall@328-B-32	Hall across from room 328	Bubbler- Not Working	32
3-Hall@303-B-33	Hall across from room 303	Bubbler - Left Fixture	33
3-Hall@303-B-34	Hall across from room 303	Bubbler - Right Fixture	34
1-Café-DWF-35	Cafeteria across from serving area	Drinking Water Fountain- Not Working	35
1-Café-DWF-36	Cafeteria to the right of DWF 36 (near windows)	Drinking Water Fountain- Not Working	36

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Fixture Identification	Fixture Location	Fixture Description	Photo #
1-Hall@110-B-37	Hall across from room 110	Bubbler - Left Fixture	37
1-Hall@110-B-38	Hall across from room 110	Bubbler - Right Fixture	38
1-Hall@140-B-39	Hall to the left of room 140	Bubbler - Left Fixture	39
1-Hall@140-B-40	Hall to the left of room 140	Bubbler - Right Fixture	40
1-Hall@146-B-41	Hall across from room 146	Bubbler - Left Fixture	41
1-Hall@146-B-42	Hall across from room 146	Bubbler - Right Fixture	42
1-Hall@149-DWF-43	Hall across from room 149	Drinking Water Fountain - Left Fixture	43
1-Hall@149-DWF-44	Hall across from room 149	Drinking Water Fountain - Right Fixture	44
1-Hall@103-DWF-45	Hall across from room 103	Drinking Water Fountain	45
1-Hall@103-B-46	Hall across from room 103	Bubbler	46
1-Hall@106-B-47	Hall across from room 106	Bubbler - Left Fixture- Not Working	47
1-Hall@106-B-48	Hall across from room 106	Bubbler - Right Fixture- Not Working	48

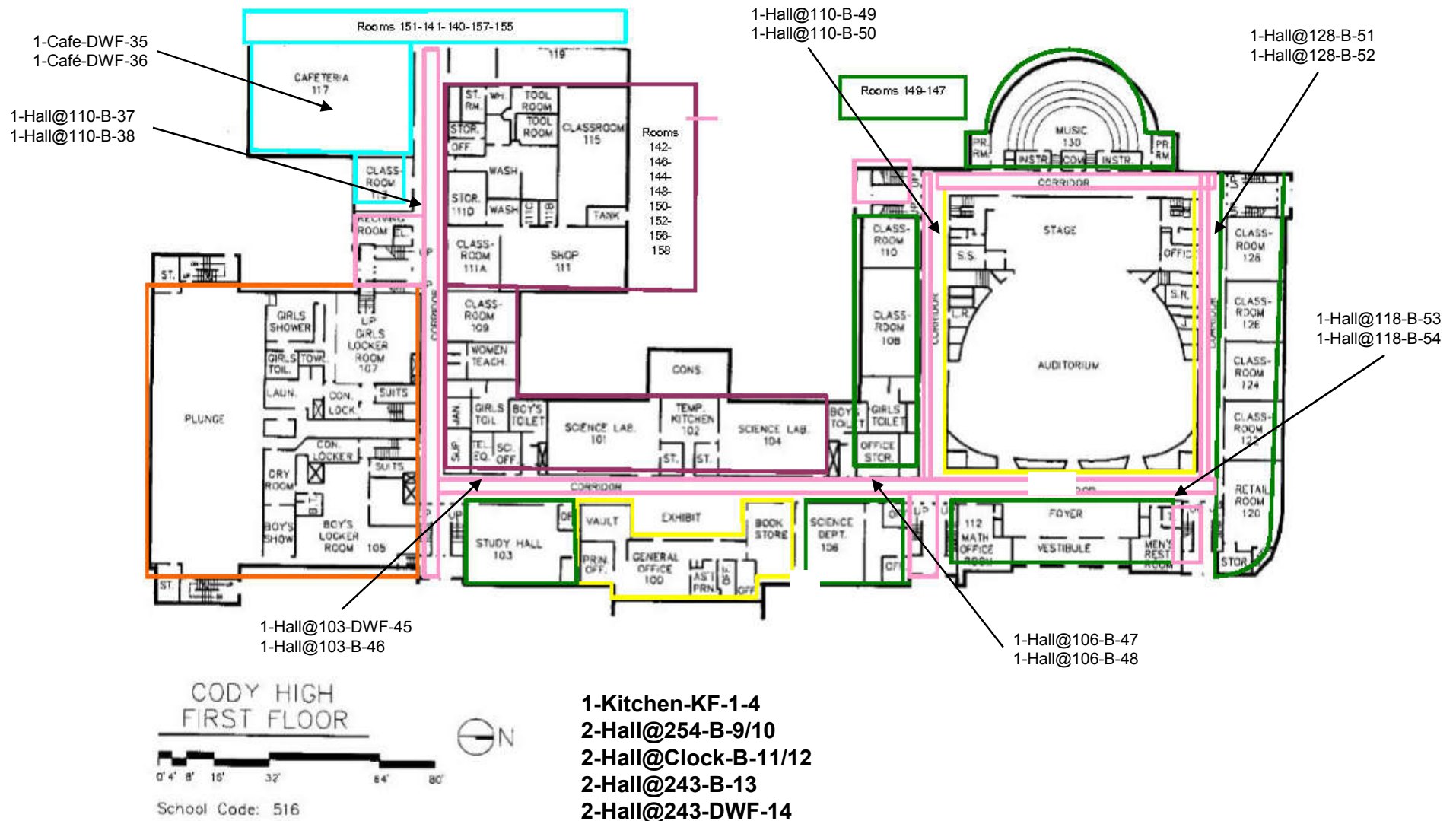
School Name:

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Fixture Identification	Fixture Location	Fixture Description	Photo #
1-Hall@153-DWF-49	Hall across from room 110	Drinking Water Fountain	49
1-Hall@153-B-50	Hall across from room 110	Bubbler	50
1-Hall@128-B-51	Hall across from room 128	Bubbler - Left Fixture- Not Working	51
1-Hall@128-B-52	Hall across from room 128	Bubbler - Right Fixture- Not Working	52
1-Hall@118-B-53	Hall to the left of room 118	Bubbler - Left Fixture	53
1-Hall@118-B-54	Hall to the left of room 118	Bubbler - Right Fixture	54



These fixtures are located in an area not shown on these diagrams. West side of school.



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Fixture Inventory Diagram

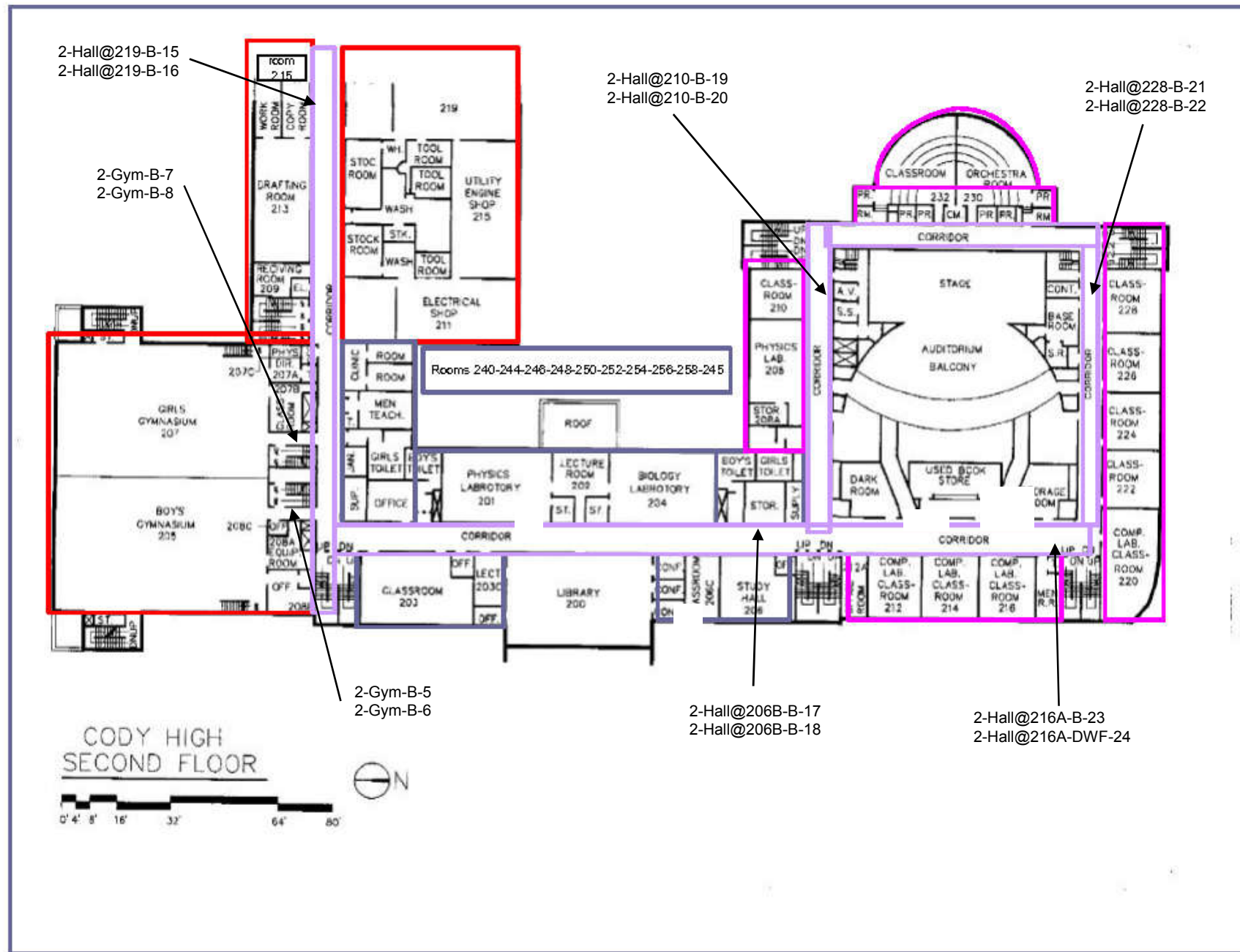
Floor #1

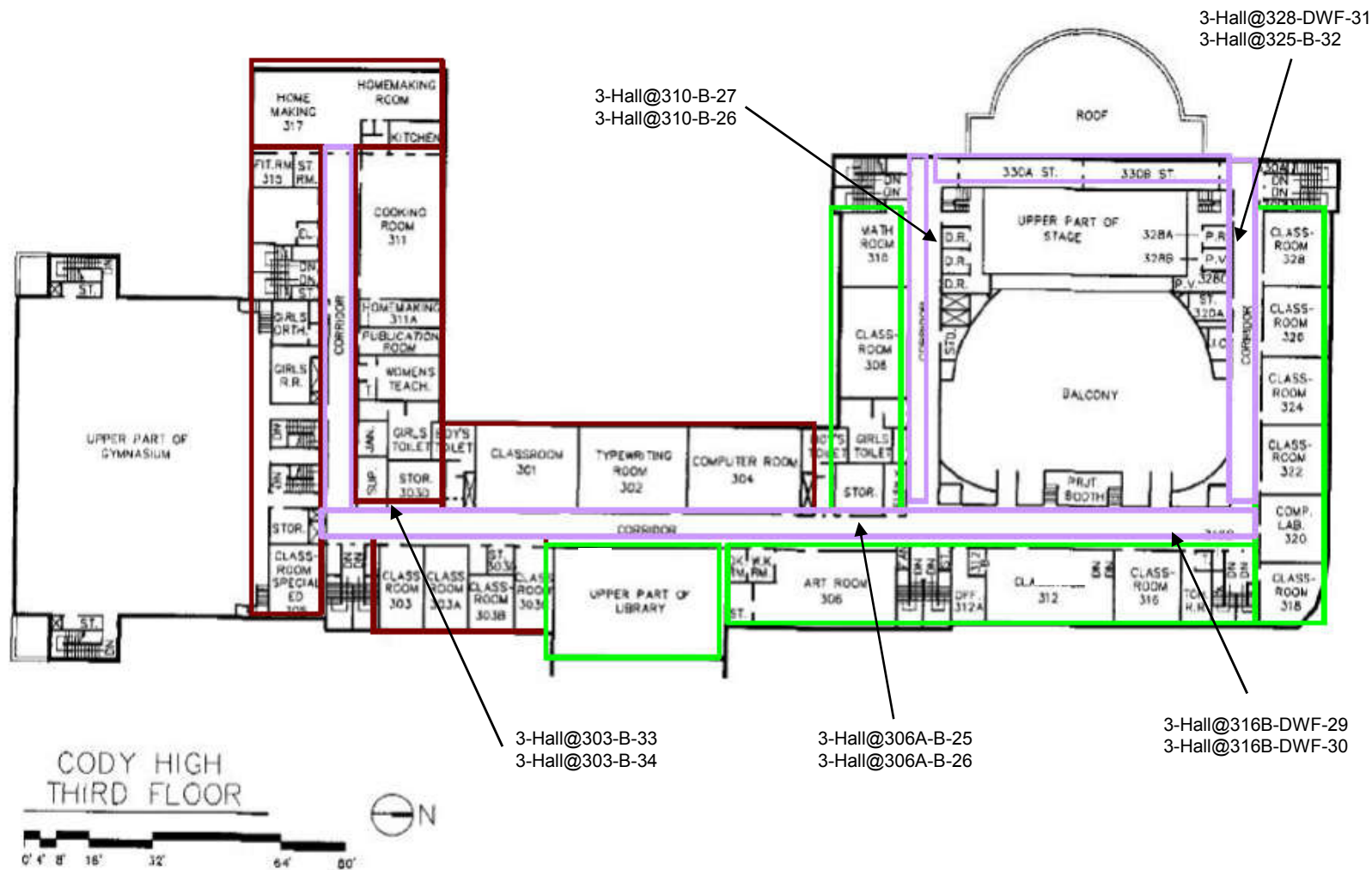
PROJECT NUMBER: 188BS18437
DRAWN BY: KJ

FIGURE: 1
REVIEWED BY:
DATE: 7/24/2018



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Fixture Inventory Diagram

Floor #3

PROJECT NUMBER: 188BS18437

FIGURE: 3

DRAWN BY: KJ

REVIEWED BY:

DATE: 7/24/2018



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FIXTURE INVENTORY PHOTOLOG
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Photo 1: Kitchen faucet, located on the 1st floor, in the kitchen (next to sprayer).



Photo 2: Kitchen faucet, located on the 1st floor, in the kitchen (hand washing).

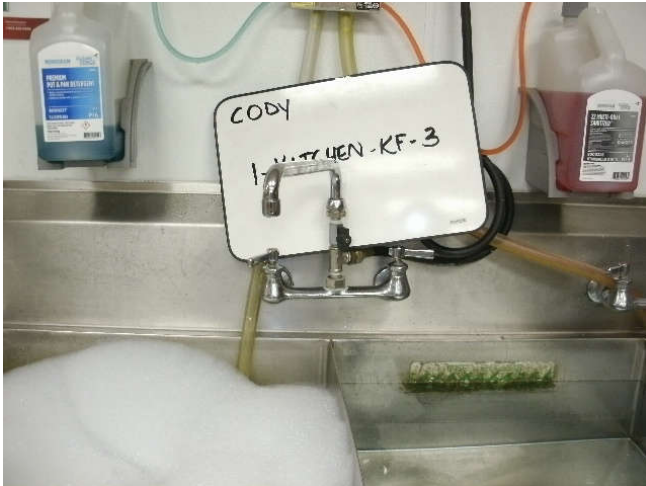


Photo 3: Kitchen faucet, located on the 1st floor, in the kitchen – left fixture (dish washing).



Photo 4: Kitchen faucet, located on the 1st floor, in the kitchen – right fixture (dish washing).

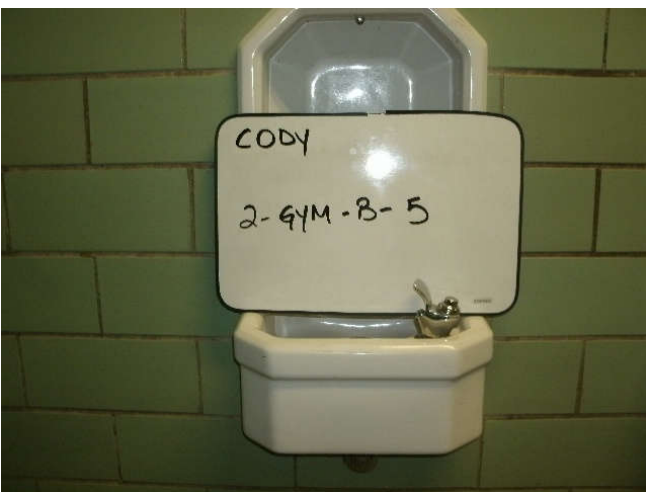


Photo 5: Bubbler, located on the 2nd floor, in the east gym hall – left fixture.



Photo 6: Bubbler, located on the 2nd floor, in the east gym hall – right fixture.

FIXTURE INVENTORY PHOTOLOG
Cody High School
Detroit, Michigan



Photo 7: Bubbler, located on the 2nd floor, in the west gym hall – left fixture.



Photo 8: Bubbler, located on the 2nd floor, in the west gym hall – right fixture.



Photo 9: Drinking water fountain, located in a 2nd floor hall, across from room 254 – left fixture.



Photo 10: Drinking water fountain, located in a 2nd floor hall, across from room 254 – right fixture.



Photo 11: Bubbler, located in a 2nd floor hall, near the clock, near the center of the hallway – left fixture.



Photo 12: Bubbler, located in a 2nd floor hall, near the clock, near the center of the hallway – right fixture.

FIXTURE INVENTORY PHOTOLOG
Cody High School
Detroit, Michigan



Photo 13: Drinking water fountain, located in a 2nd floor hall, to the left of room 243 – left fixture.



Photo 14: Drinking water fountain, located in a 2nd floor hall, to the left of room 243 – left fixture.



Photo 15: Bubbler, located in a 2nd floor hall, across from room 219 – left fixture.



Photo 16: Bubbler, located in a 2nd floor hall, across from room 219 – right fixture.



Photo 17: Bubbler, located in a 2nd floor hall, to the right of room 206B – left fixture.



Photo 18: Bubbler, located in a 2nd floor hall, to the right of room 206B – left fixture.

FIXTURE INVENTORY PHOTOLOG
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Detroit, Michigan



Photo 19: Bubbler, located in a 2nd floor hall, to the right of room 210 – left fixture.



Photo 20: Bubbler, located in a 2nd floor hall, to the right of room 210 – right fixture.



Photo 21: Bubbler, located in a 2nd floor hall, across from room 228 – left fixture.



Photo 22: Bubbler, located in a 2nd floor hall, across from room 228 – right fixture.



Photo 23: Bubbler, located in a 2nd floor hall, across from room 216A – left fixture.



Photo 24: Drinking water fountain, located in a 2nd floor hall, across from room 216A – right fixture.

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Photo 25: Bubbler, located in a 3rd floor hall, to the right of room 306A (fan room) – left fixture.



Photo 26: Bubbler, located in a 3rd floor hall, to the right of room 306A (fan room) – right fixture.

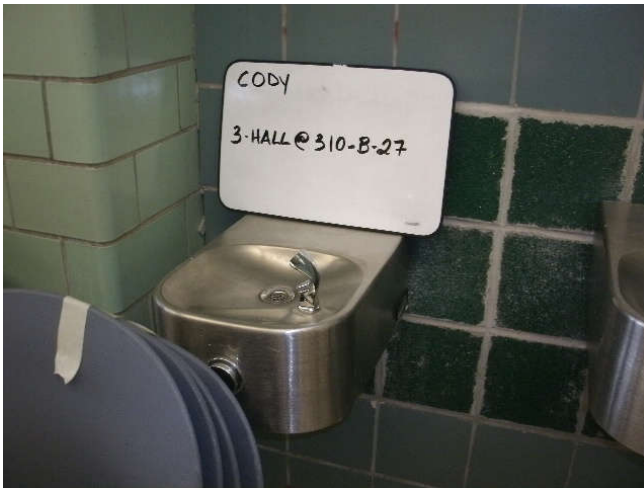


Photo 27: Bubbler, located in a 3rd floor hall, across from room 310 – left fixture.



Photo 28: Bubbler, located in a 3rd floor hall, across from room 310 – right fixture.



Photo 29: Drinking water fountain, located in a 3rd floor hall, to the right of room 316B – left fixture.



Photo 30: Drinking water fountain, located in a 3rd floor hall, to the right of room 316B – right fixture.

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Photo 31: Drinking water fountain, located in a 3rd floor hall, across from room 328 – left fixture.



Photo 32: Drinking water fountain, located in a 3rd floor hall, across from room 328 – right fixture.



Photo 33: Bubbler, located in a 3rd floor hall, across from room 303 – left fixture.



Photo 34: Bubbler, located in a 3rd floor hall, across from room 303 – right fixture.



Photo 35: Drinking water fountain, located on the 1st floor, in the cafeteria, across from the serving area.



Photo 36: Drinking water fountain, located on the 1st floor, in the cafeteria, nearest the windows.

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Photo 37: Bubbler, located in a 1st floor hall, across from room 110 - left fixture.



Photo 38: Bubbler, located in a 1st floor hall, across from room 110 - right fixture.



Photo 39: Bubbler, located in a 1st floor hall, to the left of room 140 - left fixture.



Photo 40: Bubbler, located in a 1st floor hall, to the left of room 140 - right fixture.



Photo 41: Bubbler, located in a 1st floor hall, across from room 146 - left fixture.



Photo 42: Bubbler, located in a 1st floor hall, across from room 146 - right fixture.

FIXTURE INVENTORY PHOTOLOG
Cody High School
Detroit, Michigan



Photo 43: Drinking water fountain, located in a 1st floor hall, across from room 1499 - left fixture.



Photo 44: Bubbler, located in a 1st floor hall, across from room 149 - right fixture.



Photo 45: Drinking water fountain, located in a 1st floor hall, across from room 103 - left fixture.



Photo 46: Bubbler, located in a 1st floor hall, across from room 103 - right fixture.



Photo 47: Bubbler, located in a 1st floor hall, across from room 106 - left fixture.



Photo 48: Bubbler, located in a 1st floor hall, across from room 106 - right fixture.

FIXTURE INVENTORY PHOTOLOG
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Photo 49: Bubbler, located in a 1st floor hall, across from room 110.



Photo 50: Drinking water fountain, located in a 1st floor hall, across from room 110.



Photo 51: Bubbler, located in a 1st floor hall, to the right of room 128 – left fixture.



Photo 52: Bubbler, located in a 1st floor hall, to the right of room 128 – right fixture.



Photo 53: Bubbler, located in a 1st floor hall, to the left of room 118 – left fixture.



Photo 54: Bubbler, located in a 1st floor hall, to the left of room 118 – right fixture.

September 06, 2018

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

RE: Project: DW-Cody
Pace Project No.: 4616833

Dear Robert Smith:

Enclosed are the analytical results for sample(s) received by the laboratory on August 23, 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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without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: DW-Cody

Pace Project No.: 4616833

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

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SAMPLE SUMMARY

Project: DW-Cody
Pace Project No.: 4616833

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4616833001	1-Kitchen-KF-1	Drinking Water	08/14/18 11:17	08/23/18 19:45
4616833002	1-Kitchen-KF-3	Drinking Water	08/14/18 11:19	08/23/18 19:45
4616833003	1-Kitchen-KF-4	Drinking Water	08/14/18 11:20	08/23/18 19:45
4616833004	2-Hall@254-DWF-9	Drinking Water	08/14/18 11:30	08/23/18 19:45
4616833005	2-Hall@Clock-B-11	Drinking Water	08/14/18 11:34	08/23/18 19:45
4616833006	2-Hall@Clock-B-12	Drinking Water	08/14/18 11:36	08/23/18 19:45
4616833007	2-Hall@243-DWF-13	Drinking Water	08/14/18 11:40	08/23/18 19:45
4616833008	2-Hall@243-DWF-14	Drinking Water	08/14/18 11:42	08/23/18 19:45
4616833009	2-Hall@219-B-15	Drinking Water	08/14/18 11:44	08/23/18 19:45
4616833010	2-Hall@219-B-16	Drinking Water	08/14/18 11:45	08/23/18 19:45
4616833011	2-Hall@206B-B-17	Drinking Water	08/14/18 11:49	08/23/18 19:45
4616833012	2-Hall@206B-B-18	Drinking Water	08/14/18 11:50	08/23/18 19:45
4616833013	2-Hall@210-B-19	Drinking Water	08/14/18 11:53	08/23/18 19:45
4616833014	2-Hall@210-B-20	Drinking Water	08/14/18 11:55	08/23/18 19:45
4616833015	2-Hall@216A-B-23	Drinking Water	08/14/18 12:03	08/23/18 19:45
4616833016	2-Hall@216A-DWF-24	Drinking Water	08/14/18 12:04	08/23/18 19:45
4616833017	3-Hall@306A-B-25	Drinking Water	08/14/18 12:10	08/23/18 19:45
4616833018	3-Hall@306A-B-26	Drinking Water	08/14/18 12:11	08/23/18 19:45
4616833019	3-Hall@310-B-27	Drinking Water	08/14/18 12:14	08/23/18 19:45
4616833020	3-Hall@310-B-28	Drinking Water	08/14/18 12:15	08/23/18 19:45
4616833021	3-Hall@316B-DWF-29	Drinking Water	08/14/18 12:17	08/23/18 19:45
4616833022	3-Hall@316B-DWF-30	Drinking Water	08/14/18 12:18	08/23/18 19:45
4616833023	3-Hall@328-DWF-31	Drinking Water	08/14/18 12:21	08/23/18 19:45
4616833024	3-Hall@303-B-33	Drinking Water	08/14/18 12:22	08/23/18 19:45
4616833025	3-Hall@303-B-34	Drinking Water	08/14/18 12:26	08/23/18 19:45
4616833026	1-Hall@110-B-37	Drinking Water	08/14/18 12:36	08/23/18 19:45
4616833027	1-Hall@110-B-38	Drinking Water	08/14/18 12:37	08/23/18 19:45
4616833028	1-Hall@140-B-39	Drinking Water	08/14/18 12:40	08/23/18 19:45
4616833029	1-Hall@140-B-40	Drinking Water	08/14/18 12:41	08/23/18 19:45
4616833030	1-Hall@146-B-41	Drinking Water	08/14/18 12:44	08/23/18 19:45
4616833031	1-Hall@146-B-42	Drinking Water	08/14/18 12:45	08/23/18 19:45
4616833032	1-Hall@149-DWF-43	Drinking Water	08/14/18 12:49	08/23/18 19:45
4616833033	1-Hall@149-DWF-44	Drinking Water	08/14/18 12:50	08/23/18 19:45
4616833034	1-Hall@103-DWF-45	Drinking Water	08/14/18 12:53	08/23/18 19:45
4616833035	1-Hall@103-B-46	Drinking Water	08/14/18 12:54	08/23/18 19:45
4616833036	1-Hall@118-B-53	Drinking Water	08/14/18 13:02	08/23/18 19:45
4616833037	1-Hall@118-B-54	Drinking Water	08/14/18 13:03	08/23/18 19:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: DW-Cody

Pace Project No.: 4616833

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4616833038	2-Gym-B-5	Drinking Water	08/14/18 11:23	08/23/18 19:45
4616833039	2-Gym-B-6	Drinking Water	08/14/18 11:24	08/23/18 19:45
4616833040	2-Gym-B-7	Drinking Water	08/14/18 11:26	08/23/18 19:45
4616833041	2-Gym-B-8	Drinking Water	08/14/18 11:27	08/23/18 19:45
4616833042	1-Hall@153-DWF-49	Drinking Water	08/14/18 12:57	08/23/18 19:45
4616833043	1-Hall@153-B-50	Drinking Water	08/14/18 12:58	08/23/18 19:45

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SAMPLE ANALYTE COUNT

Project: DW-Cody
Pace Project No.: 4616833

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4616833001	1-Kitchen-KF-1	EPA 200.8	CKD	2
4616833002	1-Kitchen-KF-3	EPA 200.8	CKD	2
4616833003	1-Kitchen-KF-4	EPA 200.8	CKD	2
4616833004	2-Hall@254-DWF-9	EPA 200.8	CKD	2
4616833005	2-Hall@Clock-B-11	EPA 200.8	CKD	2
4616833006	2-Hall@Clock-B-12	EPA 200.8	CKD	2
4616833007	2-Hall@243-DWF-13	EPA 200.8	CKD	2
4616833008	2-Hall@243-DWF-14	EPA 200.8	CKD	2
4616833009	2-Hall@219-B-15	EPA 200.8	CKD	2
4616833010	2-Hall@219-B-16	EPA 200.8	CKD	2
4616833011	2-Hall@206B-B-17	EPA 200.8	CKD	2
4616833012	2-Hall@206B-B-18	EPA 200.8	CKD	2
4616833013	2-Hall@210-B-19	EPA 200.8	CKD	2
4616833014	2-Hall@210-B-20	EPA 200.8	CKD	2
4616833015	2-Hall@216A-B-23	EPA 200.8	CKD	2
4616833016	2-Hall@216A-DWF-24	EPA 200.8	CKD	2
4616833017	3-Hall@306A-B-25	EPA 200.8	CKD	2
4616833018	3-Hall@306A-B-26	EPA 200.8	CKD	2
4616833019	3-Hall@310-B-27	EPA 200.8	CKD	2
4616833020	3-Hall@310-B-28	EPA 200.8	CKD	2
4616833021	3-Hall@316B-DWF-29	EPA 200.8	CKD	2
4616833022	3-Hall@316B-DWF-30	EPA 200.8	CKD	2
4616833023	3-Hall@328-DWF-31	EPA 200.8	CKD	2
4616833024	3-Hall@303-B-33	EPA 200.8	CKD	2
4616833025	3-Hall@303-B-34	EPA 200.8	CKD	2
4616833026	1-Hall@110-B-37	EPA 200.8	CKD	2
4616833027	1-Hall@110-B-38	EPA 200.8	CKD	2
4616833028	1-Hall@140-B-39	EPA 200.8	CKD	2
4616833029	1-Hall@140-B-40	EPA 200.8	CKD	2
4616833030	1-Hall@146-B-41	EPA 200.8	CKD	2
4616833031	1-Hall@146-B-42	EPA 200.8	CKD	2
4616833032	1-Hall@149-DWF-43	EPA 200.8	CKD	2
4616833033	1-Hall@149-DWF-44	EPA 200.8	CKD	2
4616833034	1-Hall@103-DWF-45	EPA 200.8	CKD	2
4616833035	1-Hall@103-B-46	EPA 200.8	CKD	2
4616833036	1-Hall@118-B-53	EPA 200.8	CKD	2
4616833037	1-Hall@118-B-54	EPA 200.8	CKD	2

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SAMPLE ANALYTE COUNT

Project: DW-Cody

Pace Project No.: 4616833

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4616833038	2-Gym-B-5	EPA 200.8	CKD	2
4616833039	2-Gym-B-6	EPA 200.8	CKD	2
4616833040	2-Gym-B-7	EPA 200.8	CKD	2
4616833041	2-Gym-B-8	EPA 200.8	CKD	2
4616833042	1-Hall@153-DWF-49	EPA 200.8	CKD	2
4616833043	1-Hall@153-B-50	EPA 200.8	CKD	2

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Kitchen-KF-1		Lab ID: 4616833001		Collected: 08/14/18 11:17		Received: 08/23/18 19:45		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	100	ug/L	1.0	1300	1		09/05/18 17:32	7440-50-8	
Lead	<1.0	ug/L	1.0	15	1		09/05/18 17:32	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Kitchen-KF-3		Lab ID: 4616833002		Collected: 08/14/18 11:19		Received: 08/23/18 19:45		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	160	ug/L	1.0	1300	1		09/05/18 17:37	7440-50-8	
Lead	1.6	ug/L	1.0	15	1		09/05/18 17:37	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Kitchen-KF-4		Lab ID: 4616833003		Collected: 08/14/18 11:20		Received: 08/23/18 19:45		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	159	ug/L	1.0	1300	1		09/05/18 17:38	7440-50-8	
Lead	3.1	ug/L	1.0	15	1		09/05/18 17:38	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@254-DWF-9		Lab ID: 4616833004	Collected: 08/14/18 11:30	Received: 08/23/18 19:45	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	338	ug/L	5.0	1300	5		09/06/18 12:10	7440-50-8	
Lead	8.7	ug/L	1.0	15	1		09/05/18 17:39	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@Clock-B-11		Lab ID: 4616833005		Collected: 08/14/18 11:34		Received: 08/23/18 19:45		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	5.1	ug/L	1.0	1300	1		09/05/18 17:41	7440-50-8	
Lead	37.4	ug/L	1.0	15	1		09/05/18 17:41	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@Clock-B-12		Lab ID: 4616833006	Collected: 08/14/18 11:36		Received: 08/23/18 19:45		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	3.8	ug/L	1.0	1300	1		09/05/18 17:42	7440-50-8	
Lead	14.7	ug/L	1.0	15	1		09/05/18 17:42	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@243-DWF-13		Lab ID: 4616833007		Collected: 08/14/18 11:40		Received: 08/23/18 19:45		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	97.8	ug/L	1.0	1300	1		09/05/18 17:43	7440-50-8	
Lead	4.2	ug/L	1.0	15	1		09/05/18 17:43	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@243-DWF-14		Lab ID: 4616833008		Collected: 08/14/18 11:42		Received: 08/23/18 19:45		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	25.6	ug/L	1.0	1300	1		09/05/18 17:47	7440-50-8	
Lead	22.7	ug/L	1.0	15	1		09/05/18 17:47	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@219-B-15		Lab ID: 4616833009		Collected: 08/14/18 11:44		Received: 08/23/18 19:45		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	350	ug/L	5.0	1300	5		09/06/18 12:12	7440-50-8	
Lead	48.9	ug/L	1.0	15	1		09/05/18 17:54	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@219-B-16		Lab ID: 4616833010		Collected: 08/14/18 11:45		Received: 08/23/18 19:45		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	357	ug/L	5.0	1300	5		09/06/18 12:13	7440-50-8	
Lead	24.0	ug/L	1.0	15	1		09/05/18 17:55	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@206B-B-17		Lab ID: 4616833011		Collected: 08/14/18 11:49		Received: 08/23/18 19:45		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	1080	ug/L	10.0	1300	10		09/06/18 12:18	7440-50-8	
Lead	47.5	ug/L	1.0	15	1		09/05/18 17:56	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@206B-B-18		Lab ID: 4616833012	Collected: 08/14/18 11:50	Received: 08/23/18 19:45	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	763	ug/L	5.0	1300	5		09/06/18 12:19	7440-50-8	
Lead	144	ug/L	5.0	15	5		09/06/18 12:19	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@210-B-19		Lab ID: 4616833013		Collected: 08/14/18 11:53		Received: 08/23/18 19:45		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	297	ug/L	1.0	1300	1		09/05/18 17:58	7440-50-8	
Lead	5.7	ug/L	1.0	15	1		09/05/18 17:58	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@210-B-20		Lab ID: 4616833014		Collected: 08/14/18 11:55		Received: 08/23/18 19:45		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	52.8	ug/L	1.0	1300	1		09/05/18 17:59	7440-50-8	
Lead	7.6	ug/L	1.0	15	1		09/05/18 17:59	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@216A-B-23		Lab ID: 4616833015	Collected: 08/14/18 12:03	Received: 08/23/18 19:45	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	110	ug/L	1.0	1300	1		09/05/18 18:00	7440-50-8	
Lead	6.7	ug/L	1.0	15	1		09/05/18 18:00	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Hall@216A-DWF-24		Lab ID: 4616833016		Collected: 08/14/18 12:04		Received: 08/23/18 19:45		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		09/05/18 18:02	7440-50-8	
Lead	2.8	ug/L	1.0	15	1		09/05/18 18:02	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 3-Hall@306A-B-25		Lab ID: 4616833017	Collected: 08/14/18 12:10	Received: 08/23/18 19:45	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 ICPMS Metals, Total		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Copper	481	ug/L	5.0	1300	5	08/29/18 07:12	09/05/18 16:31	7440-50-8	
Lead	81.7	ug/L	1.0	15	1	08/29/18 07:12	09/05/18 12:05	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 3-Hall@306A-B-26		Lab ID: 4616833018		Collected: 08/14/18 12:11		Received: 08/23/18 19:45		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	219	ug/L	1.0	1300	1		09/05/18 18:09	7440-50-8	
Lead	20.5	ug/L	1.0	15	1		09/05/18 18:09	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 3-Hall@310-B-27		Lab ID: 4616833019		Collected: 08/14/18 12:14		Received: 08/23/18 19:45		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	188	ug/L	1.0	1300	1		09/05/18 18:13	7440-50-8	
Lead	12.6	ug/L	1.0	15	1		09/05/18 18:13	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 3-Hall@310-B-28		Lab ID: 4616833020		Collected: 08/14/18 12:15		Received: 08/23/18 19:45		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	126	ug/L	1.0	1300	1		09/05/18 18:14	7440-50-8	
Lead	10.2	ug/L	1.0	15	1		09/05/18 18:14	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 3-Hall@316B-DWF-29		Lab ID: 4616833021		Collected: 08/14/18 12:17		Received: 08/23/18 19:45		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	804	ug/L	10.0	1300	10		09/06/18 12:21	7440-50-8	
Lead	2.0	ug/L	1.0	15	1		09/05/18 18:15	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 3-Hall@316B-DWF-30		Lab ID: 4616833022		Collected: 08/14/18 12:18		Received: 08/23/18 19:45		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	228	ug/L	1.0	1300	1		09/05/18 18:16	7440-50-8	
Lead	6.6	ug/L	1.0	15	1		09/05/18 18:16	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 3-Hall@328-DWF-31		Lab ID: 4616833023		Collected: 08/14/18 12:21		Received: 08/23/18 19:45		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	830	ug/L	10.0	1300	10		09/06/18 12:22	7440-50-8	
Lead	2.7	ug/L	1.0	15	1		09/05/18 18:18	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 3-Hall@303-B-33		Lab ID: 4616833024		Collected: 08/14/18 12:22		Received: 08/23/18 19:45		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	245	ug/L	1.0	1300	1		09/05/18 18:19	7440-50-8	
Lead	2.2	ug/L	1.0	15	1		09/05/18 18:19	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 3-Hall@303-B-34		Lab ID: 4616833025		Collected: 08/14/18 12:26		Received: 08/23/18 19:45		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	311	ug/L	5.0	1300	5		09/06/18 12:23	7440-50-8	
Lead	<1.0	ug/L	1.0	15	1		09/05/18 18:24	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@110-B-37		Lab ID: 4616833026	Collected: 08/14/18 12:36		Received: 08/23/18 19:45		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	2460	ug/L	10.0	1300	10		09/06/18 12:24	7440-50-8	
Lead	138	ug/L	5.0	15	5		09/06/18 12:25	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@110-B-38		Lab ID: 4616833027	Collected: 08/14/18 12:37		Received: 08/23/18 19:45		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	4090	ug/L	25.0	1300	25		09/06/18 13:03	7440-50-8	
Lead	131	ug/L	5.0	15	5		09/06/18 12:28	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@140-B-39		Lab ID: 4616833028		Collected: 08/14/18 12:40		Received: 08/23/18 19:45		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	8.7	ug/L	1.0	1300	1		09/05/18 18:27	7440-50-8	
Lead	28.3	ug/L	1.0	15	1		09/05/18 18:27	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@140-B-40		Lab ID: 4616833029	Collected: 08/14/18 12:41		Received: 08/23/18 19:45		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	45.5	ug/L	1.0	1300	1		09/05/18 18:31	7440-50-8	
Lead	20.8	ug/L	1.0	15	1		09/05/18 18:31	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@146-B-41		Lab ID: 4616833030		Collected: 08/14/18 12:44		Received: 08/23/18 19:45		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	72.1	ug/L	1.0	1300	1		09/05/18 18:33	7440-50-8	
Lead	12.7	ug/L	1.0	15	1		09/05/18 18:33	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@146-B-42		Lab ID: 4616833031		Collected: 08/14/18 12:45		Received: 08/23/18 19:45		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	63.6	ug/L	1.0	1300	1		09/05/18 18:34	7440-50-8	
Lead	25.8	ug/L	1.0	15	1		09/05/18 18:34	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@149-DWF-43		Lab ID: 4616833032		Collected: 08/14/18 12:49		Received: 08/23/18 19:45		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	53.6	ug/L	1.0	1300	1		09/06/18 11:46	7440-50-8	
Lead	1.6	ug/L	1.0	15	1		09/06/18 11:46	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@149-DWF-44		Lab ID: 4616833033		Collected: 08/14/18 12:50		Received: 08/23/18 19:45		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	80.4	ug/L	1.0	1300	1		09/06/18 11:47	7440-50-8	
Lead	89.6	ug/L	1.0	15	1		09/06/18 11:47	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@103-DWF-45		Lab ID: 4616833034		Collected: 08/14/18 12:53		Received: 08/23/18 19:45		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	89.9	ug/L	1.0	1300	1		09/06/18 11:48	7440-50-8	
Lead	1.8	ug/L	1.0	15	1		09/06/18 11:48	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@103-B-46		Lab ID: 4616833035		Collected: 08/14/18 12:54		Received: 08/23/18 19:45		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	629	ug/L	10.0	1300	10		09/06/18 12:29	7440-50-8	
Lead	74.0	ug/L	1.0	15	1		09/06/18 11:49	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@118-B-53		Lab ID: 4616833036		Collected: 08/14/18 13:02		Received: 08/23/18 19:45		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	54.5	ug/L	1.0	1300	1		09/06/18 11:51	7440-50-8	
Lead	1.3	ug/L	1.0	15	1		09/06/18 11:51	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@118-B-54		Lab ID: 4616833037	Collected: 08/14/18 13:03	Received: 08/23/18 19:45	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	104	ug/L	1.0	1300	1		09/06/18 11:54	7440-50-8	
Lead	1.6	ug/L	1.0	15	1		09/06/18 11:54	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Gym-B-5		Lab ID: 4616833038		Collected: 08/14/18 11:23		Received: 08/23/18 19:45		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	250	ug/L	1.0	1300	1		09/06/18 12:03	7440-50-8	
Lead	2.1	ug/L	1.0	15	1		09/06/18 12:03	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Gym-B-6		Lab ID: 4616833039		Collected: 08/14/18 11:24		Received: 08/23/18 19:45		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	185	ug/L	1.0	1300	1		09/06/18 12:04	7440-50-8	
Lead	3.2	ug/L	1.0	15	1		09/06/18 12:04	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Gym-B-7		Lab ID: 4616833040		Collected: 08/14/18 11:26		Received: 08/23/18 19:45		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	348	ug/L	10.0	1300	10		09/06/18 13:00	7440-50-8	
Lead	76.1	ug/L	1.0	15	1		09/06/18 12:06	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 2-Gym-B-8		Lab ID: 4616833041	Collected: 08/14/18 11:27		Received: 08/23/18 19:45		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	521	ug/L	10.0	1300	10		09/06/18 13:02	7440-50-8	
Lead	39.9	ug/L	1.0	15	1		09/06/18 12:07	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@153-DWF-49		Lab ID: 4616833042	Collected: 08/14/18 12:57	Received: 08/23/18 19:45	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	261	ug/L	1.0	1300	1		09/06/18 12:08	7440-50-8	
Lead	1.3	ug/L	1.0	15	1		09/06/18 12:08	7439-92-1	

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ANALYTICAL RESULTS

Project: DW-Cody

Pace Project No.: 4616833

Sample: 1-Hall@153-B-50		Lab ID: 4616833043	Collected: 08/14/18 12:58		Received: 08/23/18 19:45		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	59.8	ug/L	1.0	1300	1		09/06/18 12:09	7440-50-8	
Lead	83.8	ug/L	1.0	15	1		09/06/18 12:09	7439-92-1	

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QUALITY CONTROL DATA

Project: DW-Cody
Pace Project No.: 4616833

QC Batch:	32486	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	ICPMS Metals, No Prep
Associated Lab Samples:	4616833001, 4616833002, 4616833003, 4616833004, 4616833005, 4616833006, 4616833007, 4616833008, 4616833009, 4616833010, 4616833011, 4616833012, 4616833013, 4616833014, 4616833015, 4616833016		

METHOD BLANK: 131143 Matrix: Water
Associated Lab Samples: 4616833001, 4616833002, 4616833003, 4616833004, 4616833005, 4616833006, 4616833007, 4616833008, 4616833009, 4616833010, 4616833011, 4616833012, 4616833013, 4616833014, 4616833015, 4616833016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	09/05/18 17:22	
Lead	ug/L	<1.0	1.0	09/05/18 17:22	

LABORATORY CONTROL SAMPLE: 131144

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	20	20.3	101	85-115	
Lead	ug/L	20	20.3	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 131145 131146

Parameter	Units	4616831011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	11.8	20	20	31.1	31.0	97	96	70-130	0	20	
Lead	ug/L	13.7	20	20	35.2	35.3	107	108	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 131148 131149

Parameter	Units	4616833007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	97.8	20	20	118	115	102	84	70-130	3	20	
Lead	ug/L	4.2	20	20	25.6	26.0	107	109	70-130	1	20	

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QUALITY CONTROL DATA

Project: DW-Cody
Pace Project No.: 4616833

QC Batch:	32487	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	ICPMS Metals, No Prep
Associated Lab Samples:	4616833018, 4616833019, 4616833020, 4616833021, 4616833022, 4616833023, 4616833024, 4616833025, 4616833026, 4616833027, 4616833028, 4616833029, 4616833030, 4616833031, 4616833032, 4616833033, 4616833034, 4616833035, 4616833036		

METHOD BLANK:	131151	Matrix:	Water
Associated Lab Samples:	4616833018, 4616833019, 4616833020, 4616833021, 4616833022, 4616833023, 4616833024, 4616833025, 4616833026, 4616833027, 4616833028, 4616833029, 4616833030, 4616833031, 4616833032, 4616833033, 4616833034, 4616833035, 4616833036		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	09/05/18 18:03	
Lead	ug/L	<1.0	1.0	09/05/18 18:03	

LABORATORY CONTROL SAMPLE:	131152					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	20	20.6	103	85-115	
Lead	ug/L	20	20.6	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	131153			131154								
Parameter	Units	4616833018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	219	20	20	239	237	98	88	70-130	1	20	
Lead	ug/L	20.5	20	20	41.9	41.6	107	105	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	131156			131157								
Parameter	Units	4616833028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	8.7	20	20	26.4	25.7	89	85	70-130	3	20	
Lead	ug/L	28.3	20	20	49.9	49.6	108	107	70-130	0	20	

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QUALITY CONTROL DATA

Project: DW-Cody
Pace Project No.: 4616833

QC Batch: 32488 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep
Associated Lab Samples: 4616833037, 4616833038, 4616833039, 4616833040, 4616833041, 4616833042, 4616833043

METHOD BLANK: 131159 Matrix: Water
Associated Lab Samples: 4616833037, 4616833038, 4616833039, 4616833040, 4616833041, 4616833042, 4616833043

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	09/06/18 11:52	
Lead	ug/L	<1.0	1.0	09/06/18 11:52	

LABORATORY CONTROL SAMPLE: 131160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	20	20.8	104	85-115	
Lead	ug/L	20	20.2	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 131161 131162

Parameter	Units	4616833037 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	104	20	20	122	125	90	106	70-130	3	20	
Lead	ug/L	1.6	20	20	22.6	22.9	105	107	70-130	2	20	

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QUALITY CONTROL DATA

Project: DW-Cody

Pace Project No.: 4616833

QC Batch: 31878

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Associated Lab Samples: 4616833017

METHOD BLANK: 128690

Matrix: Water

Associated Lab Samples: 4616833017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	09/05/18 11:58	
Lead	ug/L	<1.0	1.0	09/05/18 11:58	

LABORATORY CONTROL SAMPLE: 128691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	50	52.3	105	85-115	
Lead	ug/L	50	51.6	103	85-115	

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-Cody
Pace Project No.: 4616833

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-Cody
Pace Project No.: 4616833

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4616833001	1-Kitchen-KF-1	EPA 200.8	32486		
4616833002	1-Kitchen-KF-3	EPA 200.8	32486		
4616833003	1-Kitchen-KF-4	EPA 200.8	32486		
4616833004	2-Hall@254-DWF-9	EPA 200.8	32486		
4616833005	2-Hall@Clock-B-11	EPA 200.8	32486		
4616833006	2-Hall@Clock-B-12	EPA 200.8	32486		
4616833007	2-Hall@243-DWF-13	EPA 200.8	32486		
4616833008	2-Hall@243-DWF-14	EPA 200.8	32486		
4616833009	2-Hall@219-B-15	EPA 200.8	32486		
4616833010	2-Hall@219-B-16	EPA 200.8	32486		
4616833011	2-Hall@206B-B-17	EPA 200.8	32486		
4616833012	2-Hall@206B-B-18	EPA 200.8	32486		
4616833013	2-Hall@210-B-19	EPA 200.8	32486		
4616833014	2-Hall@210-B-20	EPA 200.8	32486		
4616833015	2-Hall@216A-B-23	EPA 200.8	32486		
4616833016	2-Hall@216A-DWF-24	EPA 200.8	32486		
4616833018	3-Hall@306A-B-26	EPA 200.8	32487		
4616833019	3-Hall@310-B-27	EPA 200.8	32487		
4616833020	3-Hall@310-B-28	EPA 200.8	32487		
4616833021	3-Hall@316B-DWF-29	EPA 200.8	32487		
4616833022	3-Hall@316B-DWF-30	EPA 200.8	32487		
4616833023	3-Hall@328-DWF-31	EPA 200.8	32487		
4616833024	3-Hall@303-B-33	EPA 200.8	32487		
4616833025	3-Hall@303-B-34	EPA 200.8	32487		
4616833026	1-Hall@110-B-37	EPA 200.8	32487		
4616833027	1-Hall@110-B-38	EPA 200.8	32487		
4616833028	1-Hall@140-B-39	EPA 200.8	32487		
4616833029	1-Hall@140-B-40	EPA 200.8	32487		
4616833030	1-Hall@146-B-41	EPA 200.8	32487		
4616833031	1-Hall@146-B-42	EPA 200.8	32487		
4616833032	1-Hall@149-DWF-43	EPA 200.8	32487		
4616833033	1-Hall@149-DWF-44	EPA 200.8	32487		
4616833034	1-Hall@103-DWF-45	EPA 200.8	32487		
4616833035	1-Hall@103-B-46	EPA 200.8	32487		
4616833036	1-Hall@118-B-53	EPA 200.8	32487		
4616833037	1-Hall@118-B-54	EPA 200.8	32488		
4616833038	2-Gym-B-5	EPA 200.8	32488		
4616833039	2-Gym-B-6	EPA 200.8	32488		
4616833040	2-Gym-B-7	EPA 200.8	32488		
4616833041	2-Gym-B-8	EPA 200.8	32488		
4616833042	1-Hall@153-DWF-49	EPA 200.8	32488		
4616833043	1-Hall@153-B-50	EPA 200.8	32488		
4616833017	3-Hall@306A-B-25	EPA 200.8	31878	EPA 200.8	32420

REPORT OF LABORATORY ANALYSIS

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WO#: 4616833



HAIN-OF-CUSTODY / Analytical Request Document #19893

e 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:

Required Project Information:

Report To: Robert Smith

Copy To:

Purchase Order #:

Project Name: Lead and Copper Testing

Project #:

Section C

Invoice Information:

Attention:

Company Name:

Address:

Pace Quote:

Pace Project Manager: Will Cole

Pace Profile #: Profile 236 - Line 2

Page: 1 Of 4

ITEM #	MATRIX	CODE	COLLECTED		DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on	Custody	Sealed	Cooler	Intact
			START	END													
1	1-Kitchen-KF-1	DW	8/14/18	11:17													
2	1-Kitchen-KF-3	DW	8/14/18	11:19													
3	1-Kitchen-KF-4	DW	8/14/18	11:20													
4	2-Hall@254-DWF-9	DW	8/14/18	11:30													
5	2-Hall@Clock-B-11	DW	8/14/18	11:34													
6	2-Hall@Clock-B-12	DW	8/14/18	11:36													
7	2-Hall@243-DWF-13	DW	8/14/18	11:40													
8	2-Hall@243-DWF-14	DW	8/14/18	11:42													
9	2-Hall@219-B-15	DW	8/14/18	11:44													
10	2-Hall@219-B-16	DW	8/14/18	11:45													
11	2-Hall@206B-B-17	DW	8/14/18	11:49													
12	2-Hall@206B-B-18	DW	8/14/18	11:50													

Matrix

Drinking Water

Waste Water

Product

Soil/Solid

Oil

Wipe

Air

Other

Tissue

CODE

DW

WT

WW

P

SL

OL

WP

AR

OT

TS

SAMPLE ID

One Character per box.

(A-Z, 0-9 / , -)

Sample ids must be unique

MATRIX CODE (see valid codes to left)

DW

G

8/14/18

11:17

SAMPLE TYPE (G=GRAB C=COMP)

DW

G

8/14/18

11:19

SAMPLE TEMP AT COLLECTION

DW

G

8/14/18

11:20

OF CONTAINERS

DW

G

8/14/18

11:30

Unpreserved

DW

G

8/14/18

11:34

H2SO4

DW

G

8/14/18

11:36

HNO3

DW

G

8/14/18

11:40

HCl

DW

G

8/14/18

11:42

NaOH

DW

G

8/14/18

11:44

Na2S2O3

DW

G

8/14/18

11:45

Methanol

DW

G

8/14/18

11:49

Other

DW

G

8/14/18

11:50

Analyses Test

DW

G

8/14/18

11:50

Lead & Copper

DW

G

8/14/18

11:50

Residual Chlorine (Y/N)

DW

G

8/14/18

11:50

ADDITIONAL COMMENTS

DW

G

8/14/18

11:50

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed:

8/14/2014

CHAIN-OF-CUSTODY / Analytical Request Document

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

[illegible]

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		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	Project Name:	Lead & Copper Testing	Pace Project Manager:	Will Cole
Requested Due Date:		Project #:	Code	Pace Profile #:	Profile 236 - Line 2
				Regulatory Agency	
				State / Location	
				MI	

Page : 3 Of 4

[illegible]

WA#466833

CHAIN-OF-CUSTODY / Analytical Request Document

19896

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

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		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		Purchase Order #:		Address:	
Email:	robert.smith@atcgs.com	Project Name:	Lead and Copper Testing	Pace Quote:	
Phone:	248-669-5140	Requested Due Date:		Pace Project Manager:	Will Cole
		Project #:		Pace Profile #:	Profile 236 - Line 2
		Code:		MI	

Regulatory Agency

State / Location

#	ITEM	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	DATE	TIME	DATE	TIME	# OF CONTAINERS	Preservatives								Analyses Test	Y/N	Requested Analysis Filtered (Y/N)																Residual Chlorine (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
				START	END								Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
				8/13/18				Dm		8/23/18					
								Dm		8/23/18					

SAMPLE RECEIVING / LOG-IN CHECKLIST

Pace Analytical

Client: ATC
Receipt Record Page/Line #: 19-5

Work Order #: 4666833

Recorded by (initials/date): JN 8-24-18

☐ Cooler
☐ Box
☐ Other

Qty Received: 1

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

Cooler #: 000061 Time: 2:57

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>0</u>		<u>24.8</u>
Sample 2:	<u>0</u>		<u>24.2</u>
Sample 3:	<u>0</u>		<u>24.4</u>

When above 6 °C take a
3 Sample Average °C: 24.5
☐ 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: 19893, 19894, 19895
19896

Check COC for Accuracy

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

Check Sample Preservation

N/A ☒ Yes ☐ No
☐ Temperature Blank OR average sample temperature, $\geq 6^\circ\text{C}$?
☒ 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 08/24/18

AQUEOUS SAMPLE PRESERVATION VERIFICATION

Client: <u>QTC</u>	Work Order #: <u>4616833</u>
Receipt Log #: <u>19-5</u>	Completed By (initials/date): <u>DN 8-24-18 QTC</u>

COC ID #: <u>19893</u>										Adjusted by: _____ Date: _____			
Container Type	BP3C or AG3O		BP1-4S		AG2S		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	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							✓						

pH Strip Reagent or Lot #	
<input checked="" type="checkbox"/>	HC739245
<input type="checkbox"/>	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.

Comments: _____

COC ID #: <u>19894</u>										Adjusted by: _____ Date: _____			
Container Type	BP3C or AG3O		BP1-4S		AG2S		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	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 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

AQUEOUS SAMPLE PRESERVATION VERIFICATION

Client <i>ATC</i>	Work Order # <i>4616833</i>
Receipt Log # <i>19-5</i>	Completed By (Initials/date) <i>SK 8-24-18</i>

COC ID # <i>19895</i>										Adjusted by: _____ Date: _____			
Container Type	BP3C or AG3O		BP1-4S		AG2S		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	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							✓						

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.

Comments:

COC ID # <i>19896</i>										Adjusted by: _____ Date: _____			
Container Type	BP3C or AG3O		BP1-4S		AG2S		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	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													

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

Comments:



Client	QTC	Work Order #	4016833
Receipt Log #	19-5	Completed By (initials/date)	24/08/18
		Project Chemist	

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]