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

May 04, 2018

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

RE: Project: J.E. Clark
Pace Project No.: 4611087

Dear Robert Smith:
Enclosed are the analytical results for sample(s) received by the laboratory on April 19, 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,

Gary Wood
gary.wood@pacelabs.com
(616)940-4206
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: J.E. Clark
Pace Project No.: 4611087

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 #17-046-0
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 #56192 and 56193
North Carolina Division of Water Resources, Certificate #659
Virginia Department of General Services, Certificate #9028
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: J.E. Clark
Pace Project No.: 4611087

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4611087001	**1-B-B-3-P**	Drinking Water	04/14/18 09:52	04/19/18 19:00
4611087002	**1-B-B-3-F**	Drinking Water	04/14/18 09:54	04/19/18 19:00
4611087003	**1-A-B-2-P**	Drinking Water	04/14/18 09:45	04/19/18 19:00
4611087004	**1-A-B-2-F**	Drinking Water	04/14/18 09:47	04/19/18 19:00
4611087005	**1-B-B-2-P**	Drinking Water	04/14/18 09:30	04/19/18 19:00
4611087006	**1-B-B-2-F**	Drinking Water	04/14/18 09:32	04/19/18 19:00
4611087007	**1-B-B-4-P**	Drinking Water	04/14/18 09:52	04/19/18 19:00
4611087008	**1-B-B-4-F**	Drinking Water	04/14/18 09:54	04/19/18 19:00
4611087009	**1-KF-2-P**	Drinking Water	04/14/18 09:40	04/19/18 19:00
4611087010	**1-KF-2-F**	Drinking Water	04/14/18 09:42	04/19/18 19:00
4611087011	**1-KF-1-P**	Drinking Water	04/14/18 09:40	04/19/18 19:00
4611087012	**1-KF-1-F**	Drinking Water	04/14/18 09:42	04/19/18 19:00
4611087013	**1-119-OF-1-P**	Drinking Water	04/14/18 10:01	04/19/18 19:00
4611087014	**1-119-OF-1-F**	Drinking Water	04/14/18 10:03	04/19/18 19:00
4611087015	**1-A-B-1-P**	Drinking Water	04/14/18 09:45	04/19/18 19:00
4611087016	**1-A-B-1-F**	Drinking Water	04/14/18 09:47	04/19/18 19:00
4611087017	**2-D-B-1-P**	Drinking Water	04/14/18 10:13	04/19/18 19:00
4611087018	**2-D-B-1-F**	Drinking Water	04/14/18 10:15	04/19/18 19:00
4611087019	**2-D-B-3-P**	Drinking Water	04/14/18 10:05	04/19/18 19:00
4611087020	**2-D-B-3-F**	Drinking Water	04/14/18 10:07	04/19/18 19:00
4611087021	**2-D-B-4-P**	Drinking Water	04/14/18 10:05	04/19/18 19:00
4611087022	**2-D-B-4-F**	Drinking Water	04/14/18 10:07	04/19/18 19:00

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SAMPLE ANALYTE COUNT

Project: J.E. Clark
Pace Project No.: 4611087

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4611087001	**1-B-B-3-P**	EPA 200.8	DWJ	2
4611087002	**1-B-B-3-F**	EPA 200.8	DWJ	2
4611087003	**1-A-B-2-P**	EPA 200.8	DWJ	2
4611087004	**1-A-B-2-F**	EPA 200.8	DWJ	2
4611087005	**1-B-B-2-P**	EPA 200.8	DWJ	2
4611087006	**1-B-B-2-F**	EPA 200.8	DWJ	2
4611087007	**1-B-B-4-P**	EPA 200.8	DWJ	2
4611087008	**1-B-B-4-F**	EPA 200.8	DWJ	2
4611087009	**1-KF-2-P**	EPA 200.8	DWJ	2
4611087010	**1-KF-2-F**	EPA 200.8	DWJ	2
4611087011	**1-KF-1-P**	EPA 200.8	DWJ	2
4611087012	**1-KF-1-F**	EPA 200.8	DWJ	2
4611087013	**1-119-OF-1-P**	EPA 200.8	DWJ	2
4611087014	**1-119-OF-1-F**	EPA 200.8	DWJ	2
4611087015	**1-A-B-1-P**	EPA 200.8	DWJ	2
4611087016	**1-A-B-1-F**	EPA 200.8	DWJ	2
4611087017	**2-D-B-1-P**	EPA 200.8	DWJ	2
4611087018	**2-D-B-1-F**	EPA 200.8	DWJ	2
4611087019	**2-D-B-3-P**	EPA 200.8	DWJ	2
4611087020	**2-D-B-3-F**	EPA 200.8	DWJ	2
4611087021	**2-D-B-4-P**	EPA 200.8	DWJ	2
4611087022	**2-D-B-4-F**	EPA 200.8	DWJ	2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-B-B-3-P **Lab ID: 4611087001** Collected: 04/14/18 09:52 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**111**	ug/L	5.0	1300	5		05/02/18 14:06	7440-50-8	
Lead	**14.8**	ug/L	1.0	15	1		05/02/18 12:21	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-B-B-3-F **Lab ID: 4611087002** Collected: 04/14/18 09:54 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**35.2**	ug/L	1.0	1300	1		05/02/18 12:27	7440-50-8	
Lead	**9.6**	ug/L	1.0	15	1		05/02/18 12:27	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-A-B-2-P **Lab ID: 4611087003** Collected: 04/14/18 09:45 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**317**	ug/L	5.0	1300	5		05/03/18 13:23	7440-50-8	
Lead	**4.4**	ug/L	1.0	15	1		05/02/18 12:29	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-A-B-2-F **Lab ID: 4611087004** Collected: 04/14/18 09:47 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**21.2**	ug/L	1.0	1300	1		05/02/18 12:30	7440-50-8	
Lead	**1.4**	ug/L	1.0	15	1		05/02/18 12:30	7439-92-1	

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-B-B-2-P **Lab ID: 4611087005** Collected: 04/14/18 09:30 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**4.0**	ug/L	1.0	1300	1		05/02/18 12:32	7440-50-8	
Lead	**1.1**	ug/L	1.0	15	1		05/02/18 12:32	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-B-B-2-F **Lab ID: 4611087006** Collected: 04/14/18 09:32 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**5.2**	ug/L	1.0	1300	1		05/02/18 12:36	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		05/02/18 12:36	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-B-B-4-P **Lab ID: 4611087007** Collected: 04/14/18 09:52 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**119**	ug/L	5.0	1300	5		05/02/18 14:13	7440-50-8	
Lead	**23.3**	ug/L	1.0	15	1		05/02/18 12:38	7439-92-1	

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-B-B-4-F **Lab ID: 4611087008** Collected: 04/14/18 09:54 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**30.3**	ug/L	1.0	1300	1		05/02/18 12:39	7440-50-8	
Lead	**7.7**	ug/L	1.0	15	1		05/02/18 12:39	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-KF-2-P **Lab ID: 4611087009** Collected: 04/14/18 09:40 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**12.4**	ug/L	1.0	1300	1		05/02/18 12:40	7440-50-8	
Lead	**1.9**	ug/L	1.0	15	1		05/02/18 12:40	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-KF-2-F **Lab ID: 4611087010** Collected: 04/14/18 09:42 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**412**	ug/L	10.0	1300	10		05/02/18 14:15	7440-50-8	
Lead	**18.6**	ug/L	1.0	15	1		05/02/18 12:42	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-KF-1-P **Lab ID: 4611087011** Collected: 04/14/18 09:40 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**298**	ug/L	5.0	1300	5		05/02/18 14:16	7440-50-8	
Lead	**6.5**	ug/L	1.0	15	1		05/02/18 12:43	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-KF-1-F **Lab ID: 4611087012** Collected: 04/14/18 09:42 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**12.5**	ug/L	1.0	1300	1		05/02/18 12:45	7440-50-8	
Lead	**2.0**	ug/L	1.0	15	1		05/02/18 12:45	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-119-OF-1-P **Lab ID: 4611087013** Collected: 04/14/18 10:01 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**203**	ug/L	5.0	1300	5		05/02/18 14:18	7440-50-8	
Lead	**2.5**	ug/L	1.0	15	1		05/02/18 12:46	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-119-OF-1-F **Lab ID: 4611087014** Collected: 04/14/18 10:03 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**23.0**	ug/L	1.0	1300	1		05/02/18 12:48	7440-50-8	
Lead	**10.6**	ug/L	1.0	15	1		05/02/18 12:48	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-A-B-1-P **Lab ID: 4611087015** Collected: 04/14/18 09:45 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**325**	ug/L	5.0	1300	5		05/02/18 14:19	7440-50-8	
Lead	**2.7**	ug/L	1.0	15	1		05/02/18 12:49	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 1-A-B-1-F **Lab ID: 4611087016** Collected: 04/14/18 09:47 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**38.8**	ug/L	1.0	1300	1		05/02/18 12:54	7440-50-8	
Lead	**2.8**	ug/L	1.0	15	1		05/02/18 12:54	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 2-D-B-1-P **Lab ID: 4611087017** Collected: 04/14/18 10:13 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**7.6**	ug/L	1.0	1300	1		05/02/18 12:55	7440-50-8	
Lead	**1.3**	ug/L	1.0	15	1		05/02/18 12:55	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 2-D-B-1-F **Lab ID: 4611087018** Collected: 04/14/18 10:15 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**5.8**	ug/L	1.0	1300	1		05/02/18 12:57	7440-50-8	
Lead	**<1.0**	ug/L	1.0	15	1		05/02/18 12:57	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 2-D-B-3-P **Lab ID: 4611087019** Collected: 04/14/18 10:05 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**3.6**	ug/L	1.0	1300	1		05/02/18 12:58	7440-50-8	
Lead	**12.2**	ug/L	1.0	15	1		05/02/18 12:58	7439-92-1	

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 2-D-B-3-F **Lab ID: 4611087020** Collected: 04/14/18 10:07 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**3.8**	ug/L	1.0	1300	1		05/02/18 13:00	7440-50-8	
Lead	**20.3**	ug/L	1.0	15	1		05/02/18 13:00	7439-92-1	

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 2-D-B-4-P **Lab ID: 4611087021** Collected: 04/14/18 10:05 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**6.1**	ug/L	1.0	1300	1		05/02/18 13:14	7440-50-8	
Lead	**11.6**	ug/L	1.0	15	1		05/02/18 13:14	7439-92-1	

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ANALYTICAL RESULTS

Project: J.E. Clark
Pace Project No.: 4611087

Sample: 2-D-B-4-F **Lab ID: 4611087022** Collected: 04/14/18 10:07 Received: 04/19/18 19:00 Matrix: Drinking Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8								
Copper	**4.2**	ug/L	1.0	1300	1		05/02/18 13:16	7440-50-8	
Lead	**18.4**	ug/L	1.0	15	1		05/02/18 13:16	7439-92-1	

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QUALITY CONTROL DATA

Project: J.E. Clark
Pace Project No.: 4611087

QC Batch: 21349 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep
Associated Lab Samples: 4611087001, 4611087002, 4611087003, 4611087004, 4611087005, 4611087006, 4611087007, 4611087008, 4611087009, 4611087010, 4611087011, 4611087012, 4611087013, 4611087014, 4611087015, 4611087016, 4611087017, 4611087018, 4611087019, 4611087020

METHOD BLANK: 85121 Matrix: Water
Associated Lab Samples: 4611087001, 4611087002, 4611087003, 4611087004, 4611087005, 4611087006, 4611087007, 4611087008, 4611087009, 4611087010, 4611087011, 4611087012, 4611087013, 4611087014, 4611087015, 4611087016, 4611087017, 4611087018, 4611087019, 4611087020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	05/02/18 12:18	
Lead	ug/L	<1.0	1.0	05/02/18 12:18	

LABORATORY CONTROL SAMPLE: 85122

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	20	21.4	107	85-115	
Lead	ug/L	20	20.8	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85123 85124

Parameter	Units	4611087001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	111	100	100	213	218	102	107	70-130	3	20	
Lead	ug/L	14.8	20	20	35.1	35.0	102	101	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85126 85127

Parameter	Units	4611087020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	3.8	20	20	23.7	23.9	99	100	70-130	1	20	
Lead	ug/L	20.3	20	20	40.3	40.2	100	100	70-130	0	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: J.E. Clark
Pace Project No.: 4611087

QC Batch: 21879 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep
Associated Lab Samples: 4611087021, 4611087022

METHOD BLANK: 87377 Matrix: Water
Associated Lab Samples: 4611087021, 4611087022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.0	1.0	05/02/18 13:06	
Lead	ug/L	<1.0	1.0	05/02/18 13:06	

LABORATORY CONTROL SAMPLE: 87378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	20	20.9	104	85-115	
Lead	ug/L	20	19.7	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 87379 87380

Parameter	Units	4611088004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	25.2	20	20	44.1	44.1	94	95	70-130	0	20	
Lead	ug/L	<1.0	20	20	19.8	19.9	98	98	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 87382 87383

Parameter	Units	4611089005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	ug/L	224	100	100	333	328	109	105	70-130	1	20	
Lead	ug/L	2.6	20	20	22.4	21.3	99	94	70-130	5	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

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

QUALIFIERS

Project: J.E. Clark
Pace Project No.: 4611087

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.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: J.E. Clark
Pace Project No.: 4611087

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4611087001	**1-B-B-3-P**	EPA 200.8	21349		
4611087002	**1-B-B-3-F**	EPA 200.8	21349		
4611087003	**1-A-B-2-P**	EPA 200.8	21349		
4611087004	**1-A-B-2-F**	EPA 200.8	21349		
4611087005	**1-B-B-2-P**	EPA 200.8	21349		
4611087006	**1-B-B-2-F**	EPA 200.8	21349		
4611087007	**1-B-B-4-P**	EPA 200.8	21349		
4611087008	**1-B-B-4-F**	EPA 200.8	21349		
4611087009	**1-KF-2-P**	EPA 200.8	21349		
4611087010	**1-KF-2-F**	EPA 200.8	21349		
4611087011	**1-KF-1-P**	EPA 200.8	21349		
4611087012	**1-KF-1-F**	EPA 200.8	21349		
4611087013	**1-119-OF-1-P**	EPA 200.8	21349		
4611087014	**1-119-OF-1-F**	EPA 200.8	21349		
4611087015	**1-A-B-1-P**	EPA 200.8	21349		
4611087016	**1-A-B-1-F**	EPA 200.8	21349		
4611087017	**2-D-B-1-P**	EPA 200.8	21349		
4611087018	**2-D-B-1-F**	EPA 200.8	21349		
4611087019	**2-D-B-3-P**	EPA 200.8	21349		
4611087020	**2-D-B-3-F**	EPA 200.8	21349		
4611087021	**2-D-B-4-P**	EPA 200.8	21879		
4611087022	**2-D-B-4-F**	EPA 200.8	21879		

WO# : 4611087

4611087

CHAIN-OF-CUSTODY / Analytical Request Document #18768

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

Section A
Required Client Information:

Company:	ATC Group Services
Address:	46555 Humboldt Dr. Ste 100, Novi Mi. 48377
Email To:	robert.smith@atcgs.com
Phone: 1 248 669 5140	Fax:
Requested Due Date/TAT:	10 Days

Required Project Information:

Report To:	Rob Smith
Copy To:	
Purchase Order No.:	
Project Name:	J.E. Clark
Project Number:	188bs18118

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MI

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analysis Test: PB	CU	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	1-B-B-3-P	DW	G	4/14/18	9:52				1			x							X	X		-001
2	1-B-B-3-F	DW	G	4/14/18	9:54				1			x							X	X		-002
3	1-A-B-2-P	DW	G	4/14/18	9:45				1			x							X	X		-003
4	1-A-B-2-F	DW	G	4/14/18	9:47				1			x							X	X		-004
5	1-B-B-2-P	DW	G	4/14/18	9:30				1			x							X	X		-005
6	1-B-B-2-F	DW	G	4/14/18	9:32				1			x							X	X		-006
7	1-B-B-4-P	DW	G	4/14/18	9:52				1			x							X	X		-007
8	1-B-B-4-F	DW	G	4/14/18	9:54				1			x							X	X		-008
9	1-KF-2-P	DW	G	4/14/18	9:40				1			x							X	X		-009
10	1-KF-2-F	DW	G	4/14/18	9:42				1			x							X	X		-010
11	1-KF-1-P	DW	G	4/14/18	9:40				1			x							X	X		-011
12	1-KF-1-F	DW	G	4/14/18	9:42				1			x							X	X		-012

(15-9)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	4-19-18		[signature]	4-19-18	1230	
	Dump	4-19-18	1900	D. Dardin	4/19/18	1900	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andrew Ketchum

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 4/14/18

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

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

#421087

Pace Analytical™ www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document #18769

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ATC Group Services	Report To:	Rob Smith	Attention:	
Address:	46555 Humboldt Dr. Ste 100, Novi Mi. 48377	Copy To:		Company Name:	
				Address:	
Email To:	robert.smith@atcgs.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	1 248 669 5140 Fax:	Project Name:	J.E. Clark	Pace Project Manager:	
Requested Due Date/TAT:	10 Days	Project Number:	188bs18118	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MI

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: PB	CU	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																					(15.9)
1	1-119-OF-1-P	DW	G	4/14/18	10:01				1			X						X	X		-013
2	1-119-OF-1-F	DW	G	4/14/18	10:03				1			X						X	X		-014
3	1-A-B-1-P	DW	G	4/14/18	9:45				1			X						X	X		-015
4	1-A-B-1-F	DW	G	4/14/18	9:47				1			X						X	X		-016
5	2-D-B-1-P	DW	G	4/14/18	10:13				1			X						X	X		-017
6	2-D-B-1-F	DW	G	4/14/18	10:15				1			X						X	X		-018
7	2-D-B-3-P	DW	G	4/14/18	10:05				1			X						X	X		-019
8	2-D-B-3-F	DW	G	4/14/18	10:07				1			X						X	X		-020
9	2-D-B-4-P	DW	G	4/14/18	10:05				1			X						X	X		-021
10	2-D-B-4-F	DW	G	4/14/18	10:07				1			X						X	X		-022
11		DW	G	4/14/18					1			X						X	X		
12		DW	G	4/14/18					1			X						X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	4-19-18		[signature]	4-19-18	12:35	
	[signature]	4-19-18	1950	[signature]	4/19/18	1900	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andrew Ketchum

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/14/18

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

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

SAMPLE RECEIVING / LOG-IN CHECKLIST

Pace Analytical®

Client	ADC	Work Order #:	4611087
Receipt Record Page/Line #	15-9		

Recorded by (initials/date): DN 4-19-18

	Qty Received	Thermometer Used
☑ Cooler ☐ Box ☐ Other	1	☐ IR Gun (#202) ☐ Digital Thermometer (#54) ☑ IR Gun (#402)

Cooler #	Time	Cooler #	Time	Cooler #	Time	Cooler #	Time
000404	2239						

Cooler 1 (000404)

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:	19.4	0	19.4
Sample 2:	19.3	0	19.3
Sample 3:	19.2	0	19.2

When above 6 °C take a 3 Sample Average °C: 19.4

☐ VOC Trip Blank received?

Coolers 2–4 (blank)

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

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

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

☐ VOC Trip Blank received?

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

Paperwork Received

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

COC Information

☑ Pace COC ☐ Other______

COC ID Numbers: 18768, 18729

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: DN 4-20-18 ADR

Pace Analytical® AQUEOUS SAMPLE PRESERVATION VERIFICATION

Client: GJC

Work Order #: 4611087

Receipt Log #: 15-9

Completed By (initials/date): JN 2-19-15

COC ID # 18728

Adjusted by: _____

Date: _____

Container Type	BP3C or AG3O		BP1-4S		AG2S		BP1-4N Total		BP1-4N Dissolved			
Preservative	NaOH >12		H_2SO_4 <2		H_2SO_4 <2		HNO_3 <2		HNO_3 <2			
pH	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted
COC Line #1							✓					
COC Line #2							✓					
COC Line #3							✓					
COC Line #4							✓					
COC Line #5							✓					
COC Line #6							✓					
COC Line #7							✓					
COC Line #8							✓					
COC Line #9							✓					
COC Line #10							✓					
COC Line #11							✓					
COC Line #12							✓					

Comments:

COC ID # 18769

Adjusted by: _____

Date: _____

Container Type	BP3C or AG3O		BP1-4S		AG2S		BP1-4N Total		BP1-4N Dissolved			
Preservative	NaOH >12		H_2SO_4 <2		H_2SO_4 <2		HNO_3 <2		HNO_3 <2			
pH	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted	Received	Adjusted
COC Line #1							✓					
COC Line #2							✓					
COC Line #3							✓					
COC Line #4							✓					
COC Line #5							✓					
COC Line #6							✓					
COC Line #7							✓					
COC Line #8							✓					
COC Line #9							✓					
COC Line #10							✓					
COC Line #11												
COC Line #12												

Comments:

pH Strip Reagent or Lot #

☑ HC727135

☐ 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.

Container Size (mL)	Default Preservative Volume (mL)
Container Types 5 / 23	NaOH
250	1.3
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5
Container Types 6 / 15	HNO_3
125	0.7
250	1.25
500	2.5
1000	5.0